LVD TEST REPORT

EN 60950-1: 2006+A12: 2011

MEASUREMENT AND TEST REPORT
For

Ingtron Enterprise Co., Ltd.

No. 211-1, Qingfeng Road, Qingxi Town, Dongguan City, Guangdong, China

Model: reference page 2

Feb. 28, 2013

This Report Concerns:	**Equipment Type:**
☒ Derivative Report	PC Case + DC Power Board

Test Engineer:	Calvin Chen
Report Number:	POCE13022704IRS
Test Date:	Feb. 22, 2013 – Feb. 28, 2013
Reviewed By:	Bophe Mo
Prepared By:	**Shenzhen POCE Technology Co., Ltd.** Room 501-502, Bldg.1, Xinghua Garden, Bao'an Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China Tel: +86-755-2911 3252 Fax: +86-755-2911 3135

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior written consent of Shenzhen POCE Technology Co., Ltd.

TEST REPORT **EN 60950-1** **Safety of information technology equipment**		
Reference No.	POCE13022704IRS	
Compiled by (+ signature)	Calvin Chen / Project Engineer	see cover page
Approved by (+ signature)	Bophe Mo / assistant Manager	see cover page
Date of issue	Feb. 28, 2013	
Contents :	16pages including attachments	
Testing laboratory		
Name	SHENZHEN POCE TECHNOLOGY CO., LTD.	
Address	Room 501-502, Bldg.1, Xinghua Garden, Bao'an Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China	
Testing location	Same as above	
Client		
Name	Ingtron Enterprise Co., Ltd.	
Address	No. 211-1, Qingfeng Road, Qingxi Town, Dongguan City, Guangdong, China	
Test specification		
Standard	EN 60950-1: 2006+A12: 2011	
Test procedure	CE-LVD	
Procedure deviation	N.A.	
Non-standard test method	N.A.	
Test item		
Description	PC Case + DC Power Board	
Trademark	N.A.	
Model and/or type reference	IT-201, IT-2xx/IT-3xx(xx=0~9)	
Manufacturer	Ingtron Enterprise Co., Ltd.	
Address	No. 211-1, Qingfeng Road, Qingxi Town, Dongguan City, Guangdong, China	
Rating(s)	12V⎓5A, Class III	

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Particulars: test item vs. test requirements

Equipment mobility	Movable equipment
Operating condition	Continuous operation
Tested for IT power systems	N.A.
IT testing, phase-phase voltage (V)	N.A.
Class of equipment	Class III
Mass of equipment (kg)	＜1.5kg
Protection against ingress of water	IP20

Test case verdicts

Test case does not apply to the test object	N(.A.)
Test item does meet the requirement	P(ass)
Test item does not meet the requirement	F(ail)

Testing

Date of receipt of test item	Feb. 22, 2013
Date(s) of performance of test	From Feb. 22, 2013 to Feb. 28, 2013

General remarks

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

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

"(see remark #)" refers to a remark appended to the report.

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

Throughout this report a comma is used as the decimal separator.

Remark :

—The maximum ambient temperature of the product is 40℃.

—The power supplied by an external AC/DC adapter, model KPL-060F, it was approved separately.

—Models IT-201 and IT-2xx/IT-3xx(xx=0~9) are similar except model name and appearance. All tests were performed on model IT-201.

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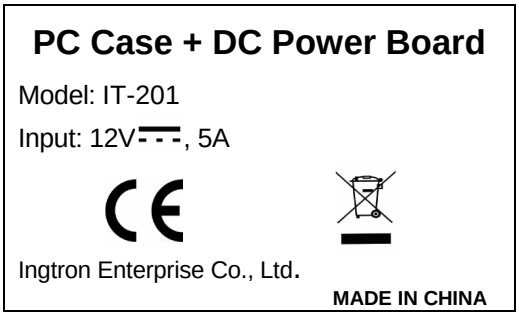
Copy of marking plate:



Note: Due to the similarity of rating labels, only above label is listed.

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EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
1.5	COMPONENTS	(see appended table1.5.1)	P
1.6	POWER INTERFACE	(see appended table1.5.1)	P
1.7	MARKING AND INSTRUCTIONS	Durability test according to cluse 1.7.13.	P
2.1	PRTECTION FROM ELECTRONIC SHOCK AND ENERGY HAZARDS	SELV accessible only	P
2.2	SELV CIRCUITS	Class III appliance, all voltage not exceeding 42.4V (peak) or 60V dc.	P
2.3	TNV CIRCUITS	No such circuit	N/A
2.4	LIMITED CURRENT CIRCUITS		P
2.5	LIMITED POWER SOURCES	Class III appliance, all voltage not exceeding 42.4V (peak) or 60V dc. The DC power supplied by an external AC/DC adaptor which is separately certified.	N/A
	INHERENTLY LIMITED OUTPUT		N/A
	IMPEDANCE LIMITED OUTPUT		N/A
2.6	PROVISIONS FOR EARTHING AND BONDING	Class III	N/A
2.7	OVERCURRENT AND EARTH FAULT PROTECTION IN PRIMARY CIRCUITS		N/A
2.8	SAFETY INTERLOCKS		N/A
2.9	ELECTRICAL INSULATION	Class III appliance, all voltage not exceeding 42.4V (peak) or 60V dc.	N/A
2.10	CLARANCES, CREEPAGE DISTANCES AND DISTANCES THROUGH INSULATION	Class III appliance, all voltage not exceeding 42.4V (peak) or 60V dc.	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
3.1	WIRING, CONNECTIONS AND SUPPLY	Class III appliance, no live voltage connection, no hazard	N/A
3.2	CO NNECTION TO AN A.C. MINS SUPPLY OR A D.C. MAINS SUPPLY		N/A
3.3	WIRING TERMINALS FOR CONNECTION OF EXTERNAL CONDUCTORS		N/A
3.4	DISCONNECTION FROM THE MAINS SUPPLY		N/A
3.5	INTERCONNECTION OF EQUIPMENT		N/A
4.1	STABILITY	Mass less than 7kg,	N/A
4.2	MECHANICAL STRENGTH		P
4.2.1	GENERAL		P
4.2.2	STEADY FORCE TEST, 10 N	applied to internal components	P
4.2.3	STEADY FORCE TEST, 30 N		N
4.2.4	STEADY FORCE TEST, 250 N	Enclosure stress test see table 4.2.4	P
4.2.5	IMPACT TEST	See table 4.2.5	P
4.2.6	DROP TEST		N/A
4.2.7	STRESS RELIEF		N/A
4.2.8	CATHODE RAY TUBES	No Cathode ray tube.	N/A
	PICTURE TUBE SEPARATELY CERTIFIED :		N/A
4.2.9	HIGH PRESSURE LAMPS	No high pressure lamps.	N/A
4.2.10	WALL OR CEILING MOUNTED EQUIPMENT; FORCE (N) :		N/A
4.3	DESIGN AND CONSTRUCTION	(see appended table 4.3.8)	P
	EDGES AND CORNERS	All edges and corners judged to be sufficiently well rounded so as not to constitute a hazard	P
4.4	PROTECTION AGAINST HAZARDOUS MOVING PARTS	No moving parts	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
4.5	THERMAL REQUIREMENTS	Class III appliance No temperature hazards, see table 4.5	P
4.6	OPENINGS IN ENCLOSURES	Openings in enclosures,but no electric shock hazard. All internal parts is SELV voltage	N/A
4.7	RESISTANCE TO FIRE	Class III appliance, input power is less than 60VA. No risk of ignition.	P
5.1	TOUCH CURRENT AND PROTECTIVE CONDUCTOR CURRENT	Input: 12Vdc 5A class III appliance, all voltage not exceeding 42.4V (peak) or 60V dc.	N/A
5.2	ELECTRIC STRENGTH	(see appended table 5.2)	P
5.3	ABNORMAL OPERATING AND FAULT CONDITIONS		P
6.1	PROTECTION OF TELECOMMUNICATION NETWORK SERVICE PERSONS, AND USERS OF OTHER EQUIPMENT CONNECTED TO THE NETWORK, FROM HAZARDS IN THE EQUIPMENT		N/A
6.2	PROTECTION OF EQUIPMENT USERS FROM OVERVOLTAGES ON TELECOMMUNICATION NETWORKS		N/A
6.3	PROTECTION OF THE TELECOMMUNICATION WIRING SYSTEM FROM OVERHEATING		N/A
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS	Not connected to cable distribution systems	N/A
A	ANNEX A TESTS FOR RESISTANCE TO HEAT AND FIRE		N/A
B	ANNEX B MOTOR TESTS UNDER ABNORMAL CONDITIONS		N/A

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Clause	Requirement – Test	Result - Remark	Verdict
C	ANNEXE C TRANSFORMERS		N/A
D	ANNEX D MEASURING INSTRUMENTS FOR TOUCH CURRENT TESTS		N/A
E	ANNEX E TEMPERATURE RISE OF A WINDING		N/A
F	ANNEX F MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		N/A
G	ANNEX G ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
H	ANNEX H IONIZING RADIATION		N/A
J	ANNEX J TABLE OF ELECTROCHEMICAL POTENTIALS (SEE 2.6.5.6)		N/A
K	ANNEX K THERMAL CONTROLS		N/A
L	ANNEX L NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT		N/A
M	ANNEX M CRITERIA FOR TELEPHONE RINGING SIGNALS		N/A
N	ANNEX N IMPULSE TEST GENERATORS		N/A
P	ANNEX P NORMATIVE REFERENCES		N/A
Q	ANNEX Q VOLTAGE DEPENDENT RESISTORS (VDRS)		N/A

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EN 60950-1			
Clause	Requirement – Test	Result - Remark	Verdict
R	ANNEX R EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
S	ANNEX S PROCEDURE FOR IMPULSE TESTING		N/A
T	ANNEX T GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER		N/A
U	ANNEX U INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
V	ANNEX V AC POWER DISTRIBUTION SYSTEMS		N/A
W	ANNEX W SUMMATION OF TOUCH CURRENTS		N/A
X	ANNEX X MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS		N/A
Y	ANNEX Y ULTRAVIOLET LIGHT CONDITIONING TEST		N/A
Z	ANNEX Z OVERVOLTAGE CATEGORIES		N/A
AA	ANNEX AA MANDREL TEST		N/A
ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THERE RELEVANT EUROPEAN PUBLICATIONS		N/A
ZB	SPECIAL NATIONAL CONDITIONS	DC input 12V, class III equipment, not relevant conditions.	N/A
ZC	A-DEVIATIONS	Class III equipment, not relevant the national deviation	N/A

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1.5.1	**TABLE: list of critical components**				**P**
object/part No.	manufacturer/trademark	type/model	technical data	standard	mark(s) of conformity[1])
Internal wire	Various	1007	22AWG/20AWG VW-1, 80℃	--	VDE approved
Metal Enclosure	---	---	Metal	--	---
PCB	Various	ADD12P80A	V-0 130℃	UL706	UL,CCC
Switching adapter (AC/DC converter)	CHANNEL WELL TECHNOLOGY	KPL-060F	Input: 100-240V~ 50/60Hz 1.7A output: DC12V 5A	EN 60950-1	CE, CCC

1.6.2	**TABLE: electrical data (at normal conditions)**					**P**
Model #	U (V)	Rated U(V)	Rated I(mA)	I (mA)	Hz	condition/status
KPL-060F	DC12	5	5000	4868	--	Full load, Normal operation
Comment: Rated input: 12VDC 5A						

1.7.13	**TABLE: durability of marking test**	**P**
Checked by	Time	Result
Water	15s	No any curling and still legibility
Petroleum spirit	15s	No any curling and still legibility

2.5	**TABLE: limited power source measurement**		**N**
Condition	Output voltage (Uoc) (V)	Output current (Isc) (A)	Apparent power (S) (VA)
Uoc: max output voltage, Isc: max. output current with any non-capacitive load, including a short circuit, measured 60s after application of the load, S(VA): max. output VA with any non-capacitive load, including a short circuit, measured 60s after application of the load			
Comment:			

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4.2.4	**TABLE: enclosure stress test**			**P**
Test part	Pull force	Duration	Result	Breakdown (Y/N)
back, top, side enclosure	250N	5s	No hazards	N
Remark: The test shall not be applied to the bottom of the equipment shell that the quality is more than 18kg				

4.2.5	**TABLE: impact test**		**P**
Test part	Method	Result	Breakdown (Y/N)
back, top enclosure	0,5Kg Steel ball onto the sample dropping though a vertical distance of 1,3m	No hazards	N

4.3.8	**TABLE: temperature of charging and discharging for the battery**			**N**
Operating condition: abnormal operation:				
Maximum temperature T of part/at:	T ambient(℃)= 40℃			Limit T(℃)
	(1)	(2)	(3)	

4.5	**TABLE: Normal operation tests**				**P**
	Test condition: -Input: AC 90V (100-10%), 60Hz and 264(240V+10%), 50Hz - product set on working model -Appliance within a wooden test box with 10mm side and to space, and 50mm back side space; front side of box was opened				
Voltage	Frequency	Current	Power	Mode	Remark
264V	50Hz	213mA	56.2W	Full loading	adaptor supply
90V	60Hz	631mA	56.8W	Full loading	

Location	Name of componet	Measure T (℃)		Tmax (℃)
		264V	90V	
Internal wire	---	50.6	50.8	75
PCB, near U1	---	50.8	50.9	130
Top enclosure,outside	---	44.9	45.1	95
Metal enclosure	---	44.0	44.2	70
PCB near mins IC	---	51.5	51.7	130
Enclosure of adaptor supply	---	46.2	46.6	90

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Note: maximum operation temperature at 40℃				
	Winding temperature rise measurements			
	Ambient temperature t1(℃) :		--	--
	Ambient temperature t2(℃) :		--	--
Temperature rise dT of winding	R1(Ω)	R2(Ω)	dt (k)	Insulation class

5.2.2	**TABLE: electric strength tests and impulse tests**		**P**
test voltage applied between:		test voltage (V r.m.s)	breakdown
Between –V/+V terminals and metal enclosure of PC case		500Vac	No

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Attachment: Real photos of EUT

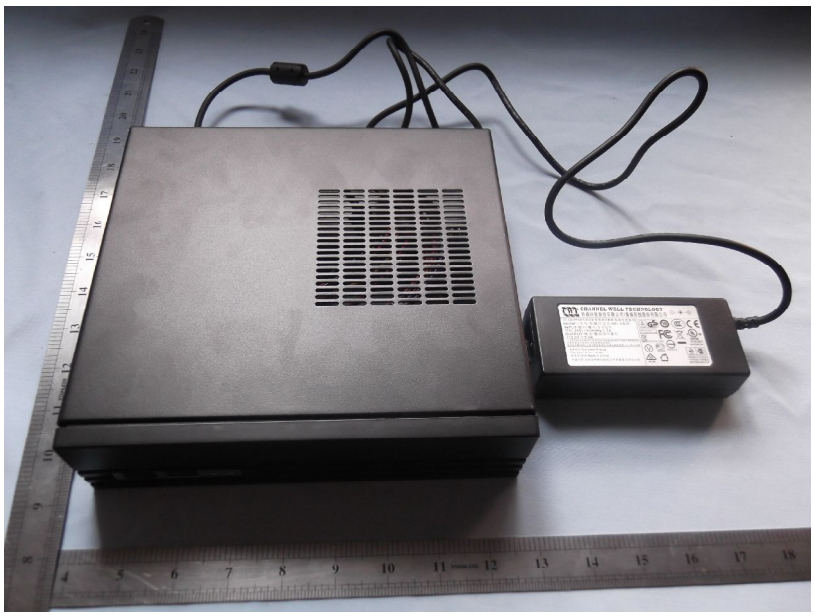

Fig. 1-overview (IT-201)

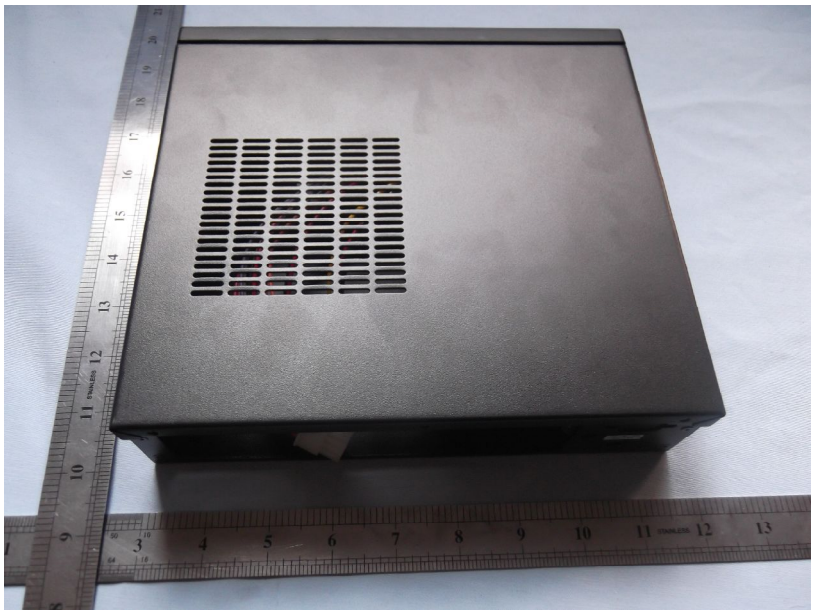

Fig. 2-rear view

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Fig. 3-internal construction view

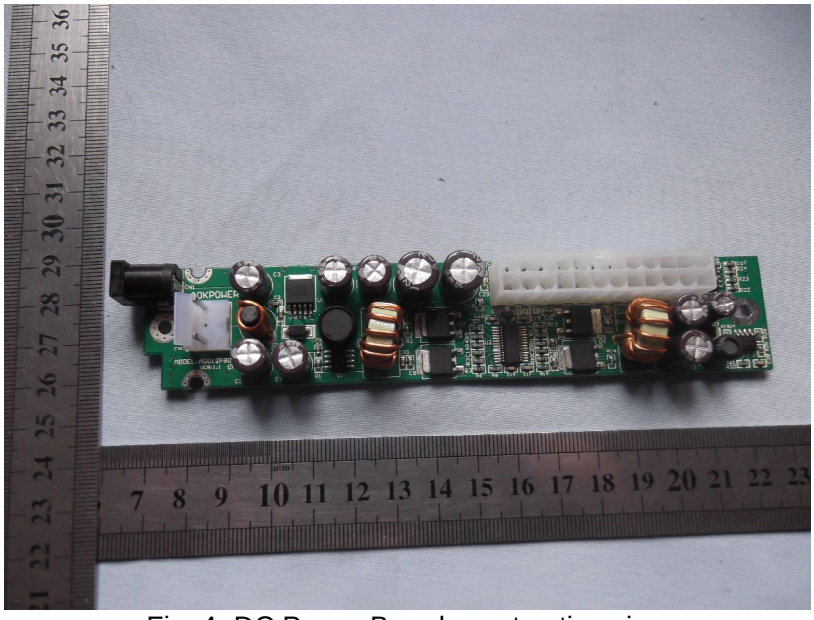

Fig. 4- DC Power Board construction view

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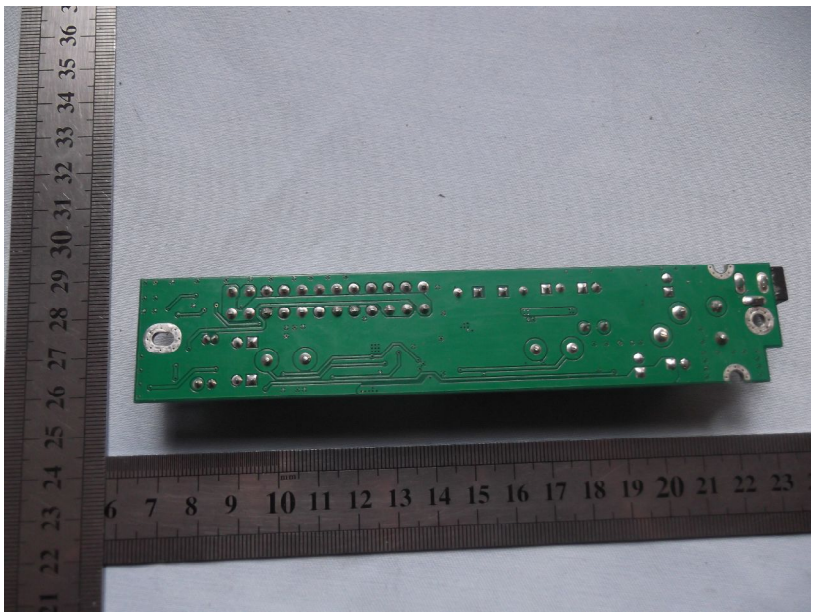

Fig. 5- DC Power Board trace view

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Fig. 6-external adapter view

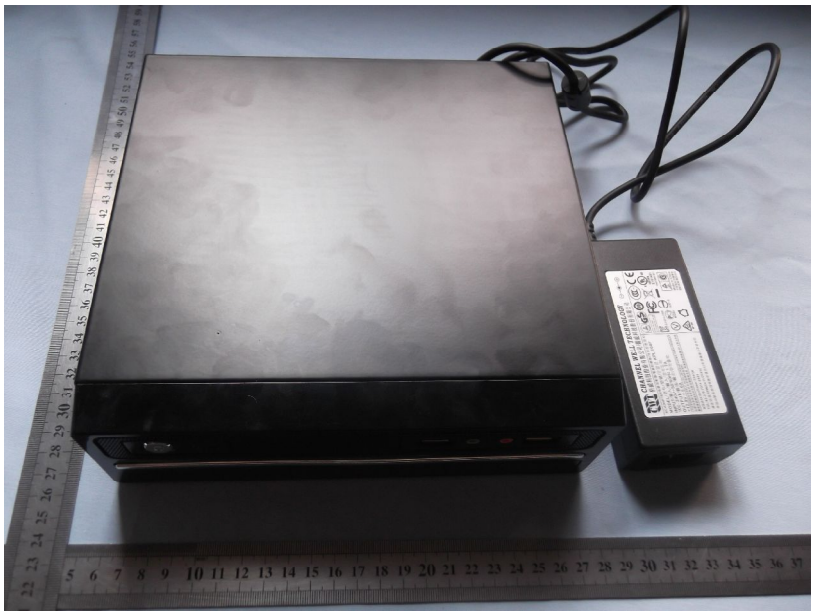

Fig. 7-overview (IT-301)

*** End of the report ***

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