

JPL Counterfeit Parts Avoidance

Presented by:

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- JPL – who we are and what we do in a nutshell

- JPL – Electronic Parts
 - Guiding Requirements Documents
 - Counterfeit Electronic Parts Control Plan

An ounce of prevention.....

- Early in design cycle – parts specialists review parts lists for parts considering availability and sources.
- Developing an Institutional Preferred Parts List for engineers to choose qualified and available parts for designs.

Parts Acquisition and Review System

PIN	Generic Part No.	Part Description	Descriptor	Package Type	Manufacturer	Flight Num	RollUp	Parts/ Eng	Special Handling Identified	SEL/ SEGR/ SEB	SEU	SET	SEFI	TID/ELDRS	DD
[XXXXXX]-[AMR]-[EU]-[DAC]---DAC															
31	UT69RH051-WPC	MICROCIRCUIT, DIGITAL, RADIATION HARDENED, 8-BIT MICROCONTROLLER, MONOLITHIC SILICON	U	QFP-44		5962R9563801VYC	A	A	No	A	A	A	A	A	A
33	UT9Q512	SRAM, 512K X 8-BIT, 25 NS ACCESS TIME, RAD HARD	U	TBD		5962L0053601TUC	AA	A	No	A	AA	A	A	A	A
34	BU-61585V	1553 ACE TERMINAL	U	TBD	DDC	BU-63825F2-131W	A	A	Yes Soldering Restrictions; Fragile Parts; Special Handling Details: max lead soldering temperature _10 sec per lead, 300C; max case temp 150C (unpowered). Handle glass seals carefully. gb110513.	A	A	A	A	A	A

And more prevention...

- Preferred source of parts:
 - OCM
 - Authorized/Franchised Distributor

- We know our sources:
 - Approved Suppliers List – surveys, site visits, audits
 - GIDEP, ERAI
 - Quality data analysis
 - Exemptions – require risk assessment and mitigation plan.

Approved Suppliers List

ASL screen.pdf - Adobe Reader
File Edit View Window Help

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Comment

Supplier Information https://jplweb.jpl.nasa.gov/pqasms/ops_v3/components/views/printSup..

Approved Suppliers List

Supplier Information	Qualification Information
CAGE Code: [REDACTED]	ASL Status: Approved
[REDACTED] Inc. DBA [REDACTED] Branch	Expiration Date: Apr-01-2013
[REDACTED] Irvine, CA 92602 United States	Approval Scope: Distribution of military/commercial Semiconductors/ IC's, established Reliability/Commercial Passive Components, Connector Products, Military/ Commercial Value Add, and Programming/ Modification.
Phone No.: [REDACTED]	Quality Management System (QMS): ISO 9001:2008 Compliant
Fax No.: N/A	Audit History: Admin Notes/Open Audits (0) Closed Audits (5)
Website: http://www.[REDACTED]	Workmanship Standards Assessments: Assessments (0)
	Exemption History: Active Exemptions (0) Expired Exemptions (0)

Performance Information

Overall Performance Ratings	
[REDACTED]	
Product Quality Rating	
[REDACTED]	
Qualitative Performance Ratings	
Customer Satisfaction:	(0) Comments (0)

- Corrective Action History (5)
- Problems (0)
- ★ Supplier Trust and Recognition (0)
- Supplier Watch List (0 Active, 0 Closed)

Quality Assurance

- Purchase Orders
 - QA Clauses – supply chain traceability, tests, inspections, Quality Management Systems, required documentation (CofC)

- Flow down requirements to Subcontractors

Receiving Inspection

- Does everything match up?
 - Documentation – traceability to OCM
 - Part markings
 - Data

Receiving Inspection

- Visual Inspection

authentic

counterfeit



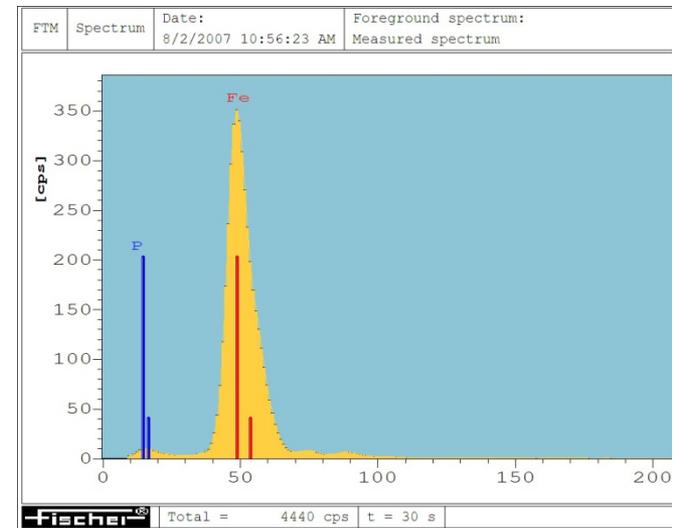
Receiving Inspection

■ X-ray Fluorescence

- Performed to verify the presence or absence of lead or other materials



XRF Machine



Example Output

Training

- CogE Training: plan sufficient procurement time for long lead items
- Counterfeit Parts Awareness Training for NASA and other Government Organizations

What if...

....we think we got bit?

- Reliability and Failure Analysis Lab – x-ray, SEM, de-cap, DPA
- GIDEP
- Legal