TEST SPECIFICATION

Product:	AC Adaptor		
Scope:	AC adaptor/ Transformer	Protocol No.	TYCP-PS003 (US)
		Version	1.0
		Issue Date	Sep 12, 2011
		Prepared by	Tiger Yang
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Instructions to Vendors:

Dear Valued Vendor:
Product safety is a top priority at Taymark. We, with the assistance of Intertek, a CPSC-accredited third-party testing partner or lab, have identified the various rules and regulations as well as the necessary test requirements that we need to meet in our partnership to sell products in the United States. This has been assembled into our required Test Protocol. Each product that is supplied to us must comply with this Test Protocol and any required associated test protocol(s) identified within it.

You are required by the US Law to verify the products you provide to Taymark (or any other customer marketing to children in the USA) meet the required safety standards. Likewise, Taymark is required by US Law to assure that we have documentation to confirm that you have verified that your products meet the applicable safety standards. Once you have verified that the product(s) you have supplied to us conforms to the corresponding Test Protocol(s), and the testing was conducted within the past twelve (12) months, we ask that the appropriate representative from your company provide Taymark with the proper General Certificate of Conformity ("GCC") and the corresponding documentation that you used to support the GCC, including, where applicable and required, the CPSC-accredited third-party test data. For an example of an acceptable GCC, please go to http://www.cpsc.gov/about/cpsia/faq/elecertfaq.pdf.

Key

†: Any element on the attached form with the following symbol ("†") is a Mandatory Requirement to which the product(s) or components of product(s) you supply to Taymark must conform. You must perform the associated test(s) and provide Taymark with the test data to support the fact that the test(s) was (were) conducted and that the product(s) or components of product(s) meets the described requirements. You are responsible for conducting the mandatory testing, and you are responsible for any expenses incurred as a result of conducting the test(s) (including, without limitation, the costs and expenses associated with providing any samples, testing, reporting, and preparing the General Certificate of Conformity).

: The symbol ("") on the attached form indicates that additional charges may apply. Taymark's preferred Accredited Third-Party Testing Facility is Intertek. If you choose to use Intertek to conduct the mandatory testing, please reference Taymark and Taylor Corporation when submitting your requests for testing to Intertek as you may be able to take advantage of Taymark and Taylor Corporation's volume discount. You may contact Intertek for a price quote and any additional information they might need in order to conduct the required testing.

Additional Accredited Third-Party Testing facilities can be found at http://www.cpsc.gov/cgi-bin/labsearch/.

Note:

Where there is no applicable US standard, Intertek has chosen the most relevant International Standard to assess the product safety and performance. For undated references, the latest edition of the referenced document (including any amendments) applies.

Attribute	Test Method/Standard	Requirement / Limit
Supplemental Protocol(s)		
*†CA Prop 65 (mandatory in state California)	Intertek Protocol	Consent Judgment of related court case based on California Proposition 65. See http://oehha.ca.gov/prop65.html
Note: Additional cost, sample size & TAT may be required if testing to 1 or more supplemental protocol is necessary. Please refer to the above referenced supplemental protocol(s) for additional information		
Chemical Analysis		
1. * Lead Content in Paint and Similar Surface Coating	16 CFR 1303 (Scope Widened)	Shall not exceed 90ppm (0.009% by weight) total lead.
Document Check		
2. †One Time Use Products Fair Packaging and Labeling Act OR All Other Products Uniform Packaging and Labeling Regulations	F.P. & L. Act (16 CFR 500) OR NIST Uniform Laws and Regulations Handbook 130	Manufacturer, packer, or distributor's name & address (city, state & zip) Product Identification Net quantity of contents shall be expressed in terms of weight or mass, measure, numerical count, or combination so as to give accurate information to facilitate consumer comparison (U.S. and metric units).
3. †Country of Origin Marking	19 CFR 134.11	Shall indicate country of origin legibly, permanently, and in comparable size and close proximity to any mention of country other than country in which the article was manufactured or produced. Must be visible at point of purchase.
4. Use Labelling	Visual Check	Use/care instructions that are clear and understandable shall be provided in language appropriate to destination countries
5. Verify Label Claims (if any)	Visual Check	Must comply with all claims
6. †*Toxics in Packaging	Toxics in Packaging Act	Intentional introduction of any amount of lead, mercury, cadmium or hexavalent chromium in any packaging is prohibited. Incidental presence of these metals is limited to 100 ppm total concentration of lead, mercury, cadmium and hexavalent chromium in any packaging. **In lieu of testing, supplier may submit a Certificate of Compliance.**

Attribute	Test Method/Standard	Requirement / Limit
7. †Plastic Bag Warning Statement (if applicable)	Based on Various State Laws: New York, Chicago, Massachusetts, and Rhode Island State and City Laws modified	Plastic bags with a thickness less than one mil (1/1000 inch) having an opening size of five inches in diamerter or more must have the following warning or an equivalent warning visible from each side of the bag. If the total length and width is more than 40 inches, this warning or an equivalent warning must repeat at 20 inch intervals and be visible on each side of the bag: Warning: To avoid danger of suffocation, keep this plastic bag away from babies and children. Do not use this bag in cribs, beds, carriages or playpens. This bag is not a toy. Massachusetts, New York, and Rhode Island provide minimum type size for the warning. The following table sets forth type sizes that will satisfy all four state requirements. Total Length and Width of Bag Size of Print 60 inches or more at least 24 point 40 to 59 inches at least 18 point 25 to 39 inches at least 14 point Less than 25 inches at least 10 point *Virginia's law is intended for dry cleaning bags only and requires at least 36 point type.
8. Safety Listing Mark	NFPA 70	Shall have valid ETL, UL or CSA listing or equivalent. Verify listing by NRTL product directory with the sample's listing number and model number.
9. †FCC Rules	Document Check	Products shall have valid FCC report if operating frequency > 9 kHz for AC, or operating frequency > 1.705MHz for battery operated product.
10. †FCC marking and instruction	Visual	Products shall have FCC required marking and instruction if operating frequency > 9 kHz for AC, or operating frequency > 1.705MHz for battery operated product.
11. General Markings	UL 1310 Cls. 49.1	Class 2 Transformer shall be legibly and permanently marked: a) Manufacturer's name, trade name, or trademark b) A distinctive catalogue or model number, or the equivalent c) The date or other dating period of manufacture not exceeding any three consecutive months d) Rated voltage e) Frequency f) Input in amperes, volt amperes, or watts g) "For Indoor Use Only" h) "Class 2 Power Supply", "Class 2 Transformer", "Class 2 Power Unit" or "Class 2 Battery Charger" i) Caution or warning markings, in English and French

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	UL 60950-1 Cls. 1.7	A general, cautionary and warning marking intended to inform the user of a potential risk of fire, electrical shock, or injury to persons shall be provided. - Maker's or responsible vendor's name or trade mark - model number - other markings required by the standard
	UL 60065 Cls. 5	A general, cautionary and warning marking intended to inform the user of a potential risk of fire, electrical shock, or injury to persons shall be provided. - Maker's or responsible vendor's name or trade mark - model number - Class II symbol (if applicable) - nature of supply - rated voltage - rated current consumption or rated power consumption - date code - other markings required by the standard
12. Cautionary Markings	UL 1310 Cls. 52	Cautionary markings, where required shall be in letters no less than 1/8" high as required. - Dry location units shall be marked "CAUTION" and "Risk of Electric Shock" and the following or equivalent "Dry location use only" or "Do not expose to liquids, vapour or rain". - Battery Chargers shall be marked as required regarding the batteries that are to be charged. - Direct Plug-in units shall be marked "CAUTION", "Risk of Fire or Electric Shock. Do not replace this plug assembly". - Other markings required per section.
	UL 60950-1 Cls. 1.7 UL 60065 Cls. 5.4	Instructions and warnings shall be provided in the user manual identifying reasonable foreseeable uses or misuses of the product. It shall also include instructions regarding the installation, use, safety and maintenance.
13. DOE requirement	10 CFR 430	Shall have valid DOE certification report for verification. It is the vendor's responsibility to submit the certification report and compliance statement to DOE.
14. UPC code	Actual Use	Using a commercial available bar code reader to read the UPC code printed on the package/artwork. The code readout shall match with the number underneath. Record the reading displayed on the reader.
15. Parts Inventory	Visual Check	Shall meet label claims.
Electrical Safety		
16. Packing	Visual Check	No hazard when removing the packing

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17. Workmanship – external	Visual Check	Shall have no sharp points/edges, other than those required for function. Shall have no components missing, malformed, and/or fractured.
18. Workmanship – internal	Visual Check	Solder connections shall be secured Components shall be reliably mounted on PCB or other proper fixing.
19. Mechanical Assembly	Visual Check	All mechanical parts shall be securely fixed and prevented from turning.
20. Internal Wiring	Visual Check	Wireways shall not allow wires to come in contact with sharp points, edges or moving parts.
21. Power Cord	UL 1310, Cls. 14.2	The unit shall employ a Type SP-2, SPE-2, SPT-2, SV, SVT, SVT power supply cord. Length shall > 6 feet (1.8 m) except for unit weighing 1 pound (454 g) or less is acceptable if the total length of the input and output cords is 6 feet or more, and the length of input cord is > 3 feet.
22. Power Cord - Cross Section Area of Conductor (mm2)	Standard Measure	The cross section area of conductor shall comply with Table 20.1 of UL1581 for the AWG claimed.
23. Plug	Visual Check	Plug shall be 3-wire grounding type or 2-wire attachment plug.
24. Accessibility of Live Parts	UL 1310, Cls. 16	Inspect for access to live parts after removal of detachable parts
	UL 60950-1 Cls 2.1.1.1	
	UL 60065 Cls 9.1.1.2	
25. Leakage Current Test	UL 1310, Cls. 26	Leakage current shall not exceed 0.5 mA in both energized and unenergized condition.
	UL 60950-1 Cls. 5.1	Leakage current shall not exceed the limits specified in table 5A.
	UL 60065 Cls. 9.1.1.1	Touch current shall not exceed 0.5 MIU according to UL 101.
26. Strain Relief	UL 1310, Cls. 41	Supply cord shall withstand a 35 lbf (156 N) strain for 1 minute. For units employing a flexible output cord, the cord shall subject to a 20 lbf (89N) for 1 minute without damage.
	UL 60950-1 Cls 3.2.6	Power supply cord shall withstand the following pull force for 25 times, 1 second each Mass of equipment (kg) ≤ 1: 30 N 1 < Mass of equipment (kg) ≤ 4: 60 N Mass of equipment (kg) > 4: 100 N
	UL 60065 Cls 16.5	Shall withstand 40N, 1 second, 100 times pull force.

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27. Dielectric Strength Test	UL 1310, Cls. 32	Shall withstand for 1 minute without breakdown: a) 1240VAC between 1) The primary circuit and accessible dead metal parts, and 2) The primary and secondary circuit or circuits. b) 500VAC between a secondary circuit and dead metal parts
	UL 60950-1 Cls 5.2.2 and 6.2.2	- No breakdown occurs at 2000Vac, 1 min between AC mains and accessible parts - No breakdown occurs at 1500Vac, 1 min between telephone line interface and handset. - No breakdown occurs at 1000Vac, 1 min between telephone line interface and other accessible parts.
	UL 60065 Cls 10.3.2	The Product shall withstand, - 4200Vpeak for 1 minute between live parts of input circuits and live parts of output circuits - 4200Vpeak for 1 minute between live parts of input circuits and user accessible surface
28. Temperature Test on Accessible Parts	UL 1310 Cl. 33	Surface temperature of any accessible surface should not exceed a temperature rise of more than 90ºF (50ºC)
	UL 60950-1 Cls 4.5 (Mod)	When tested with normal operation, maximum temperature allowable accessible surface (Mod. = Accessible surfaces only) shall not exceed temperatures specified. Protective devices shall not operate. Handles, knobs continuously held: 55 degC (Metal); 75 degC (Plastic) Handles, knobs touched for short period: 60 degC (Metal); 85 degC (Plastic) External surface: 70 degC (Metal); 95 degC (Plastic)
	UL 60065 Cls 7.1 (Mod)	When tested with normal operation, maximum temperature rise allowable accessible surface (Mod. = Accessible surfaces only) shall not exceed temperatures specified. Protective devices shall not operate.
29. Continuity of grounding connection	In-house method	All exposed dead metal parts that are exposed to contact during any servicing operation, including maintenance and repair, and that can become energized shall be electrically connected to the grounding terminal and with earth resistance not more than 0.1 Ohm.
	UL 60950-1 Cls 2.6.3.4	All exposed dead metal parts that are exposed to contact during any servicing operation, including maintenance and repair, and that can become energized shall be electrically connected to the grounding terminal and with earth resistance not more than 0.1 Ohm.

Attribute	Test Method/Standard	Requirement / Limit
30. Direct Plug-In Blade Secureness Test	UL 1310, Cls. 43	Each blade and the grounding pin, if provided, shall withstand a direct pull of 20 lbf (89 N) for 2 minutes without loosening. The two blades tested together shall also withstand a direct pull of 20 lbs. for 2 minutes without loosening.
	UL 817, Cls.82	Each blade and pin shall be capable of withstanding a pull of 20 lbf for 2 minutes. Displacement of more than 2.4 mm is not acceptable.
31. Impact Test	UL 1310, Cls. 6.9	A sample is to be dropped (free fall) 3 times in succession from a height of 3 feet onto a hardwood surface. After test, the unit shall pass dielectric voltage withstand test.
	UL 60950-1 Cls 4.2.6	A sample is to be dropped (free fall) 3 times in succession from a height of 1m onto a hardwood surface. After test, the unit shall pass dielectric voltage withstand test.
	UL60065 Cls 12.1.4	A sample is to be dropped (free fall) 3 times in succession from a height of 1m onto a hardwood surface. After test, the unit shall pass dielectric voltage withstand test.
Performance Test		
32. Functional Check	Actual Use	All the major features shall be matched with the installation and use instructions and claims made on the packaging, with no inaccurate or misleading statements about the unit, or any other user-friendliness problems.
33. Ease of Installation	Actual use	Follow the instruction to assembly and disassembly the unit; and comment the method of the installation. Parts shall not easy to break during normal use.
34. Continuous Operation Test	Actual use	When used with specific product, under maximum loading condition for 4 hours, the following shall not occur: - Function failure - Emission of flame - Molten metal or growing or flaming particles through any openings - Creation of any openings in the enclosure that result in accessibility of live parts - Ignition of the enclosure
35. Output Rating	General measure	When used with specific product, the maximum input power/current of the product shall not exceed 110% of the maximum output rating of the AC adaptor. The initial current draw may exceed 110% of the maximum output rating, if no hazardous conditions occur, such as overheating, charring, emission of flame or molten metal/plastic

Remark: Additional tests may be incurred subject to the final samples reviewed by Intertek.