



## **Kingfisher Asia's Basic Requirements for Compliance with the RoHS Directive**

翠丰亚洲有限公司关于  
“电子电器设备中限制使用某些特定有害物质指令（RoHS）”  
的基本要求

Version 2 (17-Mar-06)

## 电子电器设备中限制使用某些特定有害物质指令(RoHS Directive 2002/95/EC)

### 1) Overview 概述

The European Union has become increasingly concerned about electrical and electronic goods and the negative effect they have on the environment when they are thrown away. We live in a fast moving technically advancing world where consumer products are often discarded before their end of life in favour of upgrades into the latest technology. This situation has led to large amounts of redundant electrical products being thrown away and buried into the ground (landfill sites) generating widespread concern within Europe.

欧盟组织正在变得越来越关注电子电器产品以及当它们被丢弃时对环境污染所带来的负面影响。我们生活在一个先进的科学技术 飞速发展的世界，消费品通常在其使用寿命结束以前就因为产品技术的升级换代而被丢弃。这种情形导致有数量惊人的电子产品废弃物被当作垃圾抛弃并掩埋在地下（垃圾掩埋场），这一现象正在引起欧洲各地的普遍忧虑。

To reduce and minimize the environmental impact of electrical waste the European Union has generated legislation which is legally enforceable and ensures all European Member States become responsible for their respective electrical waste. 2 key elements of this legislation are the WEEE and RoHS Directives, both these directives aim to:

为了减少并将电子废弃物对环境的影响降低到最低程度，欧盟组织制定了一条法律，来从法律上强制并确保欧盟组织成员国对他们各自的电子废弃物负责。该法律的两大关键组成部分为电子电器设备废弃物指令（WEEE）以及电子电器设备中限制使用某些特定有害物质指令（RoHS），制定这两大指令的主要目的为：

- **Make manufacturers and buyers more environmentally responsible for their products**  
使制造商和采购商对其产品更具环保责任心
- **Reduce electrical waste**  
减少电子废弃物
- **Increase recovery and recycling of electrical products**  
提高电器产品的可修复性和可回收利用性

- **Encourage Eco design and end of life management of electrical products**  
鼓励经济合作组织设计电子电器产品和考虑电子电器产品终止使用时该如何管理
- **Make it illegal to use specified (harmful) substances within electrical products**  
立法规定哪些有害物质不能在电器产品中使用

These European initiatives directly affect the way we work together, please take the time to read this document carefully. KAL QA has defined, in this document, the impact of RoHS and what we expect from you in the future. These initiatives are law and affect the legal trading of your electrical products within Europe, we need to make the transition to compliance together with the minimum disruption to our commercial businesses.

这些欧盟组织发起的指令对我们的共同工作的方式产生了直接的影响，请花一些时间来仔细阅读本文。在本文中，翠丰亚洲有限公司的质保部门将告诉您，RoHS 的对我们的工作的影响以及我们希望您将来可以为此做些什么。这些指令以法律的形式出现并会对您所生产的电器产品的欧洲贸易带来一定的影响，我们需要做一些过渡性的工作以尽可能确保遵守该法律并且将其对我们的业务的影响降低到最低程度。

#### **USA adopts a similar approach to hazardous substances.**

美国采取了一些类似的方法来控制有害物质

Similar principles to the RoHS Directive regarding hazardous substances are likely to be adopted by the USA. Intelligence suggests that the state of California will adopt a similar, if not exactly the same, approach to hazardous substances as defined in RoHS. California normally leads the US in terms of environmental legislation and it may only be a matter of time before other US states follow California's lead. If you wish to sell your electrical/electronic products within Europe and the USA compliance with RoHS may become mandatory in the future. Let's work together to make it happen.

美国也将采取一些类似 RoHS 的关于控制使用有害物质的法则。一些明智人士建议加利福尼亚州采用类似的法则，也许不尽相同，规定不得使用 RoHS 中列出的有害物质。通常来说，加利福尼亚州在美国有关环境保护法立法方面占领先地位，其他州对加州的效仿只是一个时间问题。如果你希望同时将您公司所生产的电子电器产品销往欧洲和美国的话，将来就必须遵守 RoHS 的规定。让我们一起努力来共同实现这一目标。

The RoHS Directive becomes legally enforceable within the European Union effective **July 1<sup>st</sup> 2006**. In summary the directive bans the use of certain substances with concentration values above a specified level. There are 6 hazardous substances specified within RoHS and their respective **maximum** concentration values are:

RoHS 的法律效应将于 **2006 年 7 月 1 日** 起在欧盟组织正式生效。总体上，该指令禁止某些物质及其使用量不能超过一定程度。RoHS 中规定了下列有害物质的**最大**使用量：

<b>Substance 成分</b>	<b>Maximum Specified Concentration Values by Weight 每公斤最大使用量</b>
<b>LEAD (鉛) - Pb</b>	<b>&lt; 0.1% (1000ppm) or &lt;1000mg/kg</b>
<b>HEXA VALENT CHROMIUM (六价铬) – Cr VI</b>	<b>&lt; 0.1% (1000ppm) or &lt;1000mg/kg</b>
<b>MERCURY (汞) - Hg</b>	<b>&lt; 0.1% (1000ppm) or &lt;1000mg/kg</b>
<b>POLYBROMINATED BIPHENYLS (多溴联苯) - PBBs</b>	<b>&lt; 0.1% (1000ppm) or &lt;1000mg/kg</b>
<b>POLYBROMINATED DIPHENYL ETHERS (多溴二苯醚) - PBDEs</b>	<b>&lt; 0.1% (1000ppm) or &lt;1000mg/kg</b>
<b>CADMIUM (镉) - Cd</b>	<b>&lt; 0.01% (100ppm) or &lt;100mg/kg</b>

**We strongly recommend that you read the RoHS Directive to familiarize yourself with the requirements.**

我们强烈建议您阅读 RoHS 指令并熟悉其内容要求。



"RoHS directive (23 Jan 03).pdf" "RoHS (Commission Decision 13 Oct 05).pdf" "RoHS (Commission Decision 21 Oct 05).pdf"

If you require technical support regarding RoHS please contact one of the approved laboratories defined in the “Which Laboratories are approved to verify RoHS products for KAL?” section below they will be happy to help you. Also, for frequently asked questions regarding to RoHS, please open FAQ attached.

如果您在阅读 RoHS 时需要任何技术支持，请联系以下“翠丰亚洲有限公司指定之 RoHS 产品验证实验室”一章中列出的实验室，他们会非常乐意为您提供帮助。同时，对于一些经常被问及的关于 RoHS 的问题，请打开附件常见问题解答，那里有您需要的答案。



"FAQ (RoHS & WEEE).pdf"

It is clear from the requirements of RoHS that as a vendor/manufacturer you will need to know exactly how your products are made and what substances are contained within your products – that means individual component and sub-component detail. For example, if you or your sub-contractor use paint you will need to know its chemical composition to ensure no banned substances are present. If you sub-contract chrome plating you will need to know if banned substances are present and your sub-contractor must submit laboratory reports to you that confirms their product or material complies with RoHS.

在 RoHS 指令的要求中非常清楚地指明了，作为供应商/生产商，您需要非常确切地了解您的产品是如何制造出来的，以及产品中使用了哪些成分物质，这包括每一个产品组件和零配件中使用的成分。例如，如果您或您的分包商使用了油漆，您需要知道它的化学成分，以确保没有使用限制使用的物质成分。如果您将铬镀层分包给其他厂商，您需要知道铬镀层是否使用了禁用的有害物质，并且您的分包商必须向您提供实验报告以确认他们的产品或材料符合 RoHS 指令的要求。

You will have to demonstrate, using laboratory test data, that your products do not contain elements banned by RoHS. If you cannot submit the required reports you will have to submit the offending component(s) to a laboratory for chemical testing and reporting against RoHS requirements. 您必须用实验室测试所得的数据来证明，您所生产的产品不含 RoHS 指令中所限制使用的有害物质。如果您不能提供我们所要求的报告，您就必须向实验室递交产品零部件以供化学测试并按照 RoHS 指令的要求提供报告。

**2) Typically, where are these banned substances found - in which components or processes?**

我们通常会在哪些比较典型的零部件或工艺过程中发现哪些限制使用的物质？

Where can it be found? 可能存在或产生有害物质的地方？	RoHS substance RoHS 禁用物质
<ul style="list-style-type: none"> <li>- Electroplating for metals (e.g.: metal screws) 金属的电镀过程（例如，金属螺丝）</li> <li>- Plasticizer for plastic 塑料制品用可塑剂</li> <li>- Plastic (e.g.: cable covering) 塑料（例如外电源线）</li> <li>- Paints, pigments, inks, dyes 油漆，色粉，墨水，染料</li> </ul>	<p>Cadmium (Cd) 镉</p>
<ul style="list-style-type: none"> <li>- Metal alloy (e.g.: plug legs, copper wiring) 金属合金（例如插座，铜线）</li> <li>- Paints, pigments, inks, dyes 油漆，色粉，墨水，染料</li> <li>- Solder 焊料</li> <li>- Plastic (e.g.: PVC, ABS, PP, PE, rubber, cable covering) 塑料（例如聚氯乙烯，丙烯腈-丁二烯-苯乙烯，生产阶段，PE,橡胶，外电源线）</li> </ul>	<p>Lead (Pb) 铅</p>
<ul style="list-style-type: none"> <li>- Fluorescent lamps and high-intensity lamps 日光灯和高强度灯</li> <li>- Pressure gauges 压力量规</li> <li>- Relay, sensors 继电器，传感器</li> </ul>	<p>Mercury (Hg) 汞</p>

<ul style="list-style-type: none"> <li>- Chrome plating, electroplating (e.g.: metal screws) 镀铬, 电镀 (例如金属螺丝)</li> <li>- Pigments 色粉</li> <li>- Preservatives used for timbers products (e.g.: fan blades, speaker casing, decorative parts for lighting) 木制品中使用的防腐剂 (例如风机叶片, 喇叭外套, 灯具的装饰件)</li> </ul>	<p>Hexavalent Chromium (Cr 6) 六价铬</p>
<ul style="list-style-type: none"> <li>- Flame retardant (e.g.: plastic, PCB, transformer, power cord) 阻燃剂 (例如塑料, 印刷电路板, 变压器, 电源线)</li> </ul>	<p>POLYBROMINATED BIPHENYLS (PBBs) 多溴联苯</p>
<ul style="list-style-type: none"> <li>- Flame retardant (e.g.: plastic, PCB, transformer, power cord) 阻燃剂 (例如塑料, 印刷电路板, 变压器, 电源线)</li> </ul>	<p>POLYBROMINATED DIPHENYL ETHERS (PBDEs) 多溴二苯醚</p>

**2) IMPORTANT: Shipments made after April 1<sup>st</sup> 2006 – Kingfisher Asia requires it's products to be RoHS Compliant.**

**重要事项: 翠丰亚洲要求凡是 2006 年 4 月 1 日以后发船的货物必须符合 RoHS 指令的要求。**

**All shipments made (including new and repeat products) with LRD's on or after April 1<sup>st</sup> 2006 will need to comply with Kingfisher RoHS requirements.**

**所有在 LRD 2006 年 4 月 1 日或以后发船的货物 (包括新产品和翻单产品) 必须符合翠丰亚洲 RoHS 指令的要求。**

### 3) What are KAL's requirements for RoHS compliance?

翠丰亚洲对于供应商 RoHS 指令的达标要求是什么？

There are 3 routes to compliance KAL will accept (options 1, 2, 3 below), you can choose whichever is appropriate to your business or factory. KAL QA will evaluate RoHS compliance as part of the Silver Seal Product Approval Process.

翠丰亚洲接受以下 3 种供应商 RoHS 指令达标的方式（以下有选择 1、选择 2、选择 3 供参考）。您可以选择任一种适合您的业务的方式。翠丰亚洲的质保部门将把供应商是否符合 RoHS 的达标要求的评估，作为样品银封审批程序的一部分工作内容。

#### Option 1: 3<sup>rd</sup> Party Certified RoHS Management System

##### 选择 1: 第三方验证 RoHS 管理体系

This route to compliance is based on the manufacturer's ability to demonstrate an internal management system (similar to ISO9000) that controls processes and activities which have a direct or indirect affect on maintaining a RoHS compliant product in a documented way. The manufacturer's management system will have to be audited and verified by an independent laboratory - there are a number of accredited laboratories (SGS, ITS, CMA, BV, KEMA, TUV Rheinland, TUV Product Service) who offer registration schemes to ensure RoHS compliant management systems. **Please refer to Appendix 5 for laboratory contact details.**

这一选择的基础是，供应商必须证明其拥有一个内部的管理体系（类似 ISO9000），该体系对控制产品的工艺及生产活动是否符合 RoHS 的达标要求起到直接或间接的影响作用，并且这一体系可用书面形式记录。生产商的管理体系必须通过一家独立的实验室的审核及验证-这些有信誉的实验室包括有 SGS, ITS, CMA, BV, KEMA, TUV 莱因, TUV 添福），他们都可以提供 RoHS 管理体系注册认证的服务。**请参照附件 5 中列明的各大实验室联系方式。**

Typically, the manufacturer should demonstrate control of the following:

生产商尤其必须证明对以下环节的控制能力：

- Knowledge of the RoHS requirements  
对 RoHS 指令要求的了解
- Product Design to avoid using materials with hazardous substances  
产品设计时要避免使用含有有害物质的材料



- Product specification with exploded diagram / Bill of Materials BOM (including component level material and chemical verification)  
附有爆炸图的产品规格说明/材料单（包括零部件材料和化学成分认证）
- Component Procurement  
零部件采购
- Approved Suppliers (control of raw material suppliers and sub-contractors to ensure they comply with RoHS)  
供应商审核（对原材料供应商和分包商有良好控制以确保他们符合 RoHS 指令的要求）
- Component Compliance Requirements (declaration, certification from approved source)  
零部件符合要求（由经认可的机构开具的声明书、证书）
- IQC – screen testing of incoming components  
IQC-产品零部件进厂检验
- In Process Control / Training  
生产过程控制/培训
- FQC  
最终质量检验
- Audit Testing (frequency – risk dependant)  
工厂审核（验厂频率取决于产品的风险程度）
- Declaration of Compliance  
达标自主声明

If you choose Option 1, KAL QA will expect the following documents relating to your product(s):

如果你选择选项 1，翠丰亚洲的质保部门希望您能提供以下与您的产品相关的资料：

- A copy of the registration certificate confirming your factory has attained compliance to a RoHS management system - authorized by an accredited laboratory. This certificate must be less than 2 years old. – **example please refer to Appendix 1.**  
一份由知名实验室颁发的可证明您的工厂已获得符合 RoHS 管理体系要求的登记证。该证书的颁发日期必须在 2 年之内。- **样本见附件 1。**
- A formal Declaration of Compliance to the RoHS Directive issued by the factory or vendor. – **example please refer to Appendix 2**  
一份由工厂或供应商出具的正式的 RoHS 指令达标自主声明书。- **样本见附件 2。**

- A completed Bill of Materials (BOM) using the KAL BOM template. – **example please refer to Appendix 3.**  
一份完整的材料单（BOM），请使用翠丰亚洲的材料单样本。- **样本见附件 3。**
- A full and detailed exploded diagram of the product. – **example please refer to Appendix 4.**  
一份完整详细的产品爆炸图。- **样本见附件 4。**

You should also have available, within 24 hours, full laboratory test reports supporting the compliance of individual components mentioned on the BOM. KAL or it's customers may require this detailed information if your product is quarantined by European Authorities.

您还应当随时可以提供完整的实验室测试报告，证明材料单上每一个零部件都符合要求。如果您的产品遭到欧洲官方部门的检查，翠丰亚洲或者其客户可能会要求您提供该报告的详细内容。

## **Option 2 – Full Laboratory Test**

### **选择 2 – 完整的实验室测试**

This option requires your product to be submitted to an approved laboratory for full testing against the requirements of RoHS. 这一选择需要您将产品送往经认可的实验室，根据 RoHS 指令的要求做一系列完整的测试。

If you choose Option 2, KAL QA will expect the following documents relating to your product(s):

如果您选择了选项 2，翠丰亚洲的质保部门希望您能提供以下与您的产品相关的资料：

- A formal Declaration of Compliance to the RoHS Directive issued by the factory or vendor. – **example please refer to Appendix 2.**  
一份由工厂或供应商出具的正式的 RoHS 指令达标自主声明书。- **样本见附件 2。**
- A completed Bill of Materials (BOM) using the KAL BOM template. – **example please refer to Appendix 3.**  
一份完整的材料单（BOM），请使用翠丰亚洲的材料单样本。- **样本见附件 3。**

- A full and detailed exploded diagram of the product. – **example please refer to Appendix 4.**  
一份完整详细的产品爆炸图。 - **样本见附件 4。**
- A copy of the Full Test Report issued by a laboratory who operate to the principles of ISO17025 - General requirements for the competence of testing and calibration laboratories. The test report must be less than 2 years old.  
一份由一家符合 ISO17025（测试和校准能力实验室的认证的一般要求）标准的实验室颁发的完整的测试报告。该测试报告的颁发日期必须在 2 年之内。

There are a number of accredited laboratories (SGS, ITS, CMA, BV, KEMA, TUV Rheinland, TUV Product Service) who offer full testing. **Please refer to Appendix 5 for laboratory contact details.**

这些具有资质的实验室，例如 SGS, ITS, CMA, BV, KEMA, TUV 莱茵, TUV 添福等都可以提供完整的测试。 **请参照附件 5 中列明的各大实验室联系方式。**

**How much will it cost and how long will it take for full laboratory testing option 2?**

**如果选择选项 2，一套完整的测试的费用和所需的工作时间是多少呢？**

We have attached a matrix which is a guide, the ultimate cost and lead-time will be dependant on how many “materials” require testing – this will depend on product type, complexity and mix of materials used in your product.

我们在此附上一个费用表供您参考，最高费用和工作时间取决于有多少种材料需要做测试 – 根据不同的产品类型、复杂程度和产品中使用的材料的混合程度有所不同。

Testing Methods 测试方法		Number of homogenous material (includes six RoHS restricted substances) 同质地的材料的数量（包括 6 种 RoHS 中限制使用的物质）			
		1 to 10 1 到 10	11 to 50 11 到 50	51 to 100 51 到 100	over 100 100 以上
1) XRF Screen Test XRF 筛选测试	Approx. Lead-time (working days) * 大约所需工作时间（工作日）*	6	6	8	9
	Approx. Cost per homogenous material 每种材料大约所需费用 (includes six RoHS restricted substances) (HK\$) * (包括 6 种 RoHS 中限制使用的物质)（港币）*	500	450	400	350
2) Chemical Test 化学测试	Approx. Lead-time (working days) * 大约所需工作时间（工作日）*	7	8	11	13
	Approx. Cost per homogenous material 每种材料大约所需费用 (includes six RoHS restricted substances) (HK\$) * (包括 6 种 RoHS 中限制使用的物质)（港币）*	900	750	700	650

\* The above cost and lead-time are for reference only, please consult laboratory for exact quotation.

以上费用和工作时间仅供参考，请联系实验室索取确切的报价。

Example: If your product contains 10 components, the laboratory may break down each component into 4 different material types for RoHS assessment.

So you may have 40 different materials to be tested. The number of tests would be 40.

For Chemical Test = HK\$ 750 X 40 = HK\$ 30,000

So the product may cost you about HK\$ 30,000 and take 8 working days for testing.

示例：如果您的产品包含 10 个零部件，实验室可能需要将每个零部件细分成 4 种不同的材料类型以供 RoHS 评估。

因此可能有 40 种不同的材料需要进行测试。测试数量为 40。

化学测试 = 750 港币 X 40 = 30,000 港币

因此该产品可能需要支付 30,000 港币 的测试费，所需时间为 8 个工作日。

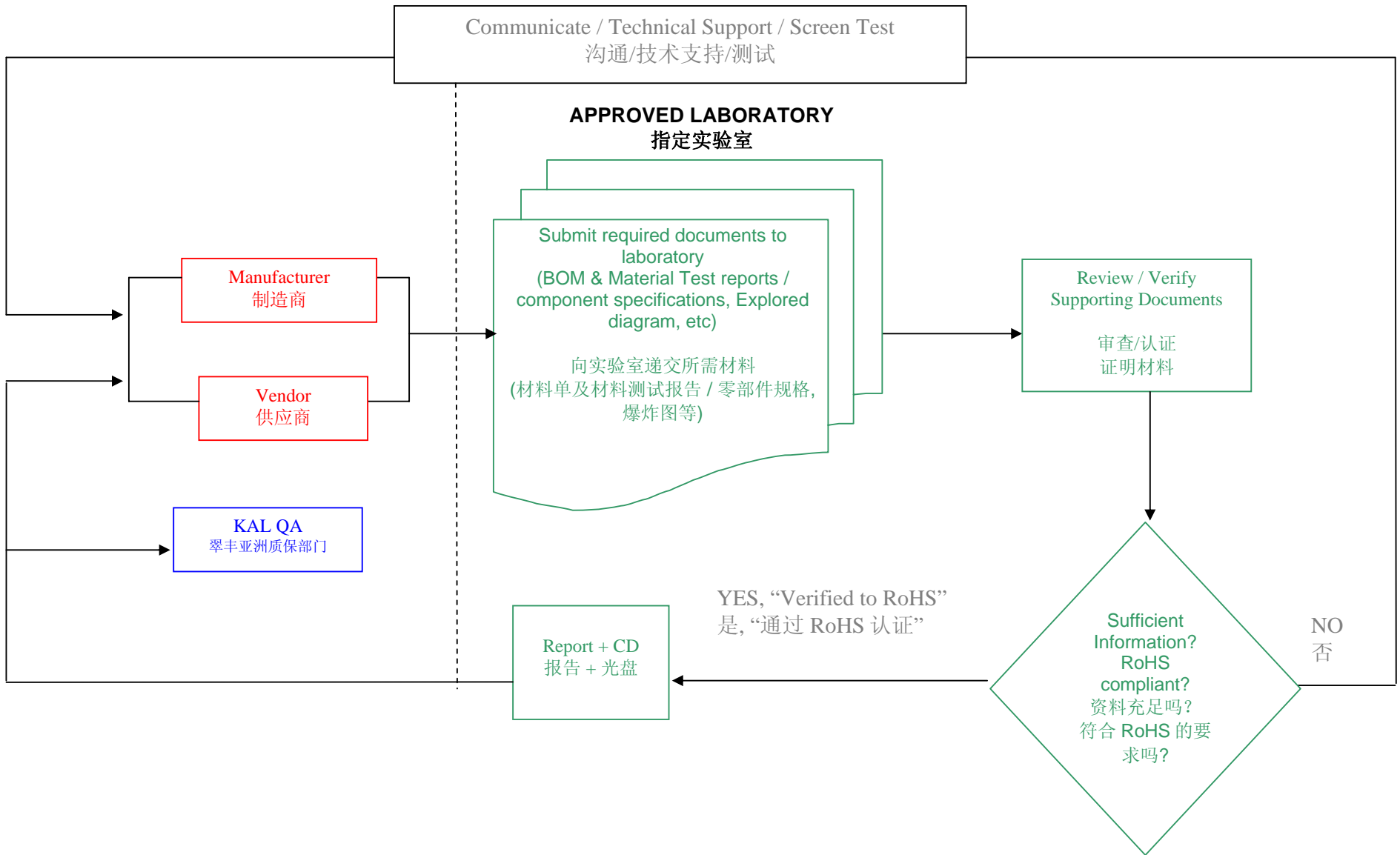
Remark: Different components have different numbers of material types, please consult laboratory for detail and confirmed quotation.

备注：不同的零件的材料类型数量不同，详细内容和最终报价请向实验室咨询。

### **Option 3 – Sample / Document Verification and Screen Test (where necessary)**

#### **选择 3 – 样品/认证材料以及筛选测试（如有需要）**

KAL acknowledges that laboratory testing adds cost (Option 2) and therefore a sustainable, controlled factory management system (Option 1) is the preferred route to compliance. However, KAL's research of our vendor base suggests that our factories are not in a position to adopt Option 1 in the short term and therefore KAL has approached a number of laboratories to secure a route to compliance that will satisfy the requirements of RoHS whilst minimizing the impact to our vendors – this is Option 3. We believe that most of our vendors will adopt Option 3 in the short term and therefore we have taken this opportunity to explain the process in detail. You can see an overview of the process in the attached schematic below: 翠丰亚洲承认进行实验室测试会增加成本（选择 2），因此我们更愿意建立一个稳定的可控的 RoHS 达标工厂管理体系（选择 1）。然而，翠丰亚洲在经过了工厂信息库进行研究后发现，我们目前的工厂短期内都不具备条件采用选项 1。因此翠丰亚洲联系了一部分的实验室以保证我们的供应商既能满足 RoHS 的要求又可以将对供应商的影响减小到最低程度 – 那就是选择 3。我们相信大多数的供应商将在短期内采用选择 3，因此我们将借此机会向您详细说明这一程序。以下您所看到的示意图就是这一程序的一个概览。



## Explanation of flowchart:

### 流程图说明:

## Vendor –

### 供应商

- Responsible for clearly communicating and managing KAL's RoHS requirements with the manufacturer.  
负责与生产商沟通并管理其是否符合翠丰亚洲关于 RoHS 指令的要求。
- Responsible for submitting the required sample(s) to the laboratory for evaluation (minimum 1 sample however more may be required)  
负责向实验室提供所需的样品以供评估（样品数量至少 1 件，可能会需要更多）。
- Responsible for submitting the required documentation to KAL QA in a timely manner:  
负责及时向翠丰亚洲质保部门提供所需的文件。
  - Responsible for producing a formal Declaration of Compliance to the RoHS Directive (for submission to verifying laboratory). – **example please refer to Appendix 2.**  
负责提供一份 RoHS 指令达标自主声明。（以供实验室认证用）- **样本详见附件 2。**
  - Generating a completed Bill of Materials (BOM) (for submission to verifying laboratory) using the KAL BOM template. – **example please refer to Appendix 3.**  
制作一份完整的材料单（BOM）（供实验室认证用），请使用翠丰亚洲的材料单样本。- **样本详见附件 3。**
  - A full and detailed exploded diagram of the product. – **example please refer to Appendix 4.**  
完整详细的产品爆炸图。- **样本详见附件 4。**
  - Test reports (for submission to verifying laboratory) supporting the BOM must be issued by laboratories who operate to the principles of ISO 17025 - General requirements for the competence of testing and calibration laboratories (test reports from reputable international suppliers with published specifications - Sony, Philips, Hitachi etc. may also be acceptable)  
材料单的证明文件-测试报告（供实验室认证用）必须由通过了 ISO17025（测试和校准能力实验室的认证的一般要求）标准的实验室出具（由有信誉的国际供应商，例如索尼、飞利浦、日立等公司所出具的含有公开规格的产品测试报告也可接受）。
  - Test reports (for submission to verifying laboratory) must be less than 2 years old.  
测试报告（供实验室认证用）的颁发日期在 2 年之内。

- Test methods used to detect banned substances (by the testing laboratories) must comply with IEC 111 “Working Procedure for Electro/Technical Products” or IEC 62321 “Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products, EPA 3050B/3052/3060A/3540C/3550B/7196A, BSEN1122.  
用来探测产品中限制使用的物质的测试方法（由实验室进行）必须符合 IEC111-“电子技术产品工作方法”或者 IEC62321-“电子技术产品中常规物质等级检测方法”，EPA 3050B/3052/3060A/3540C/3550B/7196A, BSEN1122 的要求。

- Supporting their factories to ensure compliance  
协助并确保工厂遵守指令要求
- Communicating with the laboratory  
与实验室沟通联系
- Responsible for all costs associated with the RoHS verification process  
负责承担所有与 RoHS 指令认证程序相关的费用

#### Manufacturer – 生产商 –

- Responsible for clearly communicating and managing KAL’s RoHS requirements with their suppliers / sub-contractors.  
负责与其供货商/分包商沟通并管理其是否符合翠丰亚洲关于 RoHS 指令的要求。
- Responsible for submitting the required sample(s) to the laboratory for evaluation (minimum 1 sample however more may be required)  
负责向实验室提供所需样品以供评估（样品数量至少 1 件，也可能需要更多）。
- Responsible for producing a formal Declaration of Compliance to the RoHS Directive (for submission to verifying laboratory). – **example please refer to Appendix 2.**  
负责提供一份 RoHS 指令达标自主声明。（以供实验室认证用）- **样本详见附件 2。**
- Generating a completed Bill of Materials (BOM) (for submission to verifying laboratory). using the KAL BOM template. – **example please refer to Appendix 3.**  
制作一份完整的材料单（BOM）（供实验室认证用），请使用翠丰亚洲的材料单样本。- **样本详见附件 3。**



- A full and detailed exploded diagram of the product. – **example please refer to Appendix 4.**  
完整详细的产品爆炸图。 - 样本详见附件 4。
- Test reports (for submission to verifying laboratory) supporting the BOM must be issued by laboratories who comply with ISO 17025 - General requirements for the competence of testing and calibration laboratories (test reports from reputable international suppliers with published specifications - Sony, Philips, Hitachi etc. may also be acceptable)  
材料单的证明文件-测试报告（供实验室认证用）必须由通过了 ISO17025（测试和校准能力实验室的认证的一般要求）标准的实验室出具（由有信誉的国际供应商，例如索尼、飞利浦、日立等公司所出具的含有公开规格的产品测试报告也可接受）。
- Test reports (for submission to verifying laboratory) must be less than 2 years old.  
测试报告（供实验室认证用）的颁发日期在 2 年之内。
- Test methods used to detect banned substances (by the testing laboratories) must comply with IEC 111 “Working Procedure for Electro/Technical Products” or IEC 62321 “Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products, EPA 3050B/3052/3060A/3540C/3550B/7196A, BSEN1122.  
用来探测产品中限制使用的物质的测试方法（由实验室进行）必须符合 IEC111- “电子技术产品工作方法” 或者 IEC62321- “电子技术产品中常规物质等级检测方法”， EPA 3050B/3052/3060A/3540C/3550B/7196A, BSEN1122 的要求。
- Responsible for all costs associated with the RoHS verification process  
负责承担所有与 RoHS 指令认证程序相关的费用

**KAL QA –**  
翠丰亚洲质保部门 –

- Formal sign off of RoHS compliance at the Silver Seal product approval stage. Approval will be achieved after receipt of the laboratory’s “Verification Test Report” (and associated documentation) confirming the product’s compliance to RoHS.  
翠丰亚洲质保部门将在产品的银封阶段审核认可是否符合 RoHS 指令的要求，正式的认可将在收到实验室的认证测试报告（及其他相关文件）确认产品的确符合 RoHS 指令的要求后发出。

### **Which Laboratories are approved to verify RoHS products for KAL?**

**哪些实验室具备资质为翠丰亚洲履行 RoHS 产品认证的工作?**

KAL has consulted a number of laboratories who have helped to generate this document “KAL's Basic Requirements for Compliance with the RoHS Directive”. As a result, KAL nominates the following approved laboratories who are able to conduct Option 3 “**Sample / Document Verification and Screen Test**”. **All these laboratories have technical support which you are strongly advised to use.**

**Please refer to Appendix 5 for laboratory contact details.**

翠丰亚洲向部分实验室进行咨询，并在他们的帮助下制定了本手册“翠丰亚洲有限公司关于电子电器设备中限制使用某些特定有害物质指令的基本要求”。因此，翠丰亚洲提议您向下列由我们认可的实验室寻求帮助来施行选择 3 “**样品/认证材料以及筛选测试**”。所有这些实验室都可向您提供技术支持，并且我们强烈建议您采用这些实验室向您提供的技术服务。

**请参照附件 5 中列明的各大实验室联系方式。**

### **What does the laboratory require to verify my product?**

**实验室需要哪些材料以进行产品验证?**

- At least 1 complete sample (the sample you submit must contain the exact components you intend to use for KAL production).  
至少 1 件完整的样品（您所提供的产品所含零部件必须与您打算为翠丰亚洲生产的产品完全一致）。
- Declaration of Compliance to the RoHS Directive, authorized by a senior technical manager within your organization. – **example please refer to Appendix 2.**  
RoHS 指令达标自主声明必须由您公司内的一位高级技术经理签发。 - **样本参照附件 2。**
- Completed BOM using the KAL template. – **example please refer to Appendix 3.**  
填写完整的材料单必须使用翠丰亚洲的模本。 - **样本参照附件 3。**
- A full and detailed exploded diagram of the product. – **example please refer to Appendix 4.**  
完整详细的产品爆炸图。 - **样本参见附件 4。**
- Test reports supporting your BOM for each individual component and appropriate sub-component - These must be issued by laboratories who comply with ISO 17025 - General requirements for the competence of testing and calibration laboratories (test reports from reputable international suppliers with published specifications - Sony, Philips, Hitachi etc. may also be acceptable)  
材料单的证明文件-测试报告（供实验室认证用）必须由通过了 ISO17025（测试和校准能力实验室的认证的一般要求）标准的实验室签发（由有信誉的国际供应商，例如索尼、飞利浦、日立等公司所出具的含有公开规格的产品测试报告也可接受）。

### **How will the Laboratory verify my product at the “Review” stage?**

**“审查阶段”时实验室将如何验证我的产品**

The laboratory will:

实验室将:

- Assess your product against its BOM and explode diagram to check that all components declared on the BOM are present in the submitted sample(s).  
根据材料单和产品爆炸图进行产品评估，来检查是否提供的样品所含零部件与材料单上列明的所有的零部件一致。
- Review the test reports to establish their validity (test reports you submit should comply with):  
审核所提供的测试报告是否合乎要求（您所提供的测试报告应该符合以下要求）：
  - Issued by laboratory who comply with ISO 17025 - General requirements for the competence of testing and calibration laboratories OR from known reputable International Supplier(s)  
该报告是否由通过了 ISO17025（测试和校准能力实验室的认证的一般要求）标准的实验室或有信誉的国际供应商所签发。
  - Less than 2 years old  
签发日期是否在 2 年之内。
  - Issuing laboratory has used test methods in accordance with IEC 111 “Working Procedure for Electro/Technical Products” or IEC 62321 “Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products, EPA 3050B/3052/3060A/3540C/3550B/7196A, BSEN1122.  
发证试验室使用的测试方法符合 IEC111-“电子技术产品工作方法”或者 IEC62321-“电子技术产品中常规物质等级检测方法”，EPA 3050B/3052/3060A/3540C/3550B/7196A, BSEN1122 的要求。
- Use their experience to assess the risk of banned substances being present in the components within your product.  
根据他们以往的经验来评估您所提供的产品中零部件所含限制使用物质的风险程度。
- Given the information you supply (and following their review) the laboratory will either:  
假如您提供的资料无误（审查之后），实验室可能会：

- Issue a Test Report “Verification Test Report”, presuming compliance to RoHS  
出具“测试报告验证书”，假定您的产品符合 RoHS 指令的要求。
- Require more information  
要求您提供更多的资料
- Identify high risk issues and require screen test and/or full chemical testing of certain component(s)  
发现具有高风险的问题，要求进行筛选测试，并且/或者对某些零部件进行完整的化学测试。
- Identify unacceptable levels of risk and request alternative component(s)  
发现有不可接受的风险存在并要求更换零部件。

***What can I do to make the process operate efficiently without delaying the commercial process?***

***我该怎样做才能使整个程序变得快速高效而不影响商业运作?***

The answer here is very simple, provide the correct documentation specified above. If you don't it will delay the process and could add cost. You should also make your suppliers and sub-contractors aware of their responsibilities with respect to RoHS, you will need laboratory test reports from them to include within your BOM and submit those test reports to the verifying laboratory.

答案非常简单，请提供以上所要求的正确完整的文件。如果您没有提供正确的完整的文件，则有可能会延误整个程序并且增加费用。您也应该让您的供应商和分包商认识到他们对 RoHS 指令所负有的责任，他们也需要提供相关的实验室测试报告给您作为材料单的一部分，然后您将所有这些测试报告递交给认证实验室。

**How much will it cost and how long will it take for a laboratory to validate my Documents in Option 3?**

**选择 3 中，实验室认证的工作时间多长？费用是多少？**

Option 3 is focused on validation of documents NOT testing. If you give the laboratory the correct information (BOM, DoC, Test Reports) requested by KAL the laboratory can verify “presumed compliance with RoHS” and issue a report. There is an admin fee for the laboratory’s compliance report and the fee is related to the number of test reports they verify.

选择 3 的重点是文件认证而非测试。如果您所提供的翠丰亚洲所需的资料正确（材料单、自主声明、测试报告），实验室可以验证您“假定 RoHS 达标”并签发报告。实验室只是收取一些管理费，费用多少与他们验证的报告数量有关。

(Note: If you do not submit the correct documentation, the laboratory may require full/screen testing as per option 2)

（注意：如果您所提交的文件不正确，实验室可能会要求按照选择 2 进行全部/筛选测试）

We have attached a matrix as a guide.

在这里我们提供一些信息供参考。

		<b>No. of Test Reports to validate</b> 需验证的报告数量			
		<b>1 to 10</b> 1 到 10	<b>11 to 50</b> 11 到 50	<b>51 to 100</b> 51 到 100	<b>over 100</b> 100 以上
<b>Document Verification</b> 文件验证	Approx. Lead-time (working days) * 大概需要工作时间（工作日）*	6	7	10	12
	Approx. Cost for each validated test report (HK\$) * 每一份测试报告的验证费用大概为（港币）*	150	110	100	90

\* The above cost and lead-time are for reference only, please consult laboratory for exact quotation.

以上费用和工作时间仅供参考，请联系实验室索取确切的报价。

#### 4) Labeling – Product / Transit Cartons

##### 标贴 – 产品 / 运输用外箱

It is important to ensure your RoHS compliant product is clearly identified – the European Authorities will be auditing in-bound shipments for compliance at Customs receipt and also within our customers' European retail outlets. Full traceability back to origin for your product and its components will form part of the auditing process. KAL's labeling requirements are defined below:

符合 RoHS 的产品必须可以清楚分辨 – 欧盟有关当局会在海关以及我们客户在欧盟的零售店检验货品。追查你们产品的原产地以及零件会成为检验的一部份。翠丰亚洲有关标贴的要求如下:

##### Product (rating label/plate and packaging)

##### 产品 (技术标贴 / 铭牌以及包装)

Manufacturing Date Code - The format is very similar to that specified for WEEE. The manufacturing date code must be in the format of starting with **R** and the two-digit year followed by **W**, followed by the two-digit calendar week of production. The use of the "**R**", indicates that the product (s), have been certified compliant to RoHS and gives visibility of compliant products. The calendar week is important to understand, **W01** represents production undertaken in the first calendar week of January, **W02** represents production undertaken in the second calendar week of January etc. etc.

生产日期码 – 该格式与我们 WEEE 的要求很相似。生产日期码开头是 **R** 然后是两位数年份, 及后是 **W** 再加两位数生产的月历周。月历周是要清楚明白, **W01** 代表生产是在一月份第一个月历周进行, 而 **W02** 代表生产是在一月份第二个月历周进行, 如此类推。

**EXAMPLE: R05W25 (R = RoHS Compliant; 05 = production year 2005; W25 = calendar week 25)**

**例子: R05W25 (R = 符合 RoHS; 05 = 生产年份是 2005 年; W25 = 月历第 25 周)**

Note: this marking requirement is in addition to any existing instruction for identification requiring serial number or order number etc.

注意: 这标记要求基于现有识别流水号以及定单号的指示而附加。

## Outer Carton / Shipment Carton (外箱 / 运输用外箱)

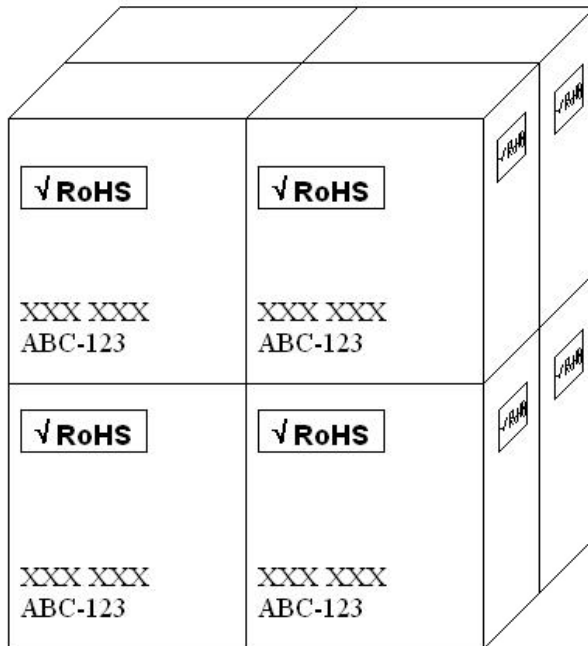
**Each outer carton (or shrink wrap where necessary) should carry the following marking:**

每一个外箱(或用保鲜胶纸封住) 必须要贴上以下标记:

**√ RoHS** (Font face: Arial Bold, Font size: 100pt)  
(字体: Arial 粗体, 字大小: 100pt)

This marking should be placed on any 2 adjacent sides and should not cover any other information / carton markings (see picture below).

此标记须贴在任何 2 个相近面以及不可遮住其他讯息 / 标记 (参考以下附图)



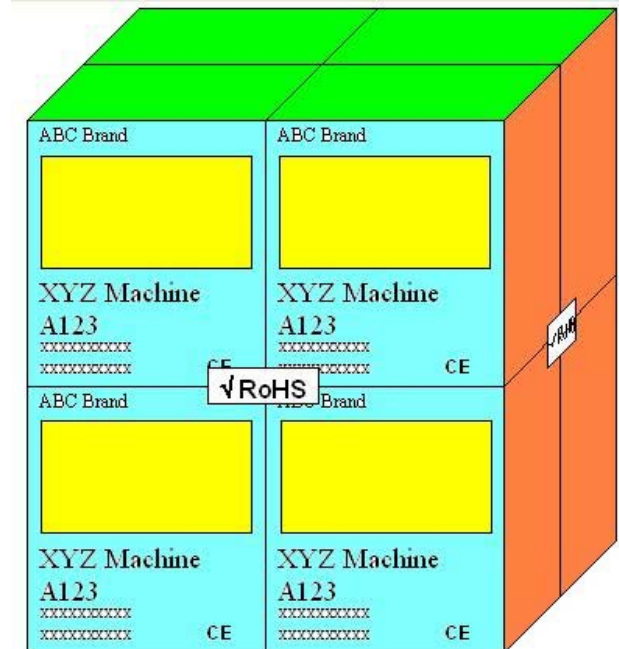
NOTE: If you ship the products by colour box (without outer carton) and without shrink wrap (i.e. the colour box is loaded loose into the container) YOU ARE NOT REQUIRED TO ATTACH THE RoHS LABEL.

注意: 如果你的产品运输时只用彩盒(没有外箱)及没有用保鲜胶纸封住(例如:直接使用彩盒放进货柜), 则无须贴上 RoHS 标记。

If you ship the products by color box (without outer carton) and then shrink wrap, you should place the label as the picture shown below.

**(PLACE ONTO THE SHRINK WRAP)**

如果你的产品运输时只用彩盒(没有外箱)并用保鲜胶纸封住, 请依照彩图贴上标记(必须贴在保鲜胶纸上)



## Appendices, 附件:

1. Example of registration certificate, 注册证书样本



"RoHS Cert.pdf"

2. Declaration of Compliance to the RoHS Directive, RoHS 指令达标自主声明



"RoHS DOC amd by  
lawyer Feb'06.doc"

3. KAL BOM template, 翠丰亚洲材料单样本



"WEEE & ROHS  
BOM (with Chines

4. Example of exploded diagram, 爆炸图样本



"Explored  
Diagram.pdf"

5. Approved Labs to verify RoHS products for KAL, 翠丰亚洲认可的 RoHS 产品认证实验室

**When requesting laboratory services, indicate you require KAL option 1, 2 or 3.**

当要求实验室测试服务时, 请明确指示你所需的是翠丰亚洲的选择 1, 2 或 3。



"Approved Labs for  
RoHS.doc"



"Intertek RoHS  
Contact - KAL\_Mar 2"