



**High Level Conference on Counterfeiting + Piracy
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- generate a damage of several 100 Mio Euro worldwide (according to the Center of ALC-Engineering, University of Maryland)
- are a remarkable Safety and Security Risk, much more than a counterfeited handbag. Systems do not work 100% or work wrong, fires in electronical systems can happen
- other bad results: call-backs of vehicles or equipments, delays or stops of production, delivery delays, guarantee issues etc.



- The world market for electronic components (chips) is about 143 Billion Euro
- The European Community consumes about 26 Billion Euro components ; Japan and USA about 35 Billion Euro, Asia/Pacific about 50 Billion Euro
- The largest chip-manufacturers are Intel, Texas Instruments, Freescale (all USA), Toshiba, Renesas (both Japan), Infineon, STM, SGS-Thomson Microelectronics, NXP (Philips) (all Europe)



Definition: Electronic Components and counterfeited and refurbished electronic components

- Electronic Components (chips) are Microprocessors, integrated Circuits (IC's), Transistors, Diodes etc. The most common Chip is the Pentium-Processor from Intel
- a „COUNTERFEITED“ - chip is a counterfeited microelectronic component which looks like the Original, printing on the part, logos, packaging look like the original. But there is either no chip in it or a completely different low-cost chip. This means the product will either not work at all or will work wrong.
- a „REFURBISHED“ - chip is a chip which was already installed in a mobilephone, in a TV, in machine/vehicle control-board etc. The equipment where the chip was in has been scrapped. Illegally specialised companies remove the chip from the scrapped equipment, clean the chip „make the chip look new...“and re-import it to the european industry and worldwide.



- **Medical Technology:** Electrocardiographic machines, EEG, Tomography, defibrillators
- **Automobile Industry:** almost all car functions are controlled or done electronically from coupling to breaks to airbags etc.
- **Industrial Applications:** Automation-, Control- and Regulating Systems for Power Plants, public traffic, hospitals, Energy Generation and Supply
- **Transport:** trucks, cars, aerospace, railway etc.
- **Communication:** (Mobile-) Telephones, Telefax, ISDN, etc.
- **Information-Technologies:** Computers etc.
- * Military and Security: tanks, weapons, supervision systems, alarm systems etc.



- Counterfeiting: Lasermarking with the „look alike“ Barcode, Manufacturer Name, logos, partnumbers, lotcodes, datecodes etc. The products have same size, packaging, cartons, logos and look identical. Use of empty packages (dummies). Use of products which have been sorted out as „defective“ at the component manufacturer and are illegally sold „backdoor“ as new products.
- Refurbishing: Usage of „already used“ components from scrap/recycling. Refurbishing, Cleaning, Straightening of bended contacts, remarking and Sale of the goods as „New and original

357PBGA MC68360CZP25L 1H84G Malaysia QQJZ0425C Abnormalities

**Customer
returned unit**

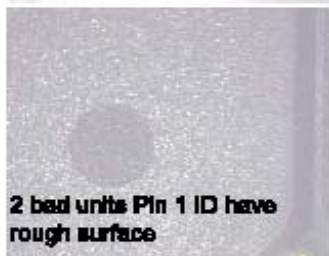
production unit



1 bad unit had soldering on 1 fiducial pint



Good unit have no soldering on fiducial point



2 bad units Pin 1 ID have rough surface



Good unit Pin 1 ID has smooth surface



2 bad units have no cavity number. Note surface is rough



Good unit has cavity number. Note surface surrounding the number is smooth

**Customer
returned unit**

production unit



2 bad units have no Country Of Origin: Malaysia printing. Note surface is rough



Good unit has Country Of Origin: Malaysia printing. Note surface surrounding the number is smooth

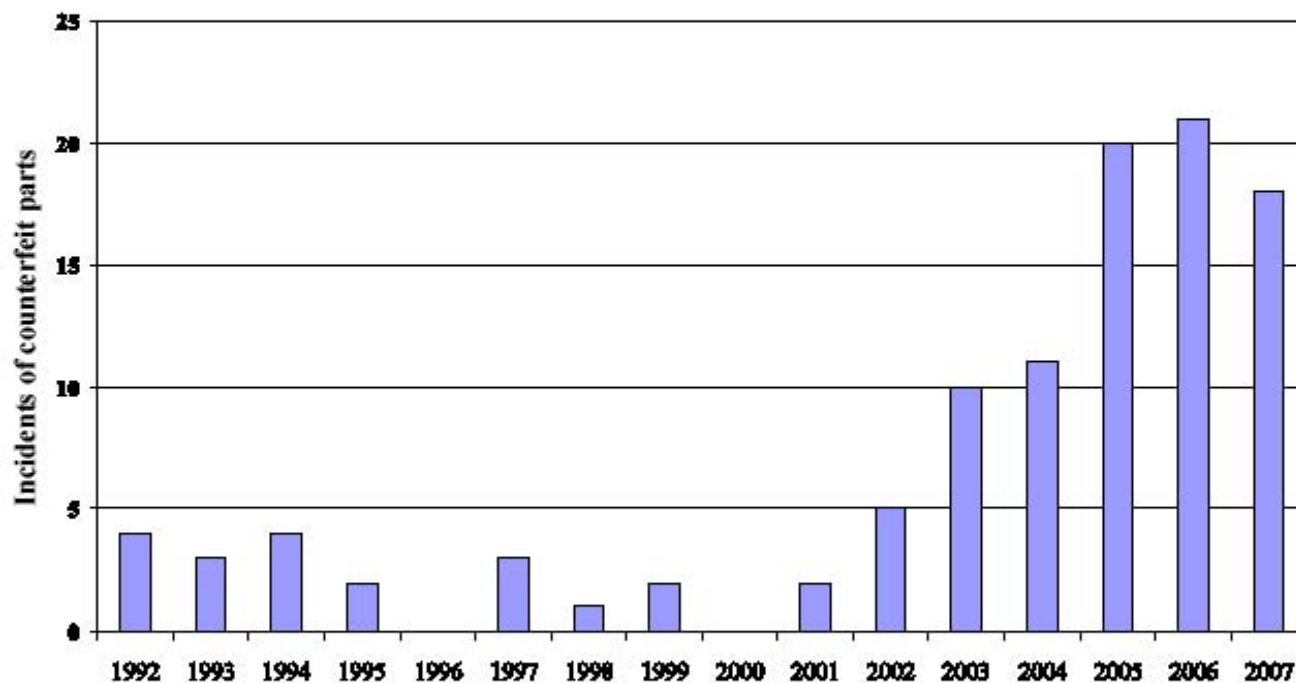
Part# on the device is different

Part# marked on device : MC68360CZP25L

**Part# found in System : 99MC68360ZP25L
for the same trace code**

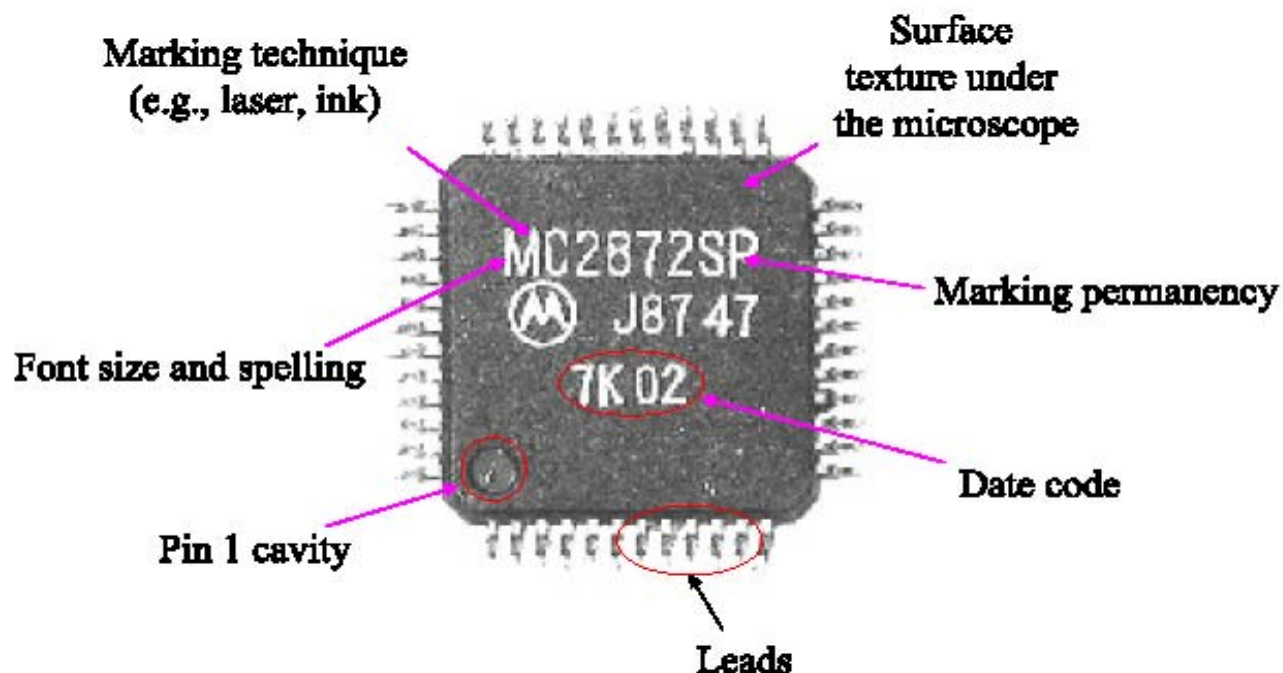


GIDEP* Counterfeit Report Submissions

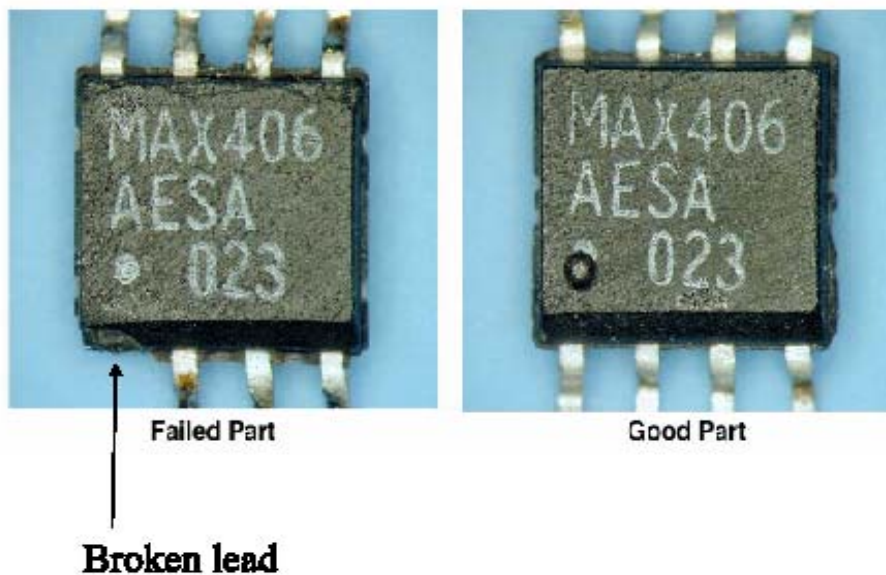


*GIDEP: Government Industry Data Exchange Program

Example External Visual Inspection of a Relabeled Part

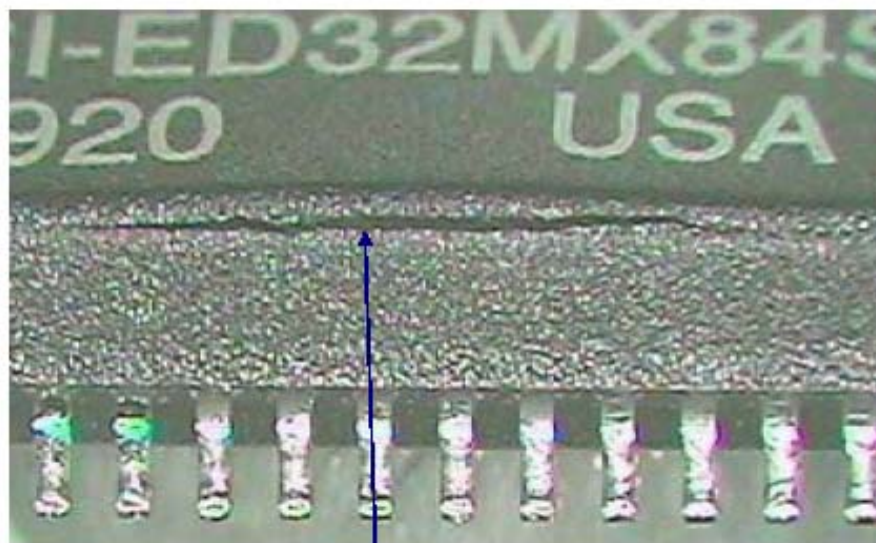


Example External Visual Inspection of a Scrapped Part*



*Integra Technologies LLC.

Example External Visual Inspection of a Scrapped Part* (contd.)



External Crack

*Integra Technologies LLC.



Source: Basel Action Network (BAN)



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- Big Blue chip companies (DAX, Eurostoxx etc) in Europe purchase their products directly from the original manufacturer. No risks.
- Mid-size companies in Europe purchase their parts from official Distributors. No risks.
- BUT: In case of shortages and in case of obsoleted (end of Life) components ALL industrial companies in Europe (and worldwide) must buy from the so called spot market. Here is the risk of purchasing counterfeited or refurbished components enormous
- Risks for the Consumer in Europe:

Cars: Carmakers have secured the supply chain already

Military, mobile phones, industrial applications, Medical applications are running into such problems: they are forced to use risky material, they do an end-production test with good result, months later in the „field“ the chip fails or work wrong

- Component Manufacturers should mark their products and the packaging (cartons, drypacks etc.) with non „fakeable“ marking which can buyer of the product can identify easily. For example „DNA-based“ marking (cheap, just a visible or invisible coloured dot which can be detected by the buyer through light) or RFID (Radio Frequency Identification) oder Barcode-methods etc.
- Internet-Portal for all users generated by the component manufacturers: Consumer can type in the datecode and the serial number of the products he received. If the numbers are matching it's okay, if not the products are somehow wrong
- „Black list“ by the EU with the name of companies who have sold counterfeited products

Thanks for your interest and attention !

You can ask for this presentation or get more detailed answers at

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