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Avoiding Counterfeit Components

Protect Yourself: Five Tips for Avoiding Counterfeit Components

In 2007, a medical device OEM experienced a serious business crisis. One of its products failed just as the customer was about to use it. The problem was ultimately traced to a chip that had been purchased from a broker; upon closer examination, the chip turned out to be counterfeit, a poor quality knock-off of the actual part specified. The impact of this minor discrepancy was huge: multiple assemblies were affected, and latent failures occurred at other hospitals. To rectify the matter, the OEM recalled the product, purged the counterfeit part, and reworked the device. The management team learned a major lesson from the experience, and subsequently scrutinized its supply chain far more closely to learn the provenance of every single component.

Counterfeit components are increasingly prevalent in today's market. Industry analysts estimate that they account for more than $100 billion of global electronics sales annually. Any profitable part, from an inexpensive, high-demand, commodity to a costly, specialized device, is at risk of being copied. The counterfeit market supplies copies of current products as well as products no longer in production; in fact, counterfeits of rare or obsolete components for the medical and military industries are particularly rampant.

Paramit's solution for this troubling situation is to take every precaution possible to prevent counterfeit components from entering the manufacturing operation. Below, we present specific recommendations to help OEMs control the parts they receive from non-franchised suppliers. Paramit has had great success implementing these guidelines within our own organization. In the first six months of our program, we caught seven instances of counterfeit or refurbished parts that would have cost more than $500,000 to recall and rework had they made it into production. By identifying and blocking them, we not only prevented a significant unplanned expense, but also maintained high customer confidence and goodwill.

Read on to learn how to protect against counterfeit components, or contact us online or by phone (408-782-5600) for a consultation.

Tip 1: Appoint a Counterfeit Czar

The first step OEMs can take towards protecting their businesses from counterfeit components is to designate an internal champion or "Counterfeit Czar" to be responsible for creating and maintaining the program. The ideal candidate has strong technical knowledge, supply chain experience, and a fanatical attitude about details and standards. The Counterfeit Electronic Components Avoidance Workshop (CCAW) is an excellent training course for Czars, teaching them how to identify and select reliable brokers, train new receivers, and determine the origin and authenticity of questionable parts.

Tip 2: Create an Approved Broker Program

An approved broker program is the foundation of any fight against counterfeit components. An effective program requires an up-front investment in human and financial resources, but the commitment results in far lower costs and risks in the future. Initially, the Counterfeit Czar must perform a thorough audit of all second-tier suppliers' business practices and facilities. Paramit's own process entailed 48 steps, including on-site visits, a detailed survey sent to suppliers, and a competitive matrix highlighting their respective strengths and weaknesses. The process itself is a test: suppliers who actively participate in the evaluation demonstrate their desire to continue working with the company; those who neglect to complete the survey or answer the follow-up questions either have something to hide or simply do not want the business. Or both.

Once the Czar identifies the most promising brokers, we strongly recommend

selecting no more than two or three as authorized, second-tier suppliers and then educating the internal team on the reasons for channeling all non-franchised purchases through them. In our experience, this is a powerful incentive for brokers to honor their no-counterfeit obligations: they benefit significantly from receiving a major portion of the business, which they stand to lose if they violate the terms of the agreement.

Tip 3: Inspect Components Religiously

Once the components enter their facility, OEMs must implement a meticulous inspection procedure. Paramit's inspection process includes more than a dozen tests to determine the legitimacy of every non-franchised part, from the cheapest resistor to the most expensive semi-conductor. For example:

- **Black Top Test:** Use acetone and a Q-tip on black top and silkscreen images. If smearing or discoloration is found on the Q-tip, the part is counterfeit. See Figure 1, right sidebar.
- **X-Ray Test:** Compare the suspect part against a reference legitimate sample. If there is evidence of a bad die, the part is counterfeit. See Figure 2.
- **Lead Condition Test:** Inspect the leads on suspect parts; counterfeits typically show overspray or evidence of alteration. See Figure 3.

We conduct these tests on parts that Paramit purchases as well as those our customers purchase themselves and ship to our facility. In the latter case, we also require that our customers sign-off on any non-franchised parts they send us. In doing so, Paramit heightens awareness of the problems associated with fakes and encourages our customers to participate more actively in the fight against them.

Tip 4: Hold CMs to the Same Standards

If an OEM outsources some aspects of the business to contract manufacturers (CMs), they should start asking questions about what the CMs do to prevent counterfeit components from entering their facilities. While requiring their partners to adopt stringent protection measures may cause OEMs to reevaluate some of those relationships, skipping this step will certainly jeopardize their own program. Although we regard our counterfeit program as a major customer benefit, Paramit also holds it up as a model for our competitors to emulate; as more companies in our space take a zero tolerance stand against counterfeit components, we all will benefit.

Tip 5: Take Action When Counterfeits Do Appear

If an OEM receives a shipment of counterfeit components, we recommend the OEM suspend all broker purchasing immediately, and then conduct an investigation into the suspect pieces. Until the OEM identifies the cause and source, and demands and receives corrective and preventive action, they should not resume purchasing from the broker in question. If the broker cannot adequately explain the reasons for the incident, the OEM must select a new authorized broker.

The Key to Paramit's Success

Paramit's counterfeit component program is successful because we empower a dedicated resource to oversee the entire process, we insist on a higher standard from our suppliers, we methodically inspect every component we receive, and we follow through on a remediation plan. These strategies drastically reduce the number of counterfeit parts entering the facility and prevent those that do from ending up on the shop floor. OEMs that follow our five tips will be on the right path towards protecting their business, their bottom line, and their reputation from counterfeit components. To learn more about creating a counterfeit component program, contact us online or by phone (408-782-5600) for a consultation.

For More Information

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