



**Technical Report No. 68.167.16.0170.01A**  
**Dated 2016-04-25**

Client: Aquil Star Precision Industrail (Shenzhen) Co., Ltd

Address: Building A and B, The No. 4 Of Tengfeng Thrid Road, Fenghuang Third Industry, Fuyong Town, Baoan Zone, Shenzhen City, P.R. China.

Attn.: Chenyan

Sample Description: SWITCHING ADAPTER

Tested Model No.: ASSA75

Reference Model No.: See Appendix II

Country of origin: CHINA

Location of Testing: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch

Sample Received Date: 2016-03-24

Test Period: From 2016-03-24 to 2016-04-05

Test Requested and Conclusion: Test according to RoHS (Restriction of Hazardous Substances) directive 2011/65/EU on submitted samples

- Heavy Metal (Pb, Cd, Hg and CrVI) Content **PASS**
- Polybrominated Biphenyls (PBBs) and Polybrominated Diphenyl Ethers (PBDEs) Content **PASS**

Test Result: Refer to the following page(s)

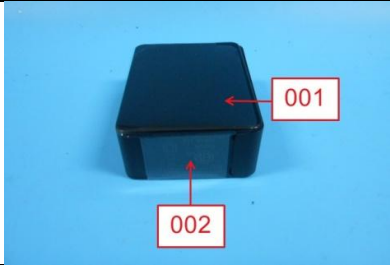
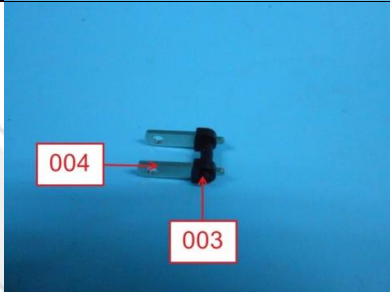
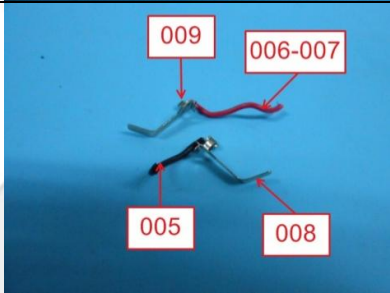
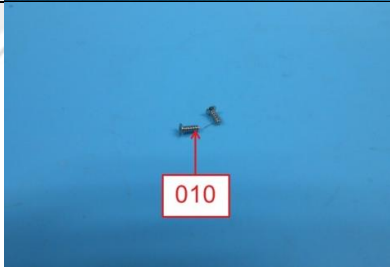
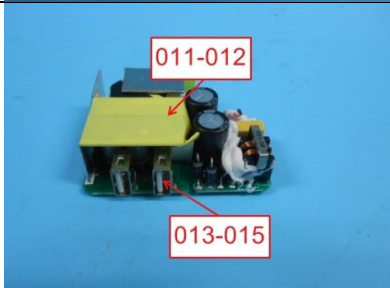
Remark: The result relates only to the items tested.

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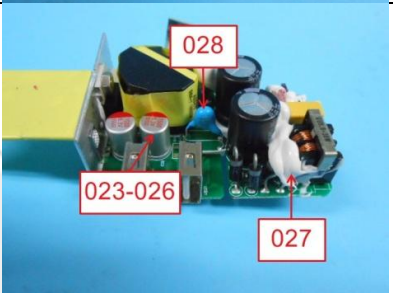
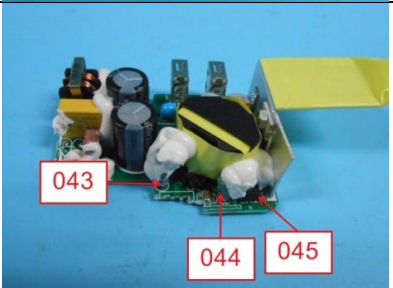
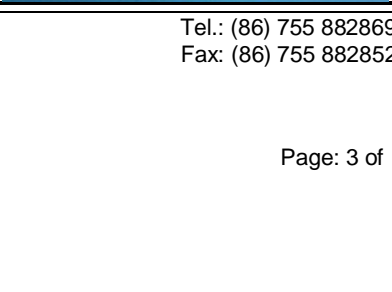
TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch  
TÜV SÜD Group  
Building 12&13, Zhiheng Wisdomland Business Park,  
Nantou Checkpoint road 2,  
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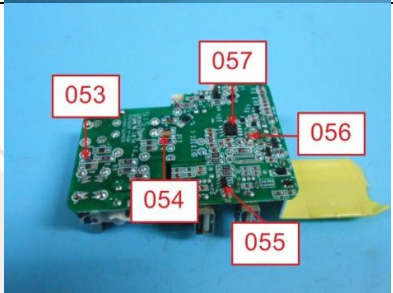
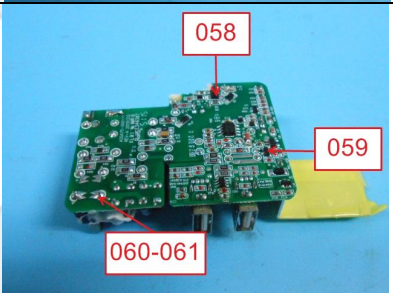
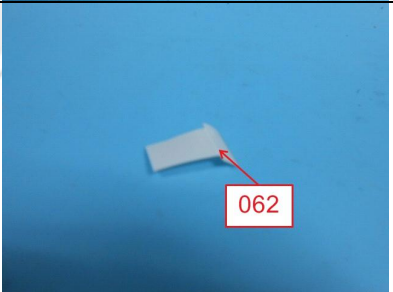
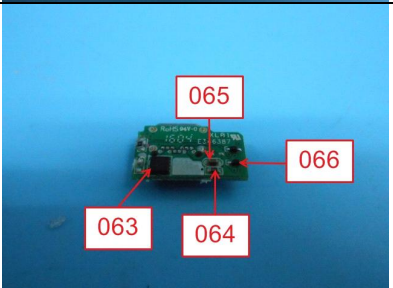
**1. TESTED SUBJECT DESCRIPTION**

Sample Number	Item Name	Tested Material Description	Photo
001	Housing	Black plastic	
002		Transparent plastic	
003	Plug	Black plastic pin holder	
004		Silvery metal pin	
005	Wire	Black plastic wire jacket	
006		Red plastic wire jacket	
007		Silvery metal wire	
008		Silvery metal sheet	
009		Silvery metal solder	
010	Screw	Silvery metal	
011	Sheet	Yellow plastic tape	
012		Silvery metal sheet	
013	Plug	Silvery metal case	
014		White plastic pin holder	
015		Silvery metal pin	

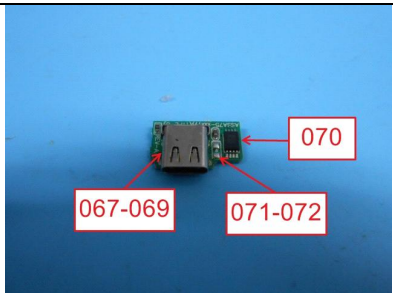
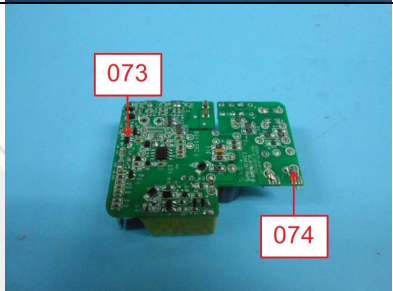
**Technical Report No. 68.167.16.0170.01A**  
**Dated 2016-04-25**

Sample Number	Item Name	Tested Material Description	Photo
016	Triode units	Silvery metal screw	
017		Silvery metal nut	
018		Black body	
019		Silvery metal sheet	
020		Silvery metal connector	
021	Diode	Black/grey body	
022		Silvery metal pin	
023	Capacity	Red printing silvery metal	
024		Black soft plastic base	
025		Yellow plastic tape	
026		Silvery metal pin	
027	Glue	White glue	
028	Capacity	Blue body	
029	Capacity	Black/grey plastic shell	
030		Silvery metal case	
031		Black soft plastic base	
032		Brown paper	
033		Silvery metal pin	
034	Capacity	Yellow plastic shell	
035		Silvery foil	
036	Transformer	Silvery metal case	
037		Black plastic holder	
038		Black magnet	
039		Copper metal coil	
040	Capacity	Red plastic shell	
041		Black plastic base	
042		Silvery metal pin	
043	Resistor	Grey body	
044	Capacity	Green/grey plastic shell	
045	EC	Black body	

**Technical Report No. 68.167.16.0170.01A**  
**Dated 2016-04-25**

Sample Number	Item Name	Tested Material Description	Photo
046	Transformer	Yellow plastic tape	
047		Black plastic holder	
048		Black magnet	
049		Coppery metal coil	
050		Transparent plastic tube	
051		Coppery metal wire	
052		Silvery metal pin	
053	SMD resistor	Black/silvery body	
054	SMD capacity	Brown/silvery body	
055	IC	Black body	
056	Glass diode	Transparent glass with red body	
057	IC	Black body	
058	Diode	Black body	
059	Triode	Black body	
060	PCB units	Green PCB	
061		Silvery metal solder	
062	Part	White plastic	
063	IC	Black body	
064	SMD resistor	Black/silvery body	
065	SMD capacity	Brown/silvery body	
066	Diode	Black body	

**Technical Report No. 68.167.16.0170.01A**  
**Dated 2016-04-25**

Sample Number	Item Name	Tested Material Description	Photo
067	Socket	Silvery metal case	
068		Black plastic pin holder	
069		Silvery metal pin	
070	IC	Black body	
071	PCB units	Green PCB	
072		Silvery metal solder	
073	IC	Black body	
074	Solder	Silvery metal solder	







Technical Report No. 68.167.16.0170.01A  
Dated 2016-04-25

2. TEST RESULTS

2.1. SCREENING

Test method: With reference to IEC 62321-3-1:2013, analyzed by Energy Dispersive X-ray Fluorescence Spectrometers (XRF).

Sample No.	Total Cadmium	Total Chromium	Total Mercury	Total Lead	Total Bromine
001	BL	BL	BL	BL	BL
002	BL	BL	BL	BL	BL
003	BL	BL	BL	BL	BL
004	BL	BL	BL	BL	N.A.
005	BL	BL	BL	BL	BL
006	BL	BL	BL	BL	BL
007	BL	BL	BL	BL	N.A.
008	BL	Inconclusive <sup>(a)</sup>	BL	BL	N.A.
009	BL	BL	BL	BL	N.A.
010	BL	BL	BL	BL	N.A.
011	BL	BL	BL	BL	BL
012	BL	BL	BL	BL	N.A.
013	BL	BL	BL	BL	N.A.
014	BL	BL	BL	BL	BL
015	BL	BL	BL	BL	N.A.
016	BL	Inconclusive <sup>(a)</sup>	BL	BL	N.A.
017	BL	BL	BL	BL	N.A.
018	BL	BL	BL	BL	Inconclusive <sup>(a)</sup>
019	BL	BL	BL	BL	N.A.
020	BL	BL	BL	BL	N.A.
021	BL	BL	BL	BL	Inconclusive <sup>(a)</sup>
022	BL	BL	BL	BL	N.A.
023	BL	BL	BL	BL	N.A.
024	BL	BL	BL	BL	BL
025	BL	BL	BL	BL	BL
026	BL	BL	BL	BL	N.A.
027	BL	BL	BL	BL	BL
028	BL	BL	BL	BL	BL
029	BL	BL	BL	BL	BL
030	BL	BL	BL	BL	BL
031	BL	BL	BL	BL	BL
032	BL	BL	BL	BL	BL
033	BL	BL	BL	BL	N.A.
034	BL	BL	BL	BL	Inconclusive <sup>(a)</sup>
035	BL	BL	BL	BL	BL
036	BL	Inconclusive <sup>(a)</sup>	BL	BL	N.A.



Technical Report No. 68.167.16.0170.01A  
Dated 2016-04-25

Sample No.	Total Cadmium	Total Chromium	Total Mercury	Total Lead	Total Bromine
037	BL	BL	BL	BL	BL
038	BL	BL	BL	BL	BL
039	BL	BL	BL	BL	N.A.
040	BL	BL	BL	BL	BL
041	BL	BL	BL	BL	BL
042	BL	BL	BL	BL	BL
043	BL	BL	BL	BL	BL
044	BL	BL	BL	BL	BL
045	BL	BL	BL	BL	Inconclusive <sup>(a)</sup>
046	BL	BL	BL	BL	BL
047	BL	BL	BL	BL	BL
048	BL	BL	BL	BL	BL
049	BL	BL	BL	BL	N.A.
050	BL	BL	BL	BL	BL
051	BL	BL	BL	BL	N.A.
052	BL	BL	BL	BL	N.A.
053	BL	BL	BL	OL <sup>(a)</sup>	BL
054	BL	BL	BL	BL	BL
055	BL	BL	BL	BL	BL
056	BL	BL	BL	OL <sup>(a)</sup>	BL
057	BL	BL	BL	BL	BL
058	BL	BL	BL	BL	BL
059	BL	BL	BL	BL	Inconclusive <sup>(a)</sup>
060	BL	BL	BL	BL	Inconclusive <sup>(a)</sup>
061	BL	BL	BL	BL	N.A.
062	BL	BL	BL	BL	BL
063	BL	BL	BL	BL	BL
064	BL	BL	BL	BL	BL
065	BL	BL	BL	BL	BL
066	BL	BL	BL	BL	BL
067	BL	Inconclusive <sup>(a)</sup>	BL	BL	N.A.
068	BL	BL	BL	BL	BL
069	BL	BL	BL	BL	N.A.
070	BL	BL	BL	BL	BL
071	BL	BL	BL	BL	BL
072	BL	BL	BL	BL	N.A.
073	BL	BL	BL	BL	BL
074	BL	BL	BL	BL	N.A.

Note:  
— “BL” denotes below limit

**Technical Report No. 68.167.16.0170.01A**  
**Dated 2016-04-25**

- “OL” denotes over limit
- “N.A.” denotes not applicable
- “(a)” denotes further confirmation test was conducted, results are listed in 2.2 and 2.3.
- XRF screening limits in mg/kg for regulated elements in various matrices

ELEMENT	POLYMER		
	BL	INCONCLUSIVE	OL
Cd	$X < (70 - 3\sigma)$	$(70 - 3\sigma) < X < (130 + 3\sigma)$	$X > (130 + 3\sigma)$
Pb	$X < (700 - 3\sigma)$	$(700 - 3\sigma) < X < (1300 + 3\sigma)$	$X > (1300 + 3\sigma)$
Hg	$X < (700 - 3\sigma)$	$(700 - 3\sigma) < X < (1300 + 3\sigma)$	$X > (1300 + 3\sigma)$
Br	$X < (300 - 3\sigma)$	$X > (300 - 3\sigma)$	NA
Cr	$X < (700 - 3\sigma)$	$X > (700 - 3\sigma)$	NA

ELEMENT	METAL		
	BL	INCONCLUSIVE	OL
Cd	$X < (70 - 3\sigma)$	$(70 - 3\sigma) < X < (130 + 3\sigma)$	$X > (130 + 3\sigma)$
Pb	$X < (700 - 3\sigma)$	$(700 - 3\sigma) < X < (1300 + 3\sigma)$	$X > (1300 + 3\sigma)$
Hg	$X < (700 - 3\sigma)$	$(700 - 3\sigma) < X < (1300 + 3\sigma)$	$X > (1300 + 3\sigma)$
Cr	$X < (700 - 3\sigma)$	$X > (700 - 3\sigma)$	NA

ELEMENT	COMPLEX MATERIAL		
	BL	INCONCLUSIVE	OL
Cd	$X < (50 - 3\sigma)$	$(50 - 3\sigma) < X < (150 + 3\sigma)$	$X > (150 + 3\sigma)$
Pb	$X < (500 - 3\sigma)$	$(500 - 3\sigma) < X < (1500 + 3\sigma)$	$X > (1500 + 3\sigma)$
Hg	$X < (500 - 3\sigma)$	$(500 - 3\sigma) < X < (1500 + 3\sigma)$	$X > (1500 + 3\sigma)$
Br	$X < (250 - 3\sigma)$	$X > (250 - 3\sigma)$	NA
Cr	$X < (500 - 3\sigma)$	$X > (500 - 3\sigma)$	NA



**2.2. POLYBROMINATED BIPHENYLS AND POLYBROMINATED DIPHENYL ETHERS CONTENT**

Test Method: With reference to IEC 62321-6:2015, extracted by toluene and analyzed by Gas Chromatography and Mass Spectrometry (GC-MS). [Reporting Limit: 5mg/kg]

Test Item		Result [mg/kg]		RoHS Requirement [mg/kg]
		Sample 018+021+045	Sample 034	
PBBs	Monobromobiphenyl	< 5	< 5	Sum of PBBs < 1000
	Dibromobiphenyl	< 5	< 5	
	Tribromobiphenyl	< 5	< 5	
	Tetrabromobiphenyl	< 5	< 5	
	Pentabromobiphenyl	< 5	< 5	
	Hexabromobiphenyl	< 5	< 5	
	Heptabromobiphenyl	< 5	< 5	
	Octabromobiphenyl	< 5	< 5	
	Nonabromobiphenyl	< 5	< 5	
	Decabromobiphenyl	< 5	< 5	
	Sum of PBBs	< 5	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	< 5	Sum of PBDEs < 1000
	Dibromodiphenyl Ether	< 5	< 5	
	Tribromodiphenyl Ether	< 5	< 5	
	Tetrabromodiphenyl Ether	< 5	< 5	
	Pentabromodiphenyl Ether	< 5	< 5	
	Hexabromodiphenyl Ether	< 5	< 5	
	Heptabromodiphenyl Ether	< 5	< 5	
	Octabromodiphenyl Ether	< 5	< 5	
	Nonabromodiphenyl Ether	< 5	< 5	
	Decabromodiphenyl Ether	< 5	< 5	
	Sum of PBDEs	< 5	< 5	

Note:

- “mg/kg” denotes miligram per kilogram
- “<” denotes less than

(Continued)

Test Item		Result [mg/kg]	RoHS Requirement [mg/kg]
		Sample 059+060	
PBBs	Monobromobiphenyl	< 5	Sum of PBBs < 1000
	Dibromobiphenyl	< 5	
	Tribromobiphenyl	< 5	
	Tetrabromobiphenyl	< 5	
	Pentabromobiphenyl	< 5	
	Hexabromobiphenyl	< 5	
	Heptabromobiphenyl	< 5	
	Octabromobiphenyl	< 5	
	Nonabromobiphenyl	< 5	
	Decabromobiphenyl	< 5	
	Sum of PBBs	< 5	
PBDEs	Monobromodiphenyl Ether	< 5	Sum of PBDEs < 1000
	Dibromodiphenyl Ether	< 5	
	Tribromodiphenyl Ether	< 5	
	Tetrabromodiphenyl Ether	< 5	
	Pentabromodiphenyl Ether	< 5	
	Hexabromodiphenyl Ether	< 5	
	Heptabromodiphenyl Ether	< 5	
	Octabromodiphenyl Ether	< 5	
	Nonabromodiphenyl Ether	< 5	
	Decabromodiphenyl Ether	< 5	
	Sum of PBDEs	< 5	

Note:

- “mg/kg” denotes miligram per kilogram
- “<” denotes less than

**2.3. HEAVY METAL CONTENT**

Test method: With reference to IEC 62321-4:2013, IEC 62321-5:2013, IEC 62321-7-1:2015 and IEC 62321:2008, analyzed by Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES) and UV-Vis spectrophotometer. [Reporting Limit: 2 mg/kg for Cadmium; 10 mg/kg for Hexavalent Chromium, Lead and Mercury.]

Sample No.	Result [mg/kg]			
	Total Cadmium	Hexavalent Chromium	Total Mercury	Total Lead
008	--	Negative	--	--
016	--	Negative	--	--
036	--	Negative	--	--
053	--	--	--	2.11×10 <sup>4(a)</sup>
056	--	--	--	1.39×10 <sup>5(a)</sup>
067	--	Negative	--	--
<b>RoHS Requirement</b>	100	1000	1000	1000

Note:

- “mg/kg” denotes milligram per kilogram
- “<” denotes less than
- “Negative” denotes the absence of Cr(VI) coating.
- “--” denotes tested by XRF, result is listed in 2.1
- “(a)” denotes the exempt item according to DIRECTIVE 2011/65/EU Annex III item 7(c)-I “*Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound*”

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TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch  
 TÜV SÜD Group

Reviewed by:



**Jason Peng**  
**Project Handler**



Reviewed by:



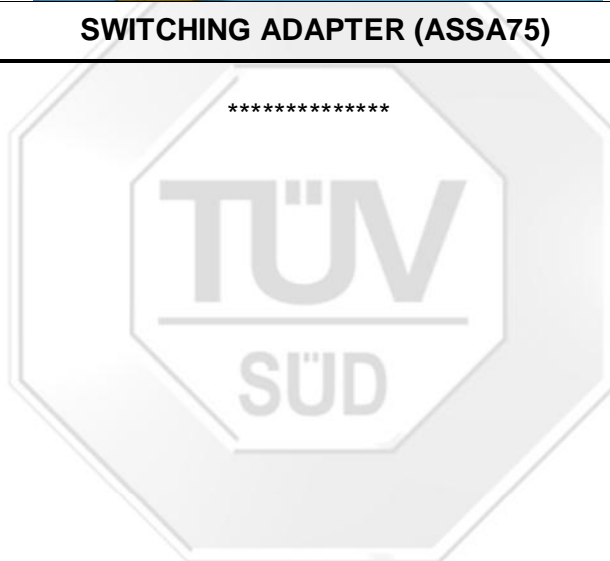
**Scarlett Liang**  
**Designated Reviewer**

**APPENDIX I:**

Photos of submitted products



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**Technical Report No. 68.167.16.0170.01A**  
**Dated 2016-04-25**

**APPENDIX II:**

According to client's declaration, tested material would be produced as relevant products:

Model No.	Output voltage (Vdc)	Output current (A)	Max. output power (W)	Transformer
ASSA75z-050yyy PCx-050yyy	5.0	0.1-5.4	27	ASSA75

Variable:	Range of variable:	Content:
yyy	010-540	Three digits denote from 010 to 540 which represents the output current in ampere, after divide by 100 in step of 10mA, for example, 540 represents the output current is 5.4A.
z	a2, a3, a4, A3, a3c, A3c b2, b3, b4, B3, b3c, B3c c2, c3, c4, C3, c3c, C3c d2, d3, d4, D3, d3c, D3c e2, e3, e4, E3, e3c, E3c f2, f3, f4, F3, f3c, F3c g2, g3, g4, G3, g3c, G3c h2, h3, h4, H3, h3c, H3c i2, i3, i4, I3, i3c, I3c j2, j3, j4, J3, j3c, J3c w2, w3, w4, W3, w3c, W3c	Indicates different version of plug and output mode.  a or A means American plug used; b or B means British plug used; c or C means Australian plug used; d or D means Argentina plug used; e or E means European plug used; f or F means Korea plug used; g or G means Japanese plug used; h or H means Mexico plug used; i or I means Chinese plug used; j or J means Brazilian plug used; w or W means Replaceable plug used.  2 means two USB outputs; 3 means three USB outputs or two USB outputs add output wire (prefix are 'a, b, c, d, e, f, g, h, i, j, w' means three USB output; prefix is 'A, B, C, D, E, F, G, H, I, J, W' means two USB outputs add output wire ) ; 4 means four USB outputs; 3c means two USB outputs add type C or one USB add one type C add output wire (prefix are 'a, b, c, d, e, f, g, h, i, j, w' means two USB output add type C; prefix is 'A, B, C, D, E, F, G, H, I, J, W' means one USB add one type C add output wire). Detail to see photo document
x	205, 207, 208, 401, 402, 403	205 Indicates fixed American plug and two USB outputs; the same as ASSA75a2  207 Indicates fixed European plug and two USB outputs; the same as ASSA75e2  208 Indicates detachable plug and two USB output;



**Technical Report No. 68.167.16.0170.01A**  
**Dated 2016-04-25**

<b>Variable:</b>	<b>Range of variable:</b>	<b>Content:</b>
		the same as ASSA75w2  401 Indicates fixed American plug and four USB outputs; the same as ASSA75a4  403 Indicates fixed European plug and four USB outputs; the same as ASSA75e4  402 Indicates detachable plug and four USB output. the same as ASSA75w4

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