

Beware of counterfeit mil/aero semis

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Counterfeiting is a big problem. Indeed, syndicated programs have described the "copy watch" and fake Gucci purse.

The latest information on counterfeit ICs points to a trend of more counterfeits sold on the broker market. While the worldwide broker chain provides a valuable service, some unscrupulous brokers will do anything to "fill an order" and then disappear, only to return under another business name. In 2005, the total value was estimated at \$50 million, with a projection of \$100 million by 2008.

The problem is difficult to quantify because many companies whose parts are counterfeited are reluctant to "go public" with the information that their devices are being counterfeited.

In the mid-1990s, Intel microprocessors were being counterfeited--non-working parts were sold as valid MPUs and slower parts were re-labeled to higher speed grades. So Intel took an aggressive stance against the counterfeiters and initiated a program to place a silicon ID on each Pentium and provided software for the customer to verify device legitimacy. The counterfeit microprocessor problem evaporated.

What has caused this "happy" situation? The mil/aero community is largely to blame. The buying process is measured mainly on lower "costs" and faster delivery. The result is that the safeguards and procedures put in place to protect product integrity via traceability and Certificates of Compliance (C of C) are ignored.

The typical buyer is under pressure to locate and procure components at the lowest cost because both internal management and the ultimate customer demand the lowest price. The broker market is happy to respond with low prices--which itself should pose a red flag.

The pricing situation is really artificial. There is a fair price for the goods. And,

apparently, this is higher than the OEM wants to pay. So the unscrupulous seller steps in and satisfies the demand.

So, again, who has caused the situation? We ourselves have. And we've created it by demanding a less than fair price (or impossibly short delivery time) without following procedures.

Of course, the higher-priced components have also created the price umbrella under which the counterfeiters operate. The prices reflect the mil/aero requirements for traceability and performance assurance. What can we do?

Several things come to mind:

1. Follow the procedures for product assurance and traceability (C of Cs).
2. Understand that the price umbrella created by high-value parts encourages unscrupulous vendors to sell imitation parts -- if it sounds too good to be true, it probably is.
3. Recognize that the mil/aero community is just a fraction of the world's total IC consumption and is of little interest to the IDM. So we'll need to enforce our own "best practices" and require buyers to follow them.
4. Don't play into the unscrupulous vendors' hands by ordering parts from them and then not reporting the fraud. Get some dialogue going. There are government agencies eager to locate, arrest, prosecute and shut down these vendors.
5. Investigate security markings. There are firms that provide such services. We need to be able to trace the materials back to the original manufacturer via trusted paths.

The problem is growing because we are encouraging the wrong behavior. We reward the procurement folks for saving money. In reality, the reward should be for procuring the quality devices required by the specs. It's back to the quality disciplines that have rewarded businesses for years, setting the right metrics, not just the easily measured ones.