Product Safety Consultant Inc.
6F, No. 6, Lane609, Sec. 5 Chung-Hsin Rd., San Chung Dist., New Taipei City, Taiwan
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VERIFICATION OF COMPLIANCE

The following mentioned Products have been tested in typical configuration by PSC and were found to comply with the essential requirements of "Council Directive on the Approximation of the Laws of the Member States to Low Voltage Directive (2014/35/EU)"

Equipment:

Type of Product : **AIS800**

Model Number : **AIS800, M/N: A02087**

Produced by:

Manufacture's Name : **GARMIN Corporation**

Manufacture's Address : **No.68, Zhangshu 2nd Rd., Xizhi Dist., New Taipei City 221, Taiwan**

Applied Standards:

EN 60950-1:2006/ A11:2009/A1:2010/A12:2011/A2:2013
Safety of Information Technology Equipment including electrical business equipment.

Manufacture or his authorized representative within EC shall affix the CE Marking to the products if he ensures the product complies with the relevant harmonized standards and draws up a declaration of conformity. The technical report issued by PSC will support you Affix the CE Marking.

Date : **May 10, 2018**
Report No : **18CE04L030**

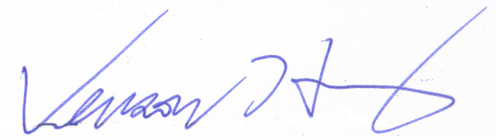
Venson Huang/Engineering Manager

TEST REPORT

Standard applied: EN 60950-1:2006/ A11:2009/A1:2010/A12:2011/A2:2013

Safety of Information Technology Equipment including electrical business equipment

Applicant	GARMIN Corporation
Address	No.68, Zhangshu 2nd Rd., Xizhi Dist., New Taipei City 221, Taiwan
Manufacturer	GARMIN Corporation
Address	No.68, Zhangshu 2nd Rd., Xizhi Dist., New Taipei City 221, Taiwan
Equipment.....	AIS800
Equipment mobility.....	Building-in
Trade Name.....	GARMIN
Model No.	AIS800, M/N: A02087
Rating	12/24 Vdc, 2A (Optional)
Class of equipment	Class III
Report No.	18CE04L030

Complied by:	Eva Wu	Approved by :	
	Eva Wu		Venson Huang
Date.....:	May 10, 2018	Date.....:	May 10, 2018

Test Site.....: 6F, No.6, Lane 609, Sec.5 Chung-Hsin Rd., San Chung Dist., New Taipei City, Taiwan, R.O.C.

Operating condition .....:	continuous
Mains supply tolerance (%) .....:	No direct connection
Tested for IT power systems .....:	N/A
IT testing, phase-phase voltage (V) :	N/A
Mass of equipment (kg).....:	0.4 kg
Protection against ingress of water .:	IPX7
Number of pages (Report) .....:	59
Number of pages (Attachments).....:	See Attachments

Attachments:

Appendix I – Label
Appendix II – EuT Photographs
Appendix III – Instrument list
Appendix IV – IEC 60529 Report

General remarks:

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

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test services for PSC are capable of performing services in compliance with the requirements of ISO 17025, EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013 and IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

General product information:

This equipment, models AIS800, M/N: A02087, is AIS800 which intended to use within information technology equipment.

Model different: Model M/N: A02087 is identical to model: AIS800 except for model name different.

The manufacturer specified maximum ambient temperature as +55°C.

Complies with IEC 60950-1:2005 +A1:2009 +A2:2013 additionally.

Cl.	Requirement - Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	See below.	P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Components certified to IEC standards and/or their harmonized standards, are used within their ratings and are checked for correct application.	P
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Class III equipment	N/A
1.5.5	Interconnecting cables	Interconnection cable to other unit is carrying only SELV voltages on an energy level below 240VA. Except for the insulation material, there are no further requirements to the interconnection cable.	N/A
1.5.6	Capacitors bridging insulation	Class III equipment	N/A
1.5.7	Resistors bridging insulation		N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	DC input voltage, not for IT power systems.	N/A
1.5.9	Surge suppressors		N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		P
1.6.1	AC power distribution systems	Class III equipment	N/A
1.6.2	Input current	No AC mains connections. However, test was performed. (see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		N/A
1.7	Marking and instructions		P
1.7.1	Power rating and identification markings		P
1.7.1.1	Power rating marking	See below.	P
	Multiple mains supply connections		N/A
	Rated voltage(s) or voltage range(s) (V)	See page 1	P
	Symbol for nature of supply, for d.c. only	See page 1	P
	Rated frequency or rated frequency range (Hz)		N/A
	Rated current (mA or A)	See page 1	P
1.7.1.2	Identification markings	See below.	P
	Manufacturer's name or trade-mark or identification mark	See page 1	P
	Model identification or type reference	See page 1	P
	Symbol for Class II equipment only		N/A
	Other markings and symbols	CE	P
1.7.2	Safety instructions and marking	See below	P
1.7.2.1	General	Instructions are available	P
1.7.2.2	Disconnect devices		N/A
1.7.2.3	Overcurrent protective device		N/A
1.7.2.4	IT power distribution systems		N/A
1.7.2.5	Operator access with a tool		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
1.7.2.6	Ozone		N/A
1.7.3	Short duty cycles		N/A
1.7.4	Supply voltage adjustment		N/A
	Methods and means of adjustment; reference to installation instructions		N/A
1.7.5	Power outlets on the equipment		N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)		N/A
1.7.7	Wiring terminals		N/A
1.7.7.1	Protective earthing and bonding terminals		N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators	See below.	P
1.7.8.1	Identification, location and marking	The function of indicators and controls is clearly identified.	P
1.7.8.2	Colours	Colors are used and safety is not involved.	P
1.7.8.3	Symbols according to IEC 60417	See General product information - Markings and Instructions.	P
1.7.8.4	Markings using figures		N/A
1.7.9	Isolation of multiple power sources		N/A
1.7.10	Thermostats and other regulating devices		N/A
1.7.11	Durability	The label was subjected to the permanence of marking test. The label was rubbed with cloth soaked with water for 15 sec. and then rubbed with cloth soaked with HEXANE for 15 sec. After test, the marking is readable.	P
1.7.12	Removable parts	The required marking is not placed on removable parts.	P
1.7.13	Replaceable batteries		N/A
	Language(s)		—
1.7.14	Equipment for restricted access locations		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	See below	P
2.1.1.1	Access to energized parts	All hazard component cover on plastic enclosure.	P
	Test by inspection	No energy part can be touched by inspection.	P
	Test with test finger (Figure 2A)	No energy part can be touched by finger.	P
	Test with test pin (Figure 2B)	No energy part can be touched by pin.	P
	Test with test probe (Figure 2C)	No TNVs	N/A
2.1.1.2	Battery compartments		N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	Class III equipment.	N/A
2.1.1.5	Energy hazards	No parts at hazardous energy level in operator access area.	P
2.1.1.6	Manual controls	No such controls.	N/A
2.1.1.7	Discharge of capacitors in equipment	Class III equipemnt.	N/A
	Measured voltage (V); time-constant (s)		—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers		N/A
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations		N/A
2.2	SELV circuits		P

Cl.	Requirement - Test	Result - Remark	Verdict
2.2.1	General requirements	See below	P
2.2.2	Voltages under normal conditions (V)	The secondary voltage measuring circuit are less than 42.4Vpk, or 60Vdc	P
2.2.3	Voltages under fault conditions (V)	Output in single fault condition within 0.2 seconds does not exceed 71 Vpk or 120 Vdc, 0.2 seconds after the still meets the requirements of section 2.2.2	P
2.2.4	Connection of SELV circuits to other circuits	SELV circuits are only connected to other SELV circuits and limited current circuits.	P
2.3	TNV circuits		N/A
2.3.1	Limits	No TNVs.	N/A
	Type of TNV circuits		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	Limited current circuits		N/A
2.4.1	General requirements	No limited current circuit.	N/A
2.4.2	Limit values		N/A
	Frequency (Hz)		—

Cl.	Requirement - Test	Result - Remark	Verdict
	Measured current (mA)		—
	Measured voltage (V)		—
	Measured circuit capacitance (nF or µF)		—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	Limited power sources		P
	a) Inherently limited output		N/A
	b) Impedance limited output	See 2.5 Table	P
	c) Regulating network limited output under normal operating and single fault condition		N/A
	d) Overcurrent protective device limited output		P
	Max. output voltage (V), max. output current (A), max. apparent power (VA)		—
	Current rating of overcurrent protective device (A)		—
	Use of integrated circuit (IC) current limiters		—
2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing	Class III equipment.	N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm^2), AWG		—
	Protective current rating (A), cross-sectional area (mm^2), AWG		—

Cl.	Requirement - Test	Result - Remark	Verdict
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)		N/A
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	Overcurrent and earth fault protection in primary circuits		N/A
2.7.1	Basic requirements	Class III equipment.	N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
2.8	Safety interlocks		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A
2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Class III equipment, Functional insulation.	P
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C)		—
2.9.3	Grade of insulation		N/A
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used		—
2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See below	P
2.10.1.1	Frequency		N/A
2.10.1.2	Pollution degrees	2	P
2.10.1.3	Reduced values for functional insulation	Refer to Section 5.3.4	P

Cl.	Requirement - Test	Result - Remark	Verdict
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage		N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances		N/A
2.10.3.1	General		N/A
2.10.3.2	Mains transient voltages	Class III equipment.	N/A
	a) AC mains supply		N/A
	b) Earthed d.c. mains supplies		N/A
	c) Unearthed d.c. mains supplies		N/A
	d) Battery operation		N/A
2.10.3.3	Clearances in primary circuits	Class III equipment.	N/A
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
2.10.4	Creepage distances	Class III equipment.	N/A
2.10.4.1	General		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
2.10.4.2	Material group and comparative tracking index		N/A
	CTI tests		—
2.10.4.3	Minimum creepage distances		N/A
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A

3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	The cross-sectional area of the wires is adequate and complied with the tests of 4.5.2 and 4.5.3.	P

Cl.	Requirement - Test	Result - Remark	Verdict
3.1.2	Protection against mechanical damage	The wireways (including holes) are smooth and free from sharp edges.	P
3.1.3	Securing of internal wiring	Class III equipment. However, wires do not touch sharp edges which could damage the insulation and cause hazards.	P
3.1.4	Insulation of conductors	Insulation on internal conductors is considered to be of adequate quality and suitable for the application and the working voltage involved.	P
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure		N/A
3.1.7	Insulating materials in electrical connections	Sufficient resilience is provided.	P
3.1.8	Self-tapping and spaced thread screws		N/A
3.1.9	Termination of conductors	See below	P
	10 N pull test	All conductors are reliable secured.	P
3.1.10	Sleeving on wiring		N/A

3.2	Connection to a mains supply		N/A
3.2.1	Means of connection	Class III equipment. No direct connection to mains.	N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm)		—
3.2.4	Appliance inlets		N/A
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type		—

Cl.	Requirement - Test	Result - Remark	Verdict
	Rated current (A), cross-sectional area (mm²), AWG		—
3.2.5.2	DC power supply cords	No provided.	N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Class III equipment. No direct connection to mains.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2)		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		N/A
3.4.1	General requirement	Class III equipment. No direct connection to mains.	N/A
3.4.2	Disconnect devices		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
3.5	Interconnection of equipment		P
3.5.1	General requirements	See below.	P
3.5.2	Types of interconnection circuits	Only SELV for interconnection.	P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment	See clause and appended table 2.5.	P
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	Build-in component, to be evaluated in the end product.	N/A
	Test force (N)		N/A
4.2	Mechanical strength		P
4.2.1	General		N/A
	Rack-mounted equipment.		N/A
4.2.2	Steady force test, 10 N		N/A
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	No hazard. The test is performed on front side.	P
4.2.5	Impact test	No hazard. The test is performed on front side.	P

Cl.	Requirement - Test	Result - Remark	Verdict
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)		N/A
4.2.7	Stress relief test	78 ℃ / 7 hours without softening and dangerous	P
4.2.8	Cathode ray tubes		N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps		N/A
4.2.10	Wall or ceiling mounted equipment; force (N)		N/A
4.2.11	Rotating solid media		N/A
	Test to cover on the door		N/A

4.3	Design and construction		P
4.3.1	Edges and corners	Edges and corners of the enclosure are rounded.	P
4.3.2	Handles and manual controls; force (N)	No knobs, grips, handles, lever etc.	N/A
4.3.3	Adjustable controls	No adjustable controls.	N/A
4.3.4	Securing of parts	No connection likely to be exposed to mechanical stress are provided in unit.	P
4.3.5	Connection by plugs and sockets		N/A
4.3.6	Direct plug-in equipment	The equipment is not direct plug-in type.	N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment	No heating elements.	N/A
4.3.8	Batteries		N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	No oil or grease inside the equipment.	N/A
4.3.10	Dust, powders, liquids and gases	Equipment intended use not considered to be exposed to these.	N/A
4.3.11	Containers for liquids or gases	No container for liquid or gas.	N/A
4.3.12	Flammable liquids	No flammable liquid.	N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	See below.	P
4.3.13.1	General		P
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation	No UV radiation.	N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	LED diode only used for directive used.	P
4.3.13.5.1	Lasers (including laser laser diodes)		N/A
	Laser class		—
4.3.13.5.2	Light emitting diodes (LEDs)	Same above	P
4.3.13.6	Other types		N/A

4.4	Protection against hazardous moving parts		N/A
4.4.1	General	No moving parts.	N/A
4.4.2	Protection in operator access areas		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)		N/A
	Is considered to cause pain, not injury. b)		N/A
	Considered to cause injury. c)		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning		N/A
4.5	Thermal requirements		P
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	(See appended table 4.5)	P
	Normal load condition per Annex L	(See Annex L)	—
4.5.3	Temperature limits for materials	(see appended table 4.5)	P
4.5.4	Touch temperature limits	(see appended table 4.5)	P
4.5.5	Resistance to abnormal heat		N/A
4.6	Openings in enclosures		P
4.6.1	Top and side openings	No openings.	P
	Dimensions (mm)	(see appended table)	—
4.6.2	Bottoms of fire enclosures	No openings.	P
	Construction of the bottom, dimensions (mm)	(see appended table)	—
4.6.3	Doors or covers in fire enclosures	No doors or similar devices.	N/A
4.6.4	Openings in transportable equipment		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm)		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks)		—
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	See below.	P
	Method 1, selection and application of components wiring and materials	Method 1 used.	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	See below.	N/A
4.7.2.2	Parts not requiring a fire enclosure	This equipment is supplied by limited power sources complying with sub-clause 2.5. and the components were mounted on V-1 min. PCB. The fire enclosure is not required.	P
4.7.3	Materials		P
4.7.3.1	General	See appended table 1.5.1. for PCB material.	P
4.7.3.2	Materials for fire enclosures	See sub-clause 4.7.2.2.	N/A
4.7.3.3	Materials for components and other parts outside fire enclosures	Same as above.	N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Same as above.	N/A
4.7.3.5	Materials for air filter assemblies	No air filter.	N/A
4.7.3.6	Materials used in high-voltage components	No high-voltage components.	N/A
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P

Cl.	Requirement - Test	Result - Remark	Verdict
5.1	Touch current and protective conductor current		N/A
5.1.1	General	Class III equipment.	N/A
5.1.2	Configuration of equipment under test (EUT)		N/A
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit		N/A
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V)		—
	Measured touch current (mA)		—
	Max. allowed touch current (mA)		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	Electric strength		N/A
5.2.1	General	Class III equipment	N/A
5.2.2	Test procedure		N/A
5.3	Abnormal operating and fault conditions		N/A
5.3.1	Protection against overload and abnormal operation	See below	N/A
5.3.2	Motors	No motors.	N/A
5.3.3	Transformers	No safety isolation transformer.	N/A
5.3.4	Functional insulation	Functional insulation complies with the requirements (a), (b), or (c).	N/A
5.3.5	Electromechanical components	No electromechanical components.	N/A
5.3.6	Audio amplifiers in ITE	No audio amplifier.	N/A
5.3.7	Simulation of faults		N/A
5.3.8	Unattended equipment	No such components.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		N/A
5.3.9.1	During the tests		N/A
5.3.9.2	After the tests		N/A
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V)		—

Cl.	Requirement - Test	Result - Remark	Verdict
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A
6.2	Protection of equipment users from overvoltages on telecommunication networks		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)	All materials have suitable flame class, no testing required.	N/A

Cl.	Requirement - Test	Result - Remark	Verdict
A.1.1	Samples		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N/A
A.2.1	Samples, material		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—

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

Cl.	Requirement - Test	Result - Remark	Verdict
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings		N/A
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N/A
D.1	Measuring instrument		N/A
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		N/A
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A

J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used		—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V)		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment		P
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		—
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V)		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	a) Preferred climatic categories		N/A
	b) Maximum continuous voltage		N/A
	c) Pulse current		N/A
R	Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		P
		See IP test report	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
			—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N/A
V.1	Introduction		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
V.2	TN power distribution systems		N/A
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		N/A
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—
CC	Annex CC, Evaluation of integrated circuit (IC) current limiters		N/A

Cl.	Requirement - Test	Result - Remark	Verdict
CC.1	General		N/A
CC.2	Test program 1		N/A
CC.3	Test program 2		N/A

DD	Annex DD, Requirements for the mounting means of rack-mounted equipment		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N		N/A
DD.3	Mechanical strength test, 250N, including end stops		N/A
DD.4	Compliance		N/A

EE	Annex EE, Household and home/office document/media shredders		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols		N/A
	Information of user instructions, maintenance and/or servicing instructions		N/A
EE.3	Inadvertent reactivation test		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A)		N/A
	Test with wedge probe (Figure EE1 and EE2)		N/A

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

Information technology equipment – Safety –

Part 1: General requirements

Differences according to.....:	EN 60950-1:2006/A11:2009/A1:2010/A12:2011/A2:2013
Attachment Form No.....:	EU_GD_IEC60950_1E
Attachment Originator .....:	SGS Fimko Ltd

Cl.	Requirement - Test	Result - Remark	Verdict

Master Attachment .....: Date 2013-09

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed "Z"		P
Contents (A2:2013)	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P
General	Delete all the "country" notes in the reference document (IEC 60950-1:2005) according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		P
General (A1:2010)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		P
General (A2:2013)	Delete all the "country" notes in the reference document (IEC 60950-1:2005/A2:2013) according to the following list: 2.7.1 Note * 2.10.3.1 Note 2 6.2.2. Note * Note of secretary: Text of Common Modification remains unchanged.		P

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
1.1.1 (A1:2010)	Replace the text of NOTE 3 by the following. NOTE 3 The requirements of EN 60065 may also be used to meet safety requirements for multimedia equipment. See IEC Guide 112, Guide on the safety of multimedia equipment. For television sets EN 60065 applies.		N/A
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.	Added.	N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010	Added.	N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC	Added.	P
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.	Added.	N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing standard and amendments.	Deleted.	N/A
	Zx Protection against excessive sound pressure from personal music players		N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: is designed to allow the user to listen to recorded or broadcast sound or video; and primarily uses headphones or earphones that can be worn in or on or around the ears; and allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA’s or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: while the personal music player is connected to an external amplifier; or while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.		N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
	analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
	Zx.2 Equipment requirements No safety provision is required for equipment that complies with the following: equipment provided as a package (personal music player with its listening device), where the acoustic output LAeq,T is ≤ 85 dBA measured while playing the fixed “programme simulation noise” as described in EN 50332-1; and a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level LAeq,T is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and		N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed “programme simulation noise” described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed “programme simulation noise” described in EN 50332-1. For music where the average sound pressure (long term LAeq,T) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term LAeq,T) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA.		N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: “To prevent possible hearing damage, do not listen at high volume levels for long periods.”  Figure 1 – Warning label (IEC 60417-6044) Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output LAeq,T, the input voltage of the fixed “programme simulation noise” described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed “programme simulation noise” described in EN 50332-1 (and respecting the digital interface standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.		N/A
	Zx.4.3 Wireless listening devices In wireless mode: with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output LAeq,T of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A
2.7.1	Replace the subclause as follows: Basic requirements To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;	Replaced. Complied with item a).	P
	c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		N/A
2.7.2	This subclause has been declared ‘void’.		P

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.	Deleted.	N/A
3.2.5.1	Replace “60245 IEC 53” by “H05 RR-F”; “60227 IEC 52” by “H03 VV-F or H03 VVH2-F”; “60227 IEC 53” by “H05 VV-F or H05 VVH2-F2”. In Table 3B, replace the first four lines by the following: Up to and including 6 | 0,75 [a] | Over 6 up to and including 10| (0,75) [b] 1,0 | Over 10 up to and including 16| (1,0) [c] 1,5 | In the conditions applicable to Table 3B delete the words “in some countries” in condition [a]. In NOTE 1, applicable to Table 3B, delete the second sentence.	Replaced.	N/A
3.3.4	In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4 | Delete the fifth line: conductor sizes for 13 to 16 A	Deleted.	N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 Attention is drawn to: 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation).	Replaced.	N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A

Cl.	Requirement - Test	Result - Remark	Verdict

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
	Clauses, subclauses, notes, tables and figures which are additional to those in IEC60950-1 and it´s amendmets are prefixed “Z”		P
Annex H	Replace the last paragraph of this annex by: At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.	Replaced.	N/A
Bibliography	Additional EN standards.	Added.	—

1.5.1	TABLE: list of critical components				P
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity [1.]
External power source (Optional)	Interchangeable	Interchangeable	O/P: DC 12/24V, 2.0A maximum	IEC/EN60950-1	CE or TUV or Nemko or Semko
Enclosure	Interchangeable	Interchangeable	V-1 minimum, 70℃ minimum, 1.0mm thickness minimum.	UL 94	UL
PCB	Interchangeable	Interchangeable	V-1 minimum, 105 °C.	UL 94, UL796	UL
Note(s):					

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
12.0	0.309	2.0	3.70	--	--	Maximum normal load.
24.0	0.182	2.0	4.36	--	--	Maximum normal load.
Supplementary information:						

2.1.1.5	TABLE: Energy hazard measurement				N/A
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Supplementary information:					

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

2.1.1.7	TABLE: discharge test				N/A
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	Comments	
supplementary information:					

2.2	TABLE: evaluation of voltage limiting components in SELV circuits			N/A
Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components	
	V peak	V d.c.		

Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)
supplementary information:	
s-c=short circuit	

2.4	TABLE: limited current circuit measurement					N/A
Location		Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments
Note(s): Output measured with an 2 KΩ non-inductive resistor as load.						

2.5	TABLE: limited power sources				P
Date USB connector					
Measured Uoc (V) with all load circuits disconnected:	0.0				
	Output current (A)		Apparent power (VA)		
	Meas.	Limit	Meas.	Limit	
Normal	0.00	8.0	0.00	100	
GPS ANT connector					
Measured Uoc (V) with all load circuits disconnected:	4.47				
	Output current (A)		Apparent power (VA)		
	Meas.	Limit	Meas.	Limit	
Normal	0.04	8.0	0.102	100	
VHF RADIO connector					
Measured Uoc (V) with all load circuits disconnected:	0.0				
	Output current (A)		Apparent power (VA)		
	Meas.	Limit	Meas.	Limit	
Normal	0.00	8.0	0.00	100	
VHF ANT connector					

Measured Uoc (V) with all load circuits disconnected:	0.0			
	Output current (A)		Apparent power (VA)	
	Meas.	Limit	Meas.	Limit
Normal	0.00	8.0	0.00	100
GPS ANT connector				
Measured Uoc (V) with all load circuits disconnected:	0.0			
	Output current (A)		Apparent power (VA)	
	Meas.	Limit	Meas.	Limit
Normal	0.00	8.0	0.00	100
supplementary information:				
- Sc=Short circuit, Oc=Open circuit				

2.6.3.4	TABLE: ground continue test	N/A
Location	Resistance measured (mΩ)	Comments
Note(s):		

2.10.2	Table: Working voltage measurement		N/A
Location	RMS voltage (V)	Peak voltage (V)	Comments
Note(s):			

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements						N/A
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)	
Supplementary information:							

2.10.5	TABLE: Distance through insulation measurements	N/A

Distance through insulation (DTI) at/of:	U peak (V)	U r.m.s. (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
Supplementary information:					

4.3.8	TABLE: Batteries									N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available										N/A
Is it possible to install the battery in a reverse polarity position?										N/A
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
Supplementary information: For details see appended table 5.3.										
Test results:										Verdict
- Chemical leaks										N/A
- Explosion of the battery										N/A
- Emission of flame or expulsion of molten metal										N/A
- Electric strength tests of equipment after completion of tests										N/A

4.5	TABLE: Thermal requirements			P
	Supply voltage (V) :	DC 12V	DC 24V	—
	Ambient T_{min} (°C) :	--		—
	Ambient T_{max} (°C) :	--		—
Maximum measured temperature T of part/at::		T (°C)		Allowed T_{max} (°C)
PCB NEAR U703		95.7	102.1	105
PCB NEAR U101		75.6	81.5	105
PCB NEAR U500		87.4	93.4	105
XT1201 COIL		85.6	91.8	105

ENCLOSURE INSIDE	65.3	68.0	--
ENCLOSURE OUTSIDE	64.5	66.9	95
Max. ambient temperature Tma (°C): Note: ambient air during test were Tamb =22.9°C and 22.3°C	55.0	55.0	--

Supplementary information:

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

1. The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.2 at voltages as described in above.

2. Unit specified with maximum of 55°C ambient temperature and above test data was calculated by original test result of ambient temperature above.

3. All values for T (°C) are re-calculated from Tamb respectively.

4.5.5	TABLE: Ball pressure test of thermoplastic parts		N/A
	Allowed impression diameter (mm) :	≤ 2 mm	—

Part	Test temperature (°C)	Impression diameter (mm)

Supplementary information:

4.6.1, 4.6.2	Table: Enclosure opening measurements	P

Location	Size (mm)	Comments
All side	--	No openings

Supplementary information:

4.7	Table: Resistance to fire	P

Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
--	--	--	--	--	--

Supplementary information: See table 1.5.1

5.1	TABLE: touch current measurement			N/A
Condition	L→ terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments
Supplementary information: Input voltage: Input frequency:				

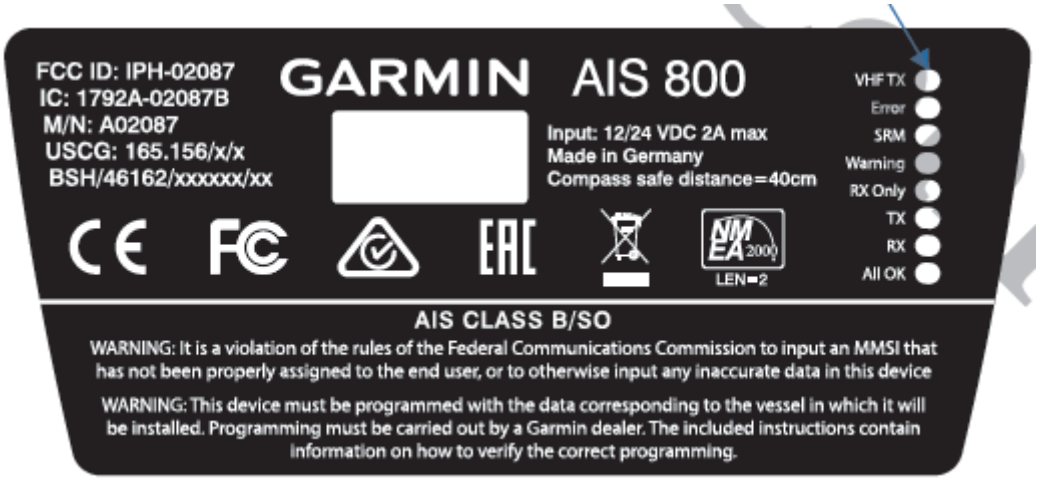
5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			N/A
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Supplementary information:				

5.3	TABLE: Fault condition tests						N/A
	Ambient temperature (°C) :						—
	Power source for EUT: Manufacturer, model/type, output rating :						—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Supplementary information:							

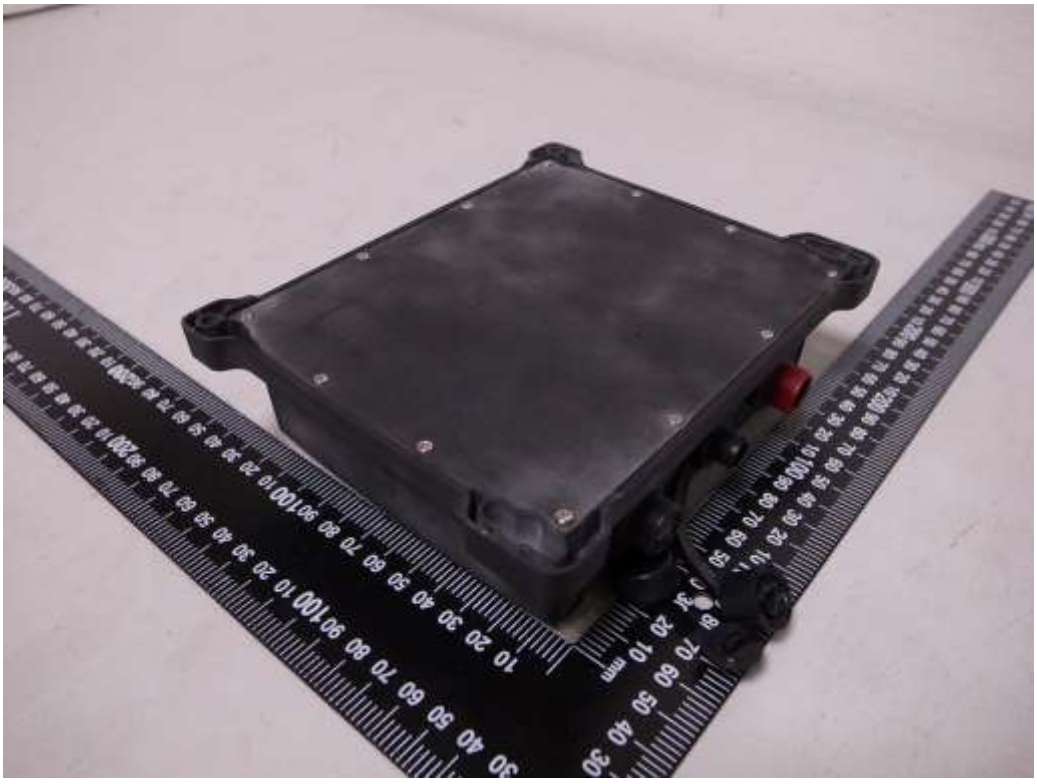
C.2	**TABLE: transformers**						N/A
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)

Loc.	Tested insulation	Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
supplementary information:					

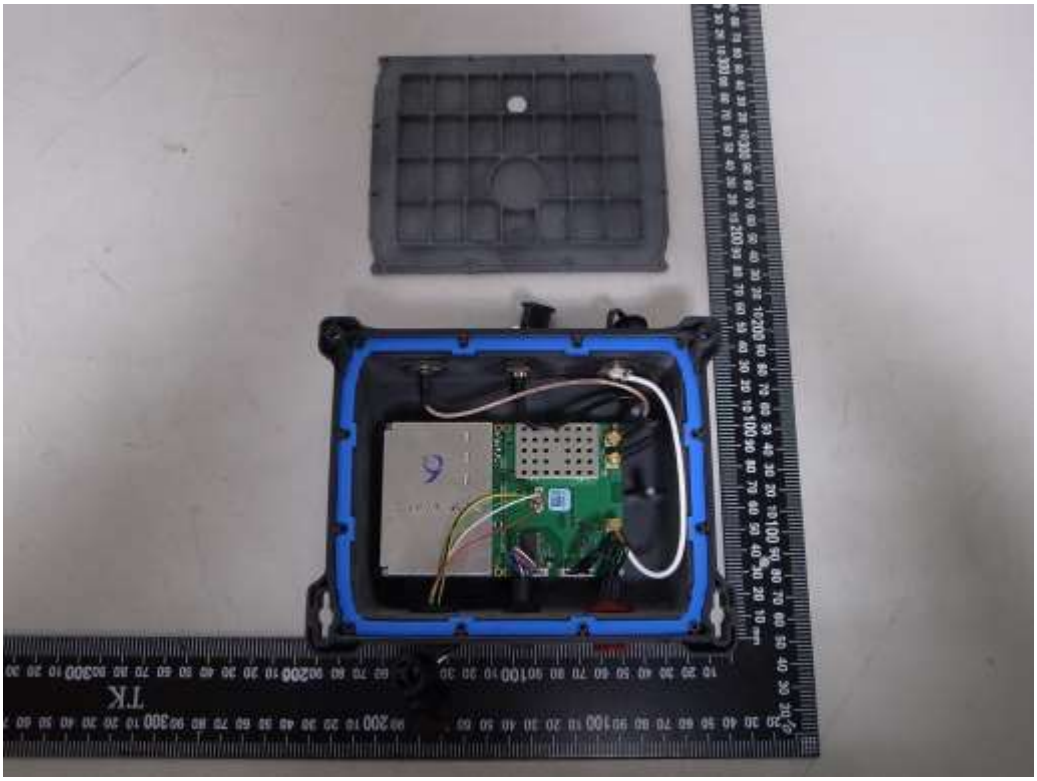
Appendix I - Label



Appendix II - EuT Photographs



Appendix II - EuT Photographs



Appendix II - EuT Photographs

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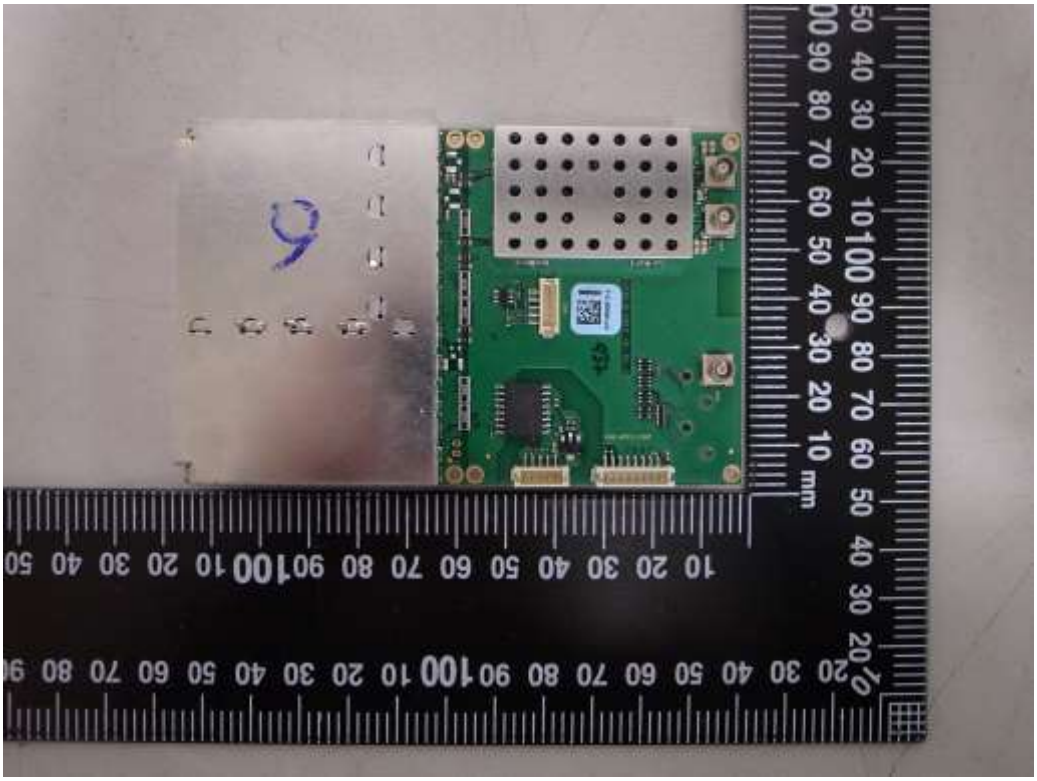
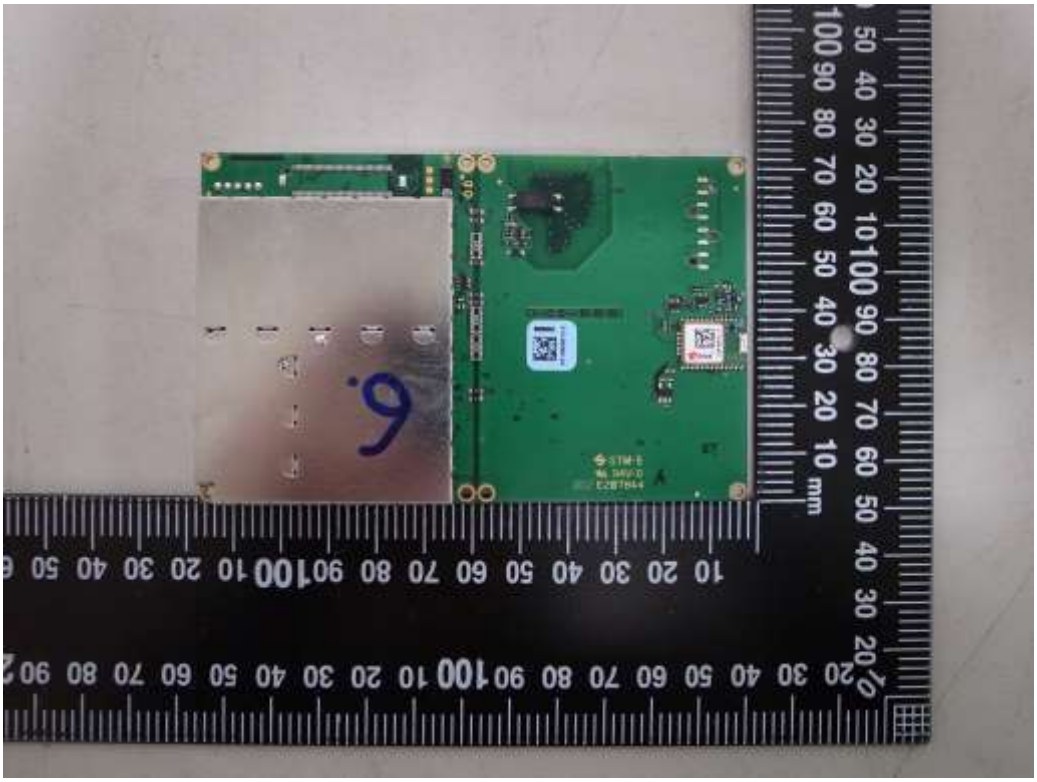
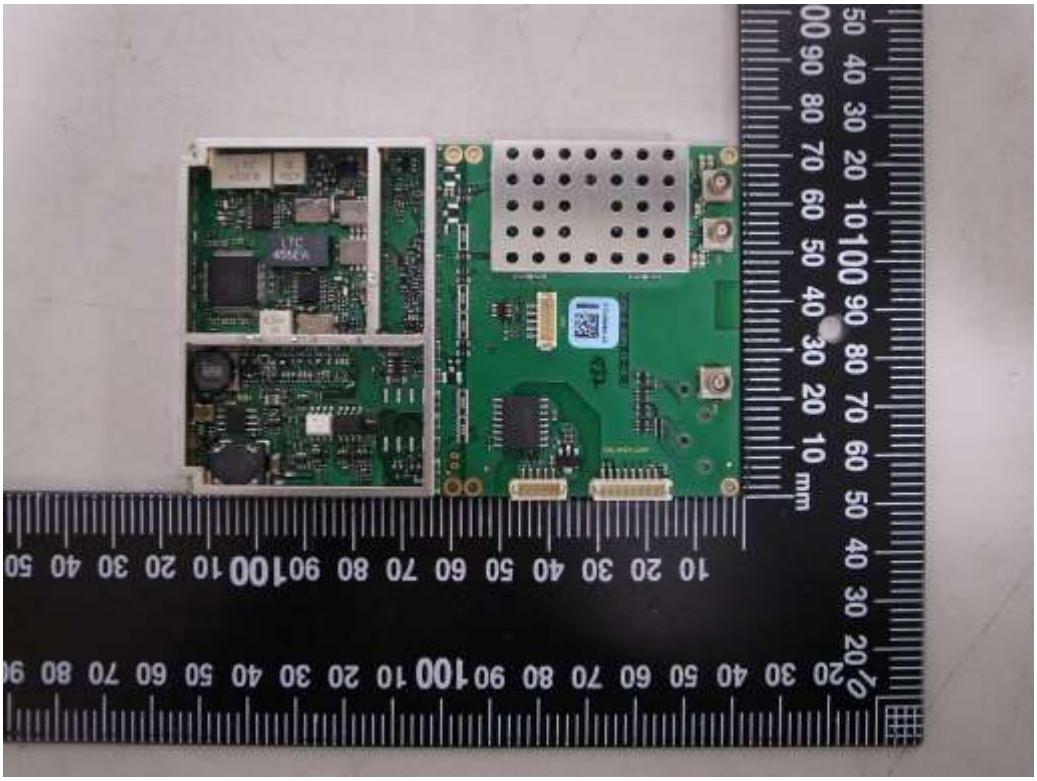
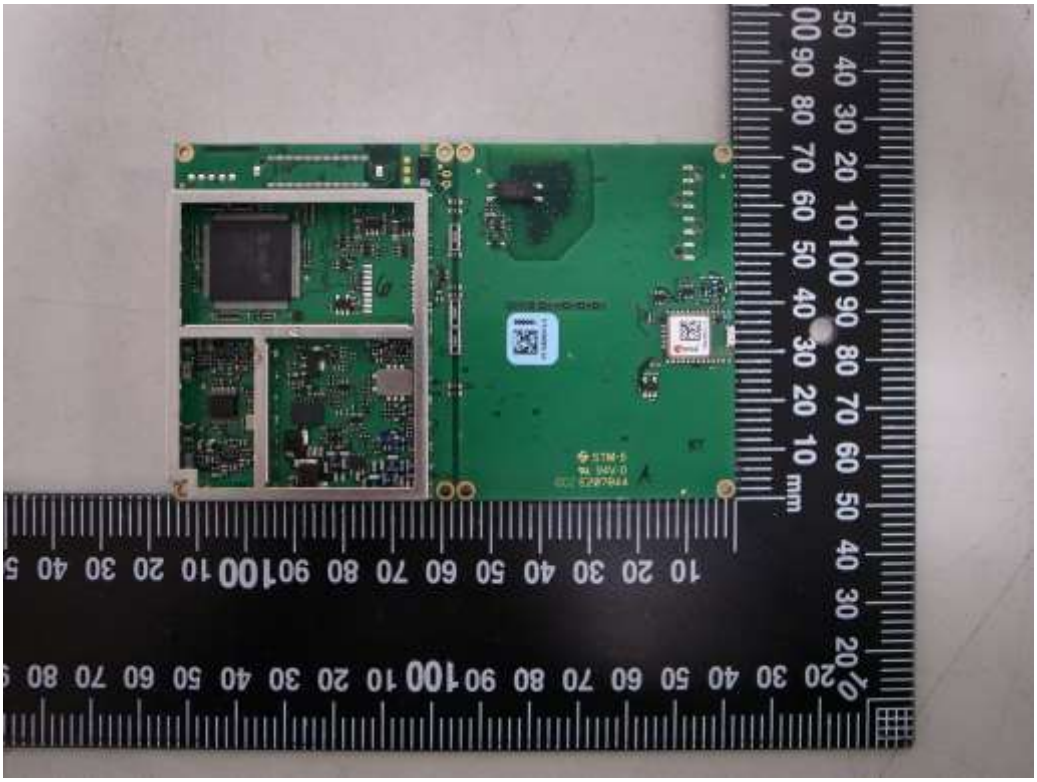




Appendix II - EuT Photographs





Appendix III - Instrument list

See next page

PSC

TEST INSTRUMENT LIST

Item	No	Serial No.	Instrument	Manufacture	Model	Last Calibration Date	Calibration Due Date		Range	
1	SPSC001	931102	DCA METER	SEW	ST-2000	03/30/2018	03/30/2019	OCL-2411803F30A2L	30A	0.1~0.2
2	SPSC002	931112	DCA METER	SEW	ST-2000	09/01/2017	09/01/2018	OCL-2411709F01W1L	50A	0.1~0.2
3	SPSC003	931105	DCA METER	SEW	ST-2000	09/13/2017	09/13/2018	OCL-2411709T12E1L	50A	0.1~0.2
4	SPSC004	940825	DCA METER	SEW	ST-2000	09/01/2017	09/01/2018	OCL-2411709F01W2L	30A	0.1~0.2
5	SPSC005	940826	DCA METER	SEW	ST-2000	09/01/2017	09/01/2018	OCL-2411709F01W3L	50A	0.1~0.2
6	SPSC006	931107	DCA METER	SEW	ST-2000	09/01/2017	09/01/2018	OCL-2411709F01W4L	30A	0.1~0.2
7	SPSC007	931114	DCA METER	SEW	ST-2000	09/01/2017	09/01/2018	OCL-2411709F01W5L	50A	0.1~0.2
8	SPSC008	368059	Digital Power Meter	Idrc	CP-310	03/30/2018	03/30/2019	OCL-2411803F30A5L	ACV 500V, AC 20A, 2.4kW	----
9	SPSC009	5865141/25	MULTIMETER	FLUKE	45	09/01/2017	09/01/2018	OCL-2411709F01W6L	DCV 1000V, ACV 750V, DC 10A, AC 10A	5 1/2
10	SPSC010	75470787	MULTIMETER	FLUKE	77Ⅲ	03/30/2018	03/30/2019	OCL-2411803F30A1L	DCV 1000V, ACV 1000V	3 1/2
11	SPSC011	12WB02879	TEMP. RECORDER”1”	Yokogawa	DR-240	03/30/2018	03/30/2019	OCL-2411803F30A4L	30ch	2s/all channels
12	SPSC012	MY41019121	TEMP. RECORDER”2”	Agilent	34970A	07/14/2017	07/14/2018	OCL-2411707M10R1L	0~200℃	6 1/2
13	SPSC013	MY44050079	TEMP. RECORDER”3”	Agilent	34970A	05/19/2017	05/19/2018	OCL-2411705F19Q3L	0~200℃	6 1/2
14	SPSC014	1557	HI-POT	ASSOCIATED RESEARCH	4045AI	05/09/2018	05/09/2019	OCL-2411805T08E1L	ACV/DCV 5kV	100V AC/DC
15	SPSC015	20562	LEAKAGE CURRENT	SIMPSON	228	05/09/2018	05/09/2019	OCL-2411805T08E2L	AC 10A, DC 10mA	----
16	SPSC016	18020	Watt/Harmonic	Elcontrol Nanovip Plus	----	08/04/2017	08/04/2018	OCL-2411708F04H1L	ACV 520V, AC 100A, 6kW, 1kHz	----
17	SPSC017	04810LT	Milliohm Meter	Twintex	TM-8088	09/13/2017	09/13/2018	OCL-2411709T12E2L	20mΩ / 200mΩ / 2Ω / 20Ω / 200Ω / 2KΩ / 20KΩ	0.01mΩ / 0.1mΩ / 1mΩ / 0.01Ω / 0.1Ω / 0.001KΩ / 0.01KΩ
18	SPSC018	EK03100101	Champer	HOLINK	H-TH-2SP-CH	01/22/2018	01/22/2019	OCL-2411801M22A1L	-40~150℃/20~98%Rh	0.1℃/0.1% RH.
19	SPSC019	16348	PULL-PUCH	CHATILLON	DPP-25kg	07/14/2017	07/14/2018	OIT-2411707M10B1L	25kg	----
20	SPSC020	SPSC020	Timer	Tri Horses	TH-010	07/10/2017	07/10/2018	T2707070501	60sec~24hrs	1sec
21	SPSC021	20805	Ball Pressure Test	ED&D	BPT-01	02/06/2018	02/05/2021	OCL-2411802M05G2L	20N, R 2.5mm	---
22	SPSC022	20806	Test Finger Probe	ED&D	TFP-01	05/19/2017	05/19/2018	OCL-2411705F19C1L	---	---
23	SPSC023	----	Test pin	辰輝	----	02/06/2018	02/05/2021	OIT-2411802M05H3L	---	---
24	SPSC024	3054768	Caliper	Mitutoyo	500-196	05/19/2017	05/19/2018	OCL-2411705F19Q4L	150mm	0.01mm
25	SPSC025	----	Angle Finder	Level	----	12/07/2016	12/07/2019	OCL-2411612T06G1	90°	1°
26	SPSC026	MJY04139	Weight Meter	Jen Lung	MTW-150	12/05/2017	12/05/2018	OCL-2411712T05C1L	150kg	0.01kg
27	SPSC027	---	STEEL BALL	---	----	02/06/2018	02/05/2021	OCL-2411802M05G3L	0.5kg	---
29	SPSC029	80802557	Thmometer & ygrometer	TES	1366	03/30/2018	03/30/2019	OCL-2411803F30A3L	1-99%RH, -20- +60℃	0.1%，0.1°
30	SPSC030	931117	ACA METER	SEW	ST-2000	12/14/2017	12/14/2018	OCL-2411712W13F1	50A	0.1~0.2
31	SPSC031	BT30048	FREQUENCY CONVERTER	BOARD-TECH	BFA-100-10	12/05/2017	12/05/2018	OCL-2411712T05C2L	AC 110/220V, 50/60Hz	0.1
32	SPSC032	46XE0282	TEMP. RECORDER”4”	YOKOGAWA	uR -1000	01/11/2018	01/11/2019	OCL-2411801W10A1L	6CH, -50℃~ +1000℃	0.1°
33	SPSC033	80720339	Electronic Load	Prodigit	3312	01/11/2018	01/11/2019	OCL-2411801W10A2L	250V/10A,300W	---
34	SPSC034	2597	Vibration	Vibration Source	VS-5060L	06/05/2017	06/05/2018	OCL-2411706M05F1L	10Hz ~ 100 Hz; 振幅 0.35mm	0.05mm
35	SPSC035	100217927	Humidity Temp. Meter	TES	TES-1361C	09/13/2017	09/13/2018	OCL-2411709T12E3L	10-95%RH, -20- +60℃	0.1%，0.1°
36	SPSC036	122	Comparator	Finescale	---	09/02/2016	09/02/2019	OCL-2411609F02E7	1.0mm, 1.5mm, 2.0mm, 2.5mm	0.1mm
37	SPSC037	46168928	Micrometer	MITUTOYO	103-137	02/06/2018	02/05/2021	OCL-2411802M05G1L	0-25mm	0.001mm
38	SPSC038	2005010512	Glow-wire	---	ZRS-2	06/05/2017	06/05/2018	OCL-2411706M05F2L	0℃~ 960℃	1°
39	SPSC039	NPSC003	Digital Oscilloscope	LECROY/ MAVIN	9354C/ CP-3308R	07/28/2017	07/28/2018	OCL-2411707F28O1	垂直 2m-5(V/DIV), 水準10n-5(s/DIV)	水準+/-0.01%
40	SPSC040	MY44012593	TEMP. RECORDER”6”	Agilent	34970A	03/09/2018	03/09/2019	OCL-2411803F09A1L	40ch，0~200℃	6 1/2
41	SPSC041	SPSC041	Equipment	Tajima	3.5M	06/20/2017	06/19/2020	OCL-2411706M19K1	10-350CM	---
42	SPSC042	1420129	Megohm Meter	Extech	8205	05/19/2017	05/19/2018	OCL-2411705F19Q2L	1000Vdc, 4 G Ohm	---
43	SPSC043	1320101	Hi-Pot	Extech	7462	05/19/2017	05/19/2018	OCL-2411705F19Q1L	12K Vdc, 5000uA	---
44	SPSC044	---	Test Hook	---	---	05/26/2017	05/25/2020	OCL-2411705F26E1L	---	---
46	SPSC046	---	Test probe	---	---	05/26/2017	05/25/2020	OCL-2411705F26E3L	---	---
47	SPSC047	---	Needle Flam Tester	---	---	05/30/2014	05/29/2017	OCL-2411405F30C5L	---	---
56	SPSC056	---	Thermocouple	Omega	TT-J-36	01/11/2018	01/10/2021	OCL-2411801W10A3L	---	---
57	SPSC057	A06BK04051	Electronic Load	Array	3711A	08/04/2017	08/04/2018	OCL-2411708F04H2L	CH.A +60V/50A, 250W CH.B +60V/5A, 50W	---
58	SPSC058	C2PG01016V	Power Meter	YOKOGAWA	WT-310	07/28/2017	07/28/2018	OCL-2411707F28O2L	ACV 230V, AC 10A, 1500W, 50-60Hz	----
59	SPSC059	100300756	Luxmeter	TES	1330A	04/15/2014	04/14/2017	14A044060	1, 150, 300 lx	----
60	SPSC060	2907007	Signal producer	ASTRO	VG-859	05/19/2017	05/19/2018	OCL-2411705F19Q6	30Hz~148MHz	----
61	SPSC061	LO642857	TV Signal producer	PHILIPS	PM5418	05/19/2017	05/19/2018	OCL-2411705F19Q7	5Vp-p, 49Hz~900MHz	----
62	SPSC062	201	Pink Noise Generator	Friborg	NG8280	05/19/2017	05/19/2018	OCL-2411705F19Q5	Flat Frequency Response -20dBV	----
63	SPSC063	100403235	Air meter	TES	1340	06/05/2015	06/04/2018	OCL-2411506F05A2	0.5m/s; 1.0m/s; 3.0m/s	----
68	SPSC068	NPSC073	Devices forming a part of the mains plug	CENTURY TOWN	---	10/20/2017	10/19/2020	OCL-2411710F20W1L	1N, 300mm	----
69	SPSC069	---	1mm in diameter, length up to 13 mm	PSC	SPSC069	04/13/2017	04/12/2020	OIT-2411704W12B1L	---	---
70	SPSC070	HT20170062	Paper shredder	HongCe	NAF 2 UL	03/27/2017	03/26/2020	Q2017150-01	---	---
71	SPSC071	6.02173E+17	Power Meter	ITECH	IT9121	11/03/2017	11/03/2018	OCL-2411711F03P1L	ACV 230V, AC 10A, 1500W, 50-60Hz	----

Appendix IV – IEC 60529 Report

See next page

Reliability Laboratory

TEST REPORT

Report No.: HC50064/2018
Page: 1 of 4
Date: May 15, 2018

GARMIN CORPORATION
NO. 68, ZHANGSHU 2ND ROAD,
XIZHI DIST., NEW TAIPEI CITY, TAIWAN

The following merchandise was submitted and identified by the vendor as:

Product Description:	Automatic Identification System
Style/ Item No.:	AIS 800/ No.1
Manufacturer/ Vendor:	Garmin Corporation
Country of Origin:	Taiwan
Quantity:	Total 1 piece
Testing Period:	May 14, 2018

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Required:

Test for Degrees of Protection Provided by Enclosures (IEC 60529 Edition 2.2: 2013)

IP Code	IPX7
First characteristic numeral	Omitted
Second characteristic numeral	Degrees of protection against ingress of water

Test Results:

Conclusion
Submittals sample(s) comply with the requirement and acceptance conditions of IEC 60529 Edition 2.2: 2013 Degrees of Protection Provided by Enclosures -- IPX7 The detailed description of test result, please see attached sheet(s).

Signed for and on behalf of SGS TAIWAN Ltd.

Allen Wang
Asst. Supervisor

Test for Degrees of Protection Provided by Enclosures:

Test Equipment:

Name	Brand	Model	Serial No.
IPX7/IPX8 Immersion Tank	Self-made	SGS-ETR-030201	ETR000001

Lab Environmental Conditions:

Ambient temperature: (15 ~ 35)℃

Ambient humidity: (25 ~ 75) % RH

Test Method/ Specification:

Test method: IEC 60529 Edition 2.2: 2013 --IPX7

<BK_CHAPTER_T>Test for protection against water:

Sample condition: Non-Operating

Test means: Completely immerse the specimen in water in its service position as specified by client.

Test condition: See below items marked "●",

●	The lowest point of enclosures with a height less than 850 mm is located 1000 mm below the surface of the water
	The highest point of enclosures with a height equal to or greater than 850 mm is located 150 mm below the surface of the water

Test duration: 30 minutes

Test Device: As shown in photo 3, 4

- Examine the protection against ingress water of specimen after this test.

Specimen:

Style/ Item No.: AIS 800/ No.1
Quantity: Total 1 piece

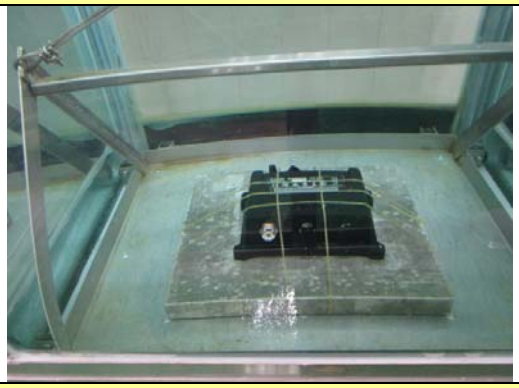
Test Result:

Degree of protection against ingress of water (IPX7)

Test Result		
Check Item		Style/ Item No.
		AIS 800/ No.1
1	Does any water enter the enclosure?	No
2	(followed check item 1) If any water has entered, does the water accumulate near the cable end or live parts?	N/A
2.1	(followed check item 2) Does the water be sufficient to interfere with the correct operation of the equipment or impair safety?	N/A
2.2	(followed check item 2.1) Does the water deposit on insulation parts where it could lead to tracking along the creepage distances?	N/A
2.3	(followed check item 2.2) Does the water reach live parts or windings not designed to operate when wet?	N/A

Note 1: N/A means “Not Applicable”.
Note 2:The check items in this test report for inspecting the degree of protection provided by enclosures are reference to the requirements specified in IEC 60529 Edition 2.2: 2013 and in accordance with the acceptance conditions specified by client.

Test Photos:

	
1. Appearance of specimen	2. Appearance of specimen
	
3. Test for protection against water	4. Test for protection against water

— — — The End of Test Report — — —