

success
THROUGH
partnership

L3Harris Counterfeit Parts Prevention



Agenda

- Recent counterfeit news
- What products are of concern
- Who is responsible to stop counterfeit parts
- What is a counterfeit part
- China trip
- New DFAR Requirements
- L3Harris Supplier Responsibilities
- Take Action
- Summary



Traceability In The Supply Chain

- Do you know the traceability of:
 - The brakes in your car?
 - Electronic parts in the plane that some of you flew on to get here?



- How many of you use Amazon or Amazon Prime?



Recent News - Aug. 23, 2016 - Counterfeiting

- Who do you trust?
 - Apple's internal examination of cables purchased on Amazon and were sold as genuine
 - Revealed almost 90% are counterfeit
 - Consumers report the some chargers literally catch on fire
 - Apple has filed a lawsuit against Mobile Star alleged trademark infringement



Tech / [#AllThingsMobile](#)

OCT 23, 2016 @ 11:18 PM 9,072 VIEWS

Apple: Nearly 90% Of 'Genuine' iPhone Chargers On Amazon Are Counterfeit



Amit Chowdhry, CONTRIBUTOR

I cover noteworthy technology, startups and gadgets [FULL BIO](#) ✓

Have you ever purchased an iPhone charger from Amazon.com only to realize that it did not function correctly? That is because Apple revealed the majority of iPhone and iPad adapters and charging cables labeled as “genuine” and “official” are actually fake. So Apple recently filed a lawsuit against Amazon.com supplier Mobile Star LLC for alleged trademark infringement, according to

What Products Are of Concern

- All products should be of concern
 - However there is a difference between a counterfeit watch and the critical high reliability products that L3Harris produces
 - L3Harris products often used to keep someone's loved one out of harms way
 - Or help you get you home to your family safely



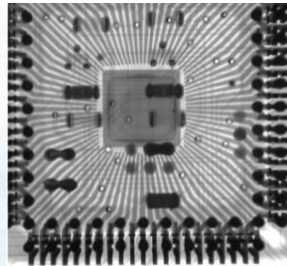
Counterfeit Products: Who is responsible?

- Who's responsibility is it to keep counterfeit products out of the supply chain?
 - Is it the Intellectual Property (IP) owner?
 - Is the original equipment manufacturer (OEM)?
 - Is it the Distributor or Supplier?
 - Is it the Engineering Department?
 - Is it the Purchasing Department?
 - Is it the Quality Department?
 - Is it the Customer?



What is a Counterfeit Part

- Counterfeit part is a suspect part that can be:
 - Copy or substitute without legal right or authority
 - Performance characteristics are knowingly misrepresented
 - Used, refurbished or reclaimed, but represented as new product
 - Modified labeling or markings intended to misrepresent parts form, fit, function or grade



China Trip 2008 - Tom Sharpe - SMT



Shenzhen

Hong Kong

**Components Washed in River &
Placed on Bank Drying**



Washing Components in River



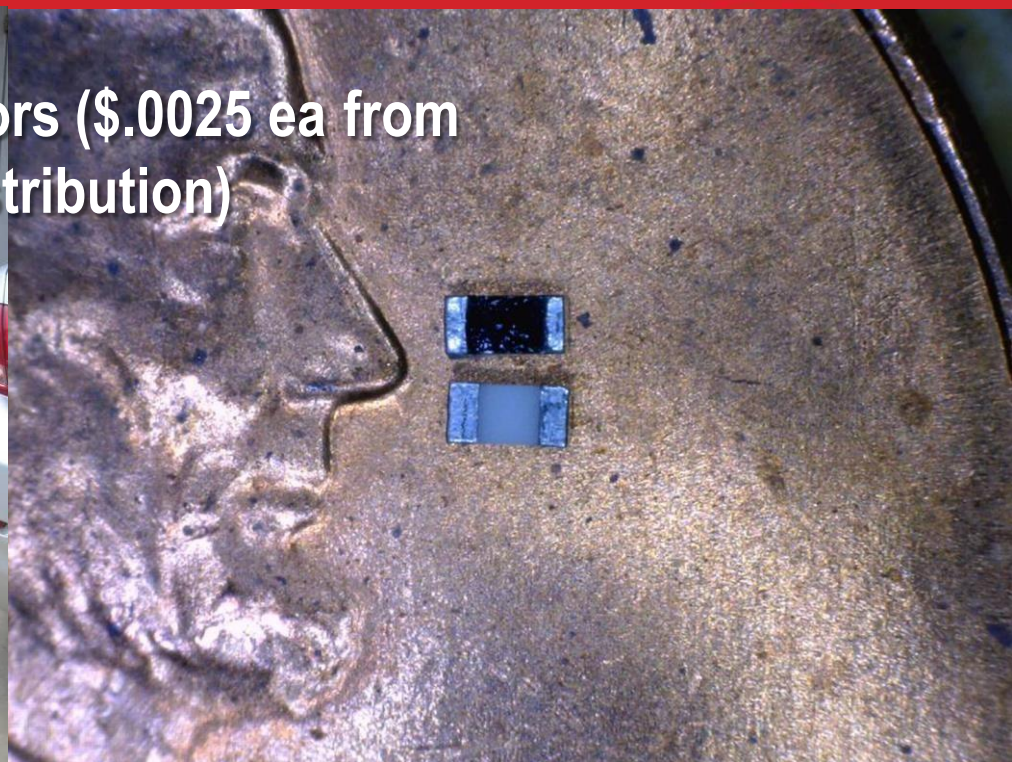
**Electronic Debris Stored in Front and Back
Yards Seen While Driving Through City Streets**



**Pulled Components , Drying on City Sidewalks, then
Separated by Type**



0402 Case Size Capacitors (\$.0025 ea from
Franchised Distribution)



Pulled Components Sorted by Sifting



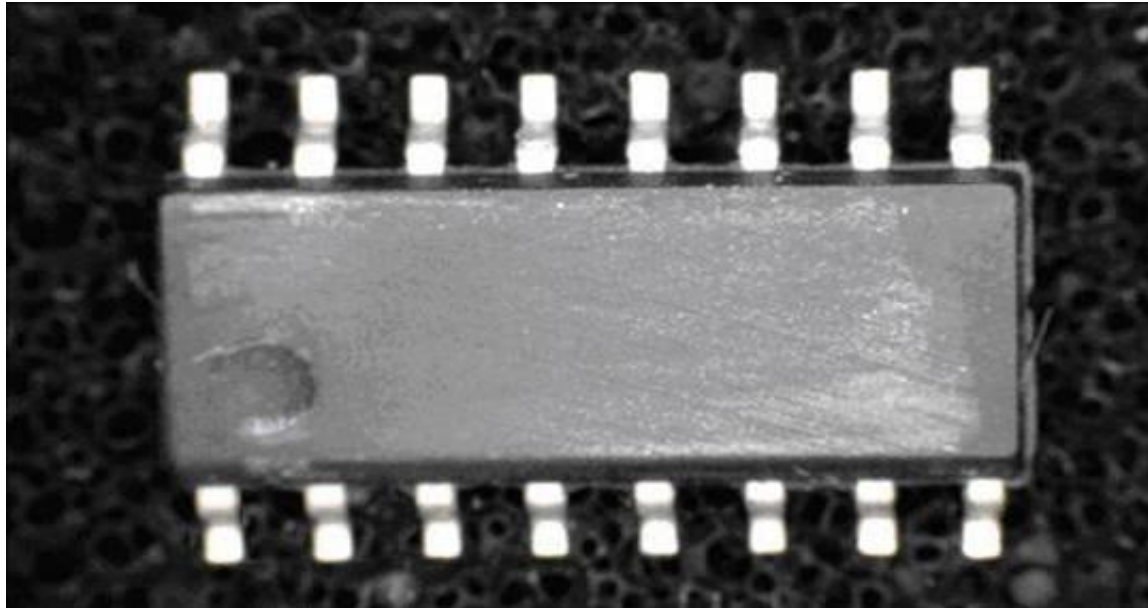
XILINX



Shantou Warehouse: Boards Stacked,
Waiting for Chip Removal



Before

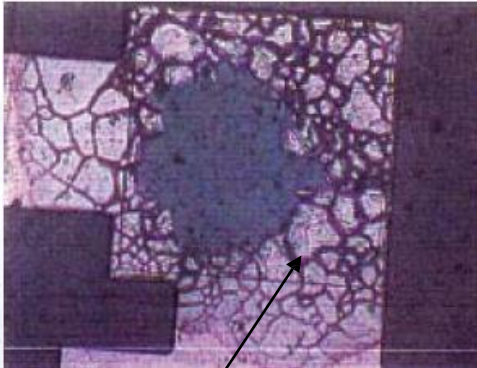


After



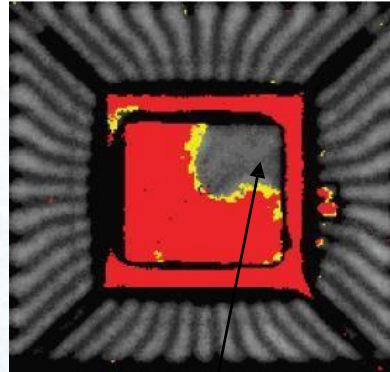
E-Waste Effects on Quality and Reliability

- All of the images below are examples of damage caused by mechanical, chemical, thermal, or electrical stress.
 - All of them reduce reliability. None of the damage is visible by looking at the part's exterior

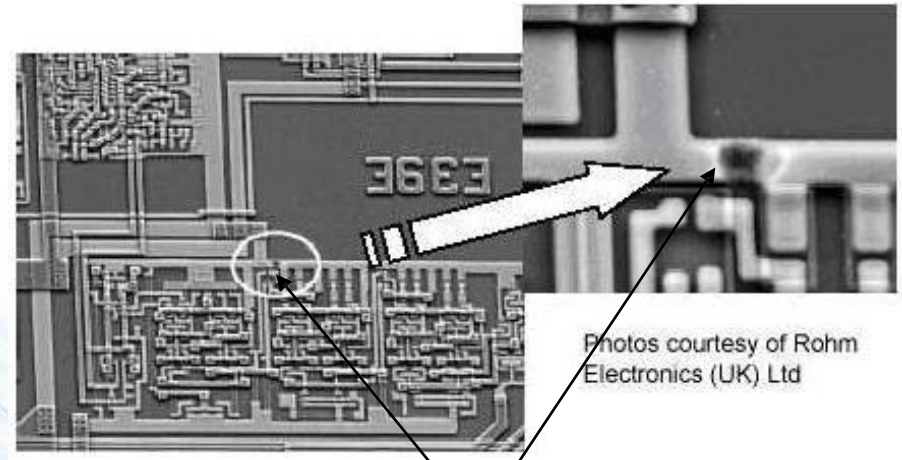


Source: Analog Devices

Corroded die bond pad



Delamination



Photos courtesy of Rohm Electronics (UK) Ltd

ESD Damage

Most Commonly Counterfeited Non- Electronic Parts

From GIDEP (2015):

- Air Pressure Regulators
- Drum Lids

From PDREP (2015):

- Pipe Tees
- O Rings
- Hex Nuts
- Dust Plugs
- Rotor Blades
- Brackets
- Spacers
- Fuel Oil
- Spacers
- Screws
- Faucets



What Is The Government Doing

- Department of Defense has adopted new DFAR requirements for defense contractors & suppliers
 - New rules impose significant risks to suppliers providing products for government contracts
 - DFAR 252.246-7007 - (Contractor Counterfeit Electronic Part Detection and Avoidance)
 - DFAR 252.246-7008 - (Sources of Electronic Parts)



DFAR 252.246-7007 - Contractor or Suppliers Counterfeit Electronic Part Detection and Avoidance

- Contractor or Suppliers Counterfeit Electronic Part Detection and Avoidance system must address the follow:
 1. Training personnel.
 2. Inspection and testing of electronic parts.
 3. Processes to abolish counterfeit parts proliferation.
 4. Risk-based processes that enable tracking of electronic parts from the original manufacturer to product acceptance by the Government, whether supplied as discrete electronic parts or contained in assemblies.
 5. Use of suppliers in accordance with 252.246-7008, Sources of Electronic Parts (described above).
 6. Reporting and quarantining of counterfeit electronic parts and suspect counterfeit electronic parts.
 7. Methodologies to identify and rapidly determine if a suspect counterfeit part is, in fact, counterfeit.
 8. Design, operation, and maintenance of systems to detect and avoid counterfeit electronic parts and suspect counterfeit electronic parts.
 9. Flow down of these requirements to all subcontractors that supply electronic parts or assemblies containing electronic parts, or perform authentication testing.
 10. Process for staying abreast of current counterfeiting information and trends.
 11. Process for screening Government-Industry Data Exchange Program (GIDEP) reports and other credible sources of counterfeiting information to avoid the purchase or use of counterfeit electronic parts.
 12. Control of obsolete electronic parts.

DFAR 252.246-7008 – Sources of Electronic Parts

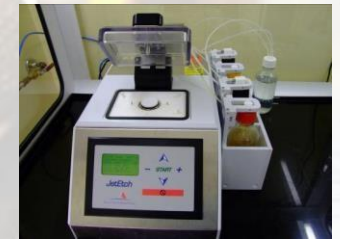
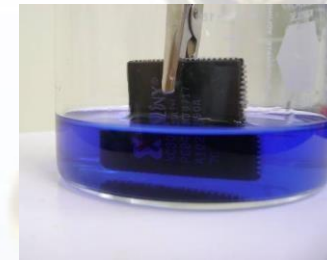
- Sources of Electronic Parts

- If the electronic part is still in production or in stock from the original manufacturer or their authorized supplier
 - The part must be purchased from the original manufacturer or their authorized suppliers/supply chain
- If the part is no longer in production and not in stock from the original manufacturer or authorized supplier
 - Part must be sourced from a “contractor-approved supplier”
 - When purchasing for L3Harris, suppliers must request written prior approval from L3Harris
 - Use one of L3Harris’s approved independent distributors:
 - » SMT
 - » Velocity
 - » Astute (Europe only)

L3Harris's Approved Independent Distributors

Authenticity Testing Requirements

- **Current authenticity testing outlined by L3Harris**
 - Visual Microscopy Inspection - 100%
 - X-Ray Inspection - 100%
 - XRF Inspection - 3 / lotdc
 - Solderability - 3 / lotdc
 - Scrape Test - 3 / lotdc
 - Resistance to Solvents - 3 / lotdc
 - Heated Solvent - 3 / lotdc
 - Scanning Electron Microscopy - 1 / lotdc
 - De-lid - Die Verification - 3 / lotdc
 - Flash & Programmable parts - 100% verified not pre-programmed



L3Harris Supplier Responsibilities

- L3Harris suppliers must have prior written consent to use one of our 3 Independent Distributors (IDs)
 - L3Harris makes no distinction between electronic parts or mechanical parts and materials
 - Have documented procedures that validate/verify integrity of Authorized Distributors and Authorized Resellers when they are procuring parts from these sources in lieu of purchasing directly from the original manufacturers
 - Suppliers must have procedures in their procurement system to prevent any purchases to IDs without prior approval from L3Harris or any other customers

L3Harris Supplier Responsibilities (cont.)

- Even for other customers not requiring prior approval to purchase parts from IDs,
 - No longer can you purchase any electronic parts or electronic assemblies on a DFAR 7008 program from an ID for schedule convenience
 - DFAR 7008 requires notification to the Contracting Officer (CO) all the way up through the supply change to the Government CO when purchasing electronic parts and assemblies from contractor approved ID's for schedule convenience
 - This new regulation implements tougher requirements by only allowing obsolete parts to be purchased from contractor-approved IDs



L3Harris Supplier Responsibilities (cont.)

- Suppliers must implement a counterfeit mitigation program with procedures and training in accordance with industry standards:
 - Original Manufacturers, COTS Suppliers, Contract Manufacturers, and Maintenance and Repair Organizations (MROs) need to implement programs in accordance with AS5553 for electronic parts and assemblies and AS6174 for all other non-electronic products
 - Authorized Distributors need to implement programs in accordance with AS6496
 - All suppliers of products on defense programs must implement a program that meets the requirements of DFAR 252.246-7007 (Contractor Counterfeit Electronic Part Detection and Avoidance) and 252.246-7008 (Sources of Electronic Parts)
 - Implementation of industry standards will meet the majority of DFAR requirements



Recognizing Potential Impact

- Potential Impact of a Counterfeit Part
 - Increased threat to war fighter, customer and **even potential loss of life**
 - Potential loss of customer confidence and market share
 - Potential loss of shareholder confidence
 - Potential loss of contracts
 - Potential loss of revenue
 - Potential loss of jobs
 - Negative publicity
 - Debarment



Take Action

- Take action to implement counterfeit detection and avoidance programs that meet industry standards and the new DFAR clauses
- Ensure your organizations, employees are educated and aware of L3Harris & industry requirements
- If you have questions reach out to the L3Harris procurement organization



Summary

- Counterfeit parts is serious problem for the supply chain, defense industry & L3Harris
- New DFAR clauses requires suppliers to ensure they are purchasing from the authorized supply chain
 - Significant penalties for escapements
 - You must have written prior approval to purchase from one of our Independent distributors
 - When approved by L3Harris
 - You can only use one of L3Harris's approved independent distributors

L3Harris suppliers are critical in helping stop counterfeit parts from entering into the supply chain

