

COUNTERFEIT PREVENTION

PAST, PRESENT AND FUTURE

Counterfeit Parts - LM Supplier Training Excellence Program (STEP)

Bob Bodemuller

Principle Engineer, Supply Chain Quality



THE PROBLEM



By Sharon Ng

27 Nov 2018 06:14AM
(Updated: 27 Nov 2018 06:20AM)

★ Commentary | [Commentary](#)

Commentary: Who on earth still buys counterfeit branded goods?

The allure of such goods remains strong when we measure our worth by the brands we wear and carry, says Associate Professor Sharon Ng.

HUGE MARKET

Clearly, there is still a significant market for counterfeit products around the world. The Organisation for Economic Co-operation and Development (OECD) reported that international trade in counterfeit and pirated products has increased from US\$250 billion in 2008 to US\$1 trillion in 2016.

Answer:
We Do...

HEADLINES



"Operation Wafers": over one million counterfeit semiconductors seized, reports ESIA

0 Comments

FAKE MILL CERTIFICATES AND EN10168

AUGUST 29, 2014 BY DENIS OAKLEY

LEAVE A COMMENT

July 03, 2017 // By Julien Happich

One of the most important things in selling steel is being able to demonstrate that the physical and chemical characteristics meet the requirements of the claimed steel grade. A steel plate by itself is of little more use than scrap metal because there is no audit trail that establishes the characteristics of the plate. Even with PMI (Positive

OCTOBER 19, 2016

AAPL:117.12

More than 90% of 'genuine' Apple chargers & cables sold on Amazon are fake, says Apple

Ben Lovejoy - Oct. 19th 2016 4:51 am PT @benlovejoy

Authorities Confiscate Thousands of Counterfeit Hoverboards in Santa Fe Springs

POSTED 5:14 PM, SEPTEMBER 18, 2017, BY JOHN FENOGLIO, UPDATED AT 07:31PM, SEPTEMBER 18, 2017



PRESS RELEASE No 09/2018

Major seizure of counterfeit steel pipes in the United Arab Emirates following joint inspection by Dubai Customs and OLAF

Counterfeit Warning

COUNTERFEIT WARNING
NOTICE TO CUSTOMERS ABOUT COUNTERFEIT DMC PRODUCTS
Daniels Manufacturing Corporation (DMC) has become aware of counterfeit Mil-Spec crimp tools that are being advertised by non-qualified and unauthorized sources. This situation is potentially hazardous for the entire aerospace community, DOD and main [...]

04/23/2018

Amazon needs to get a handle on its counterfeit problem

'Fulfilled by Amazon' should be a badge of trust, not a legal loophole.

Edgar Alvarez, @abcddedgar
05.31.18 in Business

60 Comments

2319 Shares

Fake Chips on Amazon Are Nothing New

Dylan McGrath, Editor in Chief, EE Times
7/24/2017 05:11 PM EDT

NO RATINGS
LOGIN TO RATE

INSIGHT

Counterfeit Electronic Parts Sold by MVP Micro and Affiliates Remain Unaccounted For

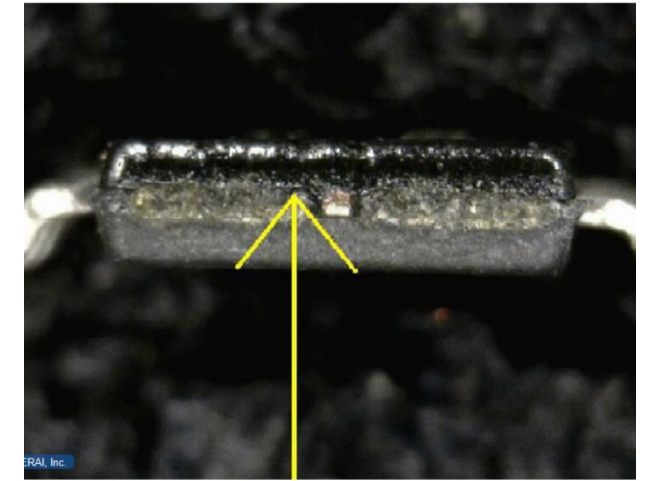
SOURCES OF COUNTERFEIT ELECTRONIC PARTS

This flow illustrates how counterfeit parts can be sourced and eventually sold.



* China photos courtesy of Tom Sharpe & SMT Corporation

** Photo courtesy of Basal Action Network



- Evidence of tampering present
- Inconsistent surface texture (e.g. color discrepancy between the top, bottom and/or side of the part)
- Visible secondary coating/blacktopping cascading over the side of the part (e.g. overspray, overflow)

Anything that can be counterfeited ... will be...

CAN YOU TELL THE DIFFERENCE?



FAKE FOOD?

- Lobster - Inside Edition ran DNA tests on lobster dishes from 28 restaurants across the country. Thirty-five percent of the samples contained cheaper seafood (whiting and langoustine).
- Kobe beef - Only eight restaurants in the entire US serve real Kobe beef.
- Red snapper - According to an expert involved in DNA species testing, 94% of the time you order fish labeled red snapper, it is actually a different fish (usually tilapia).



- ✓ A rule of thumb: If the fish is expensive and you haven't seen it displayed whole, there's a good chance it's an imitation.
- Olive oil - retailers pass off other seed oils, including soybean oil, peanut oil, and sunflower-seed oil, as the real thing.
 - ✓ Virgin olive oil and Italian olive oil are suspect
- Honey - More than 75% of the honey sold in US grocery stores contains ingredients other than pure honey, reports Food Safety News. Honey is frequently "watered down" and cut with corn or fructose syrup to decrease costs.

CASE STUDY – KOBE STEEL – AUGUST 2017

Kobe Steel chief is resigning over fake data scandal

by Daniel Shane @CNMONEY

March 6, 2018: 5:50 AM ET

Recommend 2



The CEO of Kobe Steel said Tuesday that he's resigning from the Japanese company that shocked global businesses by admitting it falsified data about metal it supplied to makers of planes, cars and other products.

What happened?

Essentially, Kobe employees faked reports to make it look as though products met the specifications requested by customers when in fact they didn't.

BUSINESS NEWS MARCH 5, 2018 / 12:00 PM / 9 MO
Kobe Steel admits data fraud went on nearly five decades, CEO to quit

NATIONAL

Prosecutors, police raid Kobe Steel offices over data fabrication scandal

(A) Testing processes allowing falsification and fabrication

As is visibly shown by the Aluminum & Copper Business, it was possible for staff members who collected test data entered by the quality testing department to falsify them, for the quality assurance department or the manufacturing department to tamper with test data already entered into the system, or for the management to request the authority to tamper with data or authorize themselves to tamper with data, although perpetrators of misconducts differ from factory to factory. We believe that these operational realities provided an opportunity for and promoted misconducts.

Japan prosecutors charge Kobe Steel in fake data scandal

AP Associated Press Jul. 19, 2018, 3:43 AM

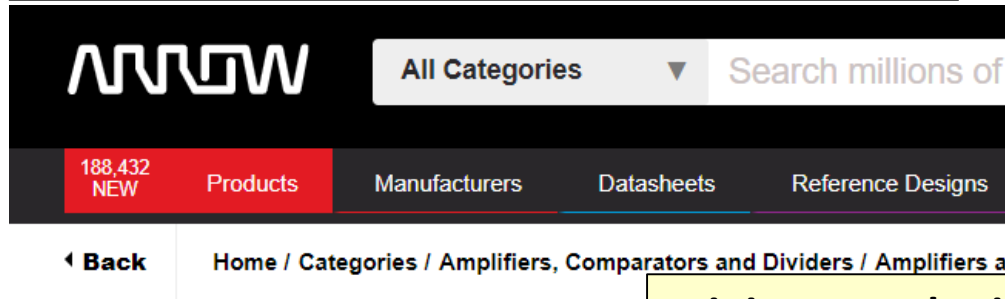
the japan times

Kobe Steel disclosed in early October that it had tampered with quality data of its aluminum and copper products to make it look like they met all specifications and Japanese Industrial Standards (JIS). It acknowledged that such practices had been going on at its plants for around 10 years in an organized manner, with the knowledge of managers.

Subsequent disclosures showed that the data falsification extended to a total of 13 products, including the firm's mainstay steel. The number of clients to which the questionable products have been shipped from its group companies expanded from about 200 initially to 500, affecting not just domestic but overseas companies. Aircraft giants Boeing and Airbus as well as U.S. automakers General Motors and Ford are reportedly looking into their possible

CASE STUDY - TI PARTS FROM AMAZON – WHAT I WORRY ABOUT

From the Arrow Electronics Website 12-10-18



Arrow Electronics website header showing navigation options: All Categories, Search millions of, 188,432 NEW Products, Manufacturers, Datasheets, Reference Designs. Breadcrumbs: Home / Categories / Amplifiers, Comparators and Dividers / Amplifiers a

Minimum order is 200 parts

Texas Instruments
OPA2604AP
Op Amps



MANUFACTURER
[Texas Instruments](#)

PRODUCT CATEGORY
[Op Amps](#)

DESCRIPTION
Op Amp Dual GP ±24V 8-Pin PDIP Tube



See all [Op Amps by Texas Instruments](#)

400 parts: Ships in 5 days + Free Overnight Shipping

QUANTITY
Increments of 50
Minimum 200

200

BUY

TOTAL **\$585.98**


+ FREE OVERNIGHT SHIPPING - [DETAILS](#)

Price for 200

[Add to BOM](#)

IN STOCK

In Stock: 400 parts

 **Ships in 5 days + Free**

Overnight Shipping

200+

\$2.9299

Ships from: Hong Kong

Manufacturer Lead Time: 26 weeks

CASE STUDY - TI PARTS FROM AMAZON – WHAT I WORRY ABOUT



by Texas Instruments
Texas Instruments OPA2604AP (Pack of 1)
★★★★★ 1 customer review
Price: \$11.42 + \$2.99 shipping
Arrives before Christmas.
New (1) from \$11.42 + \$2.99 shipping

Specifications for this item

Part Number	OPA2604AP
Brand Name	Texas Instruments
Item Weight	0.01 ounces
National Stock Number	5962-01-389-3710
Number of Items	1
UNSPSC Code	32111607

[See more product details](#)

\$11.42
+ \$2.99 shipping
Get it as soon as Dec. 18 - 21
when you choose **Standard Shipping** at checkout.

In stock.
Ships from and sold by **DataAlchemy.**

Qty: 1 ▼

\$11.42 + \$2.99 shipping

DataAlchemy

DataAlchemy storefront
★★★★★ | 98% positive in the last 12 months (2853 ratings)

Data Alchemy, Inc. is an Amazon merchant selling against millions of items on Amazon, including tools, machinery and electronics. We're a profitable, 100% VC-free Silicon Valley startup who has built a unique search and shipping engine using semantical analysis, crowd sourcing and algorithmic product pricing to provide high quality shopping experiences for users on Amazon.

If it's interesting, needs to be delivered yesterday, and we can get a good deal on it, chances are we've bought it, packed it, and shipped it to a neighborhood near you.

Our customers include Apple, Microsoft, Amazon, NASA and Virgin Galactic.

To the moon, indeed. Your satisfaction is our guarantee!

Company details

Website
<http://dataalchemy.com>

Headquarters
Oakland, California

Year founded
2013

Company size
2-10 employees

Specialties
Shipping, Electronics, Searching, and Interesting

1 Office location

Main
Oakland, California 94606, US
[Get directions](#)

From the Amazon Website 12-10-18

Dataalchemy - ImportGenius

<https://www.importgenius.com/importers/dataalchemy>

Dataalchemy imports from M.c.e. Electronic Co. in China Taiwan through the port of Oakland, California.

browser

WHO FOUNDED DATAALCHEMY?



A leading provider of eCommerce software & services designed to automate the management of your Amazon store front.

CEO and Founder, DataAlchemy

San Francisco Bay Area

C++, Java, Python, et. al. Search engine expert. E-commerce pioneer. Search monetization specialist. 20 years experience with internet search engines. Independent contributor. eBay automation expert, eBay certified solutions provider. Wrote one of the worlds highest performance web crawlers as a drop in replacement for Heratrix. Wrote 100% of the code for the worlds highest performance targeted ad

Experience



CEO and Founder

Data Alchemy, Inc

Feb 2014 – Present · 4 yrs 11 mos

Oakland, California

We apply Big Data, Data Mining, NLP and Search technologies directly to e-commerce.



Senior Software Engineer

AppDynamics

Apr 2014 – Aug 2014 · 5 mos

San Francisco, CA

I work on the analytics team at AppDynamics.



Professional Poker Player

Independent

Jul 2013 – Apr 2014 · 10 mos

Northern California

The most difficult job I ever loved.. Responsibilities include taking bad beats, winning huge pots, ability to maintain an extremely high level of focus under distracting conditions for 16 hours in a row. Culminated with playing the Bay 101 Shooting Star tournament.



Senior Software Engineer, Search

Loggly.com

Oct 2011 – Jul 2013 · 1 yr 10 mos

2018 Customs and Border Patrol IP Seizures MSRP

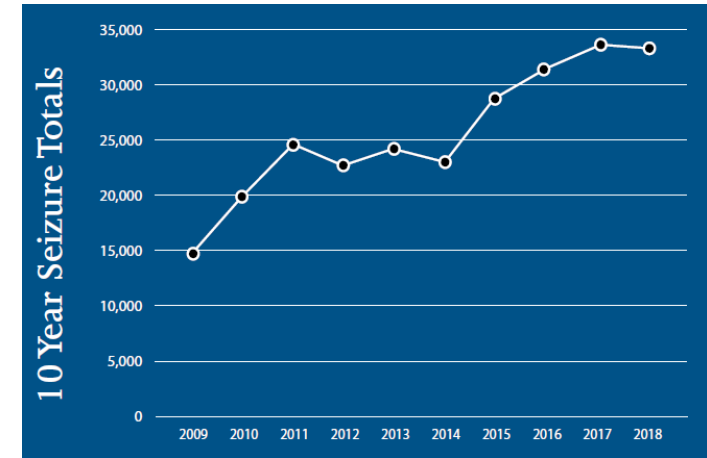
Number of Seizures



<u>Commodity</u>	<u>Seizures</u>	<u>Percent of Total</u>
Wearing Apparel/Accessories	6,098	18%
Footwear	4,728	14%
Watches/Jewelry	4,291	13%
Handbags/Wallets	3,593	11%
Consumer Electronics	3,388	10%
Consumer Products	2,816	8%
Pharmaceuticals/Personal Care	2,293	7%
Optical Media	561	2%
Toys	487	1%
Computers/Accessories	450	1%
All Others	5,105	15%

Number of Seizures **33,810 (92/day)**

Number of Seizures **34,143 (93/day)**



IPR Seizure Statistics
2009-2018

**Intellectual
Property Rights**
Fiscal Year 2018 Seizure Statistics

Seizures by Shipping Environment

Estimated Manufacturer's Suggested Retail Price (in millions)

Mode of Transport	FY 2018		FY 2017		Difference	% Change
	MSRP	% of Total	MSRP	% of Total		
Express	\$ 549.2	39%	\$ 429.3	36%	\$ 119.90	28%
Mail	\$ 197.3	14%	\$ 128.4	11%	\$ 68.90	54%
Cargo	\$ 447.9	32%	\$ 397.5	33%	\$ 50.40	13%
Other	\$ 205.4	15%	\$ 251.1	21%	\$ (45.70)	-18%
Total	\$ 1,399.8		\$ 1,206.3		\$ 193.50	16%

Trading Partner	Seizures	% of Total*
China (Mainland)	15,674	46%
Hong Kong	13,785	41%
Turkey	618	2%
India	439	1%
Taiwan	408	1%
All Other Countries	2,886	9%
Number of Seizures	33,810	

Country of Origin



WHAT'S THE POINT?

➤ “We” are the ones who approve the supplier base and assist in making purchasing decisions!

➤ RISKS

- Economic Pressures
 - **Cost**
 - **Schedule**
 - **Minimum buys**
 - **eCommerce/P-cards**
- Sources of parts
 - Counterfeiting is profitable and growing/more profitable than drugs/low risk
 - **Organized crime is involved**
- Counterfeits difficult to detect
 - May not affect fit, form or function
 - Typical tests and inspections may not detect counterfeit



Shenzhen Electronics Mall

Profit margins are higher in counterfeiting than illegal drugs!

**Counterfeiters are good & getting better ...
They are fast and agile**

PAST AND PRESENT

WHERE HAVE WE BEEN AND WHERE ARE WE GOING



LEGISLATIVE ACTIONS

- **Section 818 of the 2012 NDAA**

- Congressional law inserted into the National Defense Authorization Act Dec 2012
- Modified in each new NDAA legislation

- **FAR 2012-032 – Higher Level Quality Contract Requirements**

- Released November 2014

- **DFARS 252.246-7007** Published May 2014/Revised Aug 2016

- Implements section 818

- **DFARS 252.246-7008 – Published Aug 2016**

- Defines “Trusted Supplier”

- **DFARS 2016-D010 – Published Aug 2016**

- Amends c)(2)(B) with regard to the allowability of costs of counterfeit electronic parts or suspect counterfeit rework or corrective action that may be required to remedy the use or inclusion of such parts.

- **DFARS 2016-D013 – Published 5/4/2018**

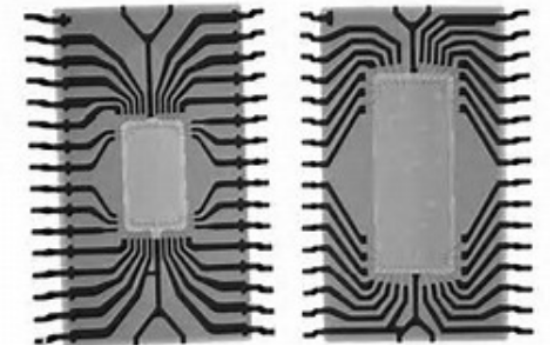
- ...use of contractor-approved suppliers subject to approval by DoD

- **FAR 2013-002 – Published 11/22/19**

- ... require contractors and subcontractors to report to the Government-Industry Data Exchange Program certain counterfeit or suspect counterfeit parts and certain major or critical nonconformances.



McCain/Leven Hearings 2011



Per the DFARS, counterfeit prevention is part of the purchasing system and is audited as part of the CPSR.

DFARS 252.246-7007 CRITERIA

System Criteria

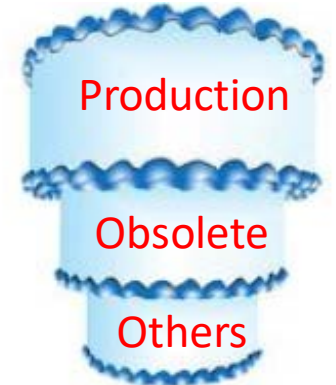
1. Training
2. Inspection and test
3. Processes to abolish proliferation
4. Traceability
5. Procurement controls
6. Reporting and quarantining
7. Identification and evaluation of suspect counterfeit
8. Systems to detect and avoid (e.g. AS5553)
9. Flow-down
10. Process to keep informed
11. Process for screening GIDEP report
12. Control of obsolete electronic parts

DFARS 7008 Criteria



DFARS 252.246-7008 TIERED APPROACH FOR SOURCING

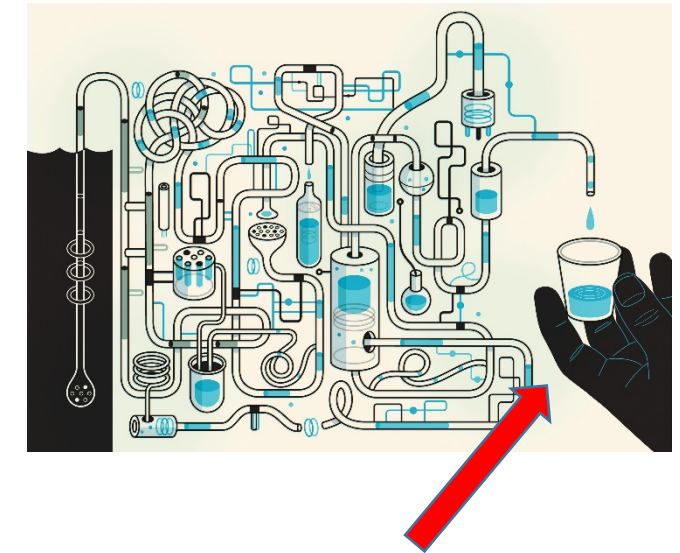
- Category 1: Electronic parts that are **in production** or currently available in stock.
- Category 2: Electronic parts that are **not in production** and not currently available in stock from a category 1 supplier.
- Category 3:
 - Sources other than a category 1 or 2 as defined above
 - Electronic parts from a subcontractor (other than the original manufacturer) that refuses to accept flowdown of DFARS 252.246-7008
 - Cannot confirm that an electronic part is new or not previously used and that it has not been **comingled** in supplier new production or stock with used, refurbished, reclaimed, or **returned** parts.



DFARS 252.246-7008 - SOURCES

- **Category 1:** The contractor shall obtain such parts from
 - the original manufacturer
 - their authorized suppliers
 - or from suppliers that obtain such parts **exclusively** from the original manufacturers of the parts or their authorized dealers.
- **Category 2:** The contractor shall obtain such parts from suppliers identified by the contractor as contractor-approved suppliers, subject to certain conditions (such as test and inspection).
- **Category 3:** The contractor may buy such electronic parts subject to certain conditions.

Source Selection



Source

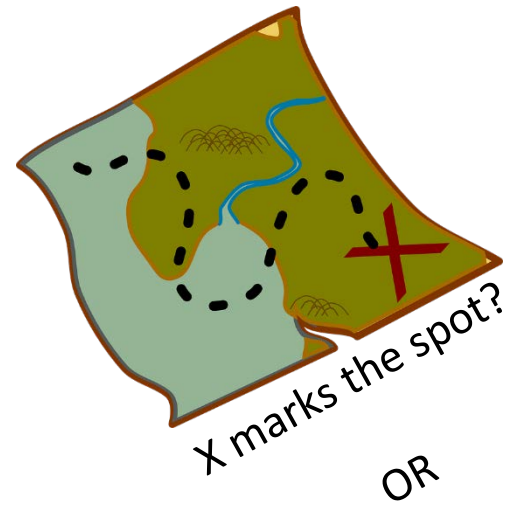
COMMERCIAL PARTS

The Contractor shall include the substance of this clause, including this paragraph (e), in subcontracts, **including subcontracts for commercial items** that are for electronic parts or assemblies containing electronic parts, unless the subcontractor is the original manufacturer.

246.870-3 Contract clauses

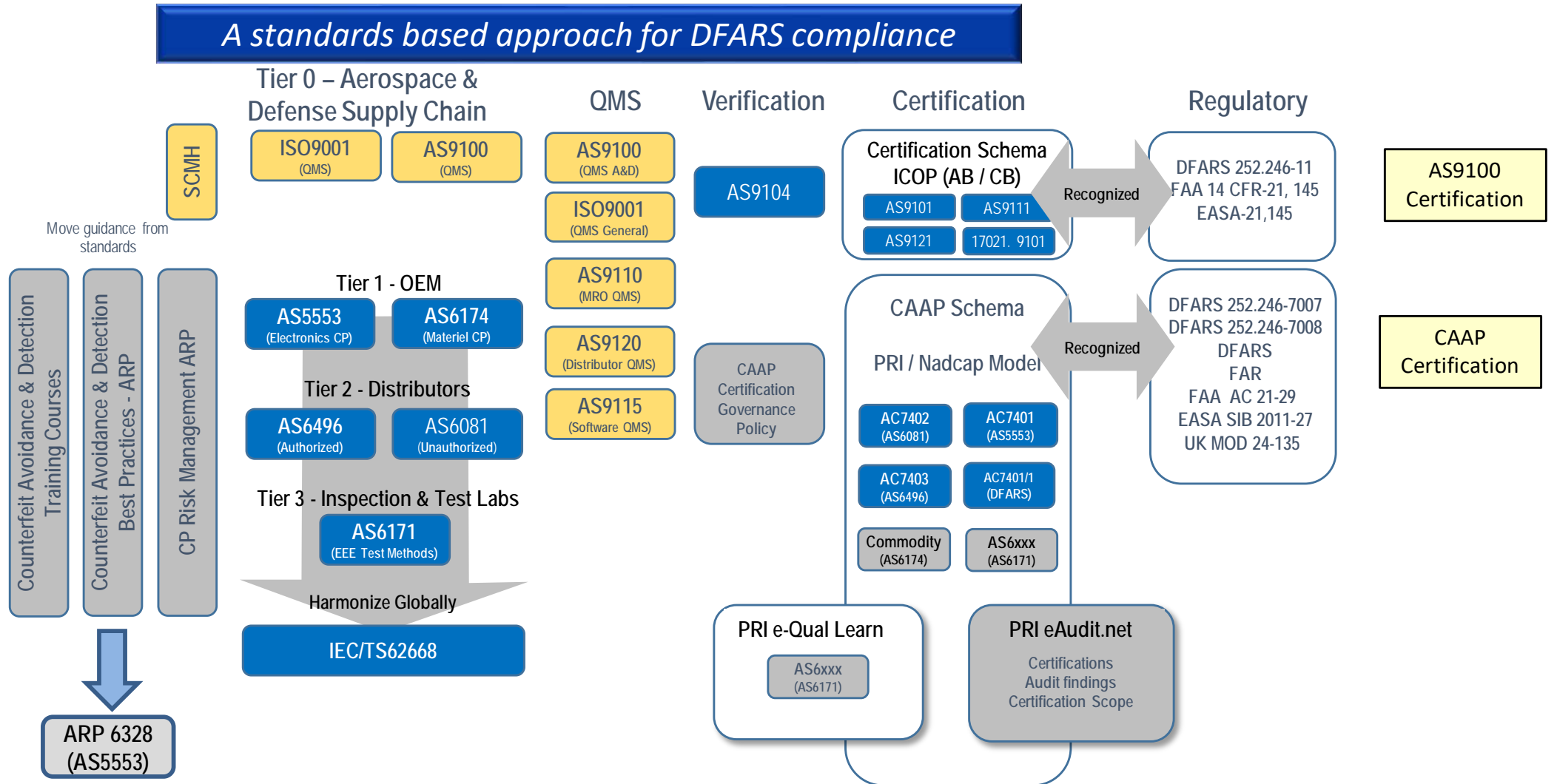
Use the clause at 252.246-7008, Sources of Electronic Parts, in solicitations and contracts, including solicitations and contracts using FAR part 12 (Acquisition of Commercial Items) **procedures for the acquisition of commercial items, when procuring—**

- (1) Electronic parts;
- (2) End items, components, parts, or assemblies containing electronic parts; or
- (3) Services, if the contractor will supply electronic parts or components, parts, or assemblies containing electronic parts as part of the service.



How Has MFC Mitigated Counterfeit Risks?

INDUSTRY COMPLIANCE ARCHITECTURE



SAE COUNTERFEIT PREVENTION STANDARDS

• G-19				
• G-19A	Testing	AS6171	April 2018	
• G-19AD	Authorized Distribution	AS6496	Aug 2014	
• G-19C	Compliance	Various	Jan 2014	
• G-19CI	OCM, System Integrators, etc.	AS5553	Sept. 2016	
• G-19D	Independent Distribution	AS6081	Nov 2012	
• G-19T	Definitions	AIR6273	July 2019	
• G-21	Materials	AS6174	July 2014	
	Compliance Checklist	AS6174/1	April 2017	
	Fasteners	AS6832	In ballot	
	Bearings	AS6174/3	TBD	
• G-21B	Batteries	AS7492	TBD	



LOCKHEED MARTIN COORDINATED APPROACH

- CRX-126, Counterfeit Prevention Procedure
- CorpDocs - counterfeit prevention flow down
- Supplier Wire FAQ's
- Sustainability metrics for the annual LM sustainability report
 - CAAP program will be highlighted in the 2018 report
- Corporate Counterfeit Prevention Working Group – meets every other week
 - Coordinate counterfeit issues that affect all business elements, i.e., was on committee that drafted and issued Honeywell GIDEP in Fall 2018. GIDEP issued by Aeronautics U2 program.
- MFC PO Counterfeit Prevention Text Note MFC-PR-003



TERMS & CONDITIONS – CORPDOC 3

7. COUNTERFEIT WORK

(a) The following definitions apply to this clause:

"Counterfeit Work" means Work that is or contains unlawful or unauthorized reproductions, substitutions, or alterations that have been knowingly mismarked, misidentified, or otherwise misrepresented to be an authentic, unmodified part from the original manufacturer, or a source with the express written authority of the original manufacturer or current design activity, including an authorized aftermarket manufacturer. Unlawful or unauthorized substitution includes used Work represented as new, or the false identification of grade, serial number, lot number, date code, or performance characteristics.

LOCKHEED MARTIN CORPORATION
CORPDOC 3
GENERAL PROVISIONS FOR SUBCONTRACTS/PURCHASE ORDERS FOR NON-COMMERCIAL
ITEMS UNDER A U.S. GOVERNMENT PRIME CONTRACT (ALL AGENCIES)

TERMS & CONDITIONS – CORPDOC 3A

LOCKHEED MARTIN CORPORATION

CORPDOC 3A

FEDERAL ACQUISITION REGULATION (FAR) AND DEFENSE FEDERAL ACQUISITION REGULATION SUPPLEMENT (DFARS)
FLOWDOWN PROVISIONS FOR FIXED PRICE SUBCONTRACTS/PURCHASE ORDERS FOR NON-COMMERCIAL ITEMS
UNDER A UNITED STATES DEPARTMENT OF DEFENSE PRIME CONTRACT

DFARS 252.246-7007 CONTRACTOR COUNTERFEIT ELECTRONIC PART DETECTION AND AVOIDANCE SYSTEM (AUG 2016) (Paragraphs (a) through (e) apply. In paragraph (c)(2) Note 3 applies. In paragraph (c)(6) Note 6 applies.)

DFARS 252.246-7008 SOURCES OF ELECTRONIC PARTS (MAY 2018) (Applies if this contract is for electronic parts or assemblies containing electronic parts, unless SELLER is the original manufacturer. Note 1 applies except in paragraph (d). Note 2 applies.)

MFC TEXT NOTE MFC-PR-003

Seller shall only purchase products to be delivered or incorporated as work to the Buyer directly from

- i. the Original Component Manufacturer (OCM)
- ii. Original Equipment Manufacturer (OEM)
- iii. through an OCM/OEM authorized suppliers (distributor)
- iv. or from suppliers that obtain such parts exclusively from the original manufacturer of the parts or their authorized dealers with no intermediaries.

Seller may use another source only if:

- i. the foregoing sources are unavailable,
- ii. Seller's inspection and other counterfeit risk mitigation processes will be employed to ensure the authenticity of the work,
- iii. the suppliers meet applicable DOD-adopted counterfeit prevention industry standards and processes (including tests) and;
- iv. Seller obtains the advance written approval of Buyer.

SUMMARY

1. ALWAYS procure from the original manufacturer/OCM regardless of commodity.
2. If that is not possible, obtain LM prior approval prior to buying from an independent distributor.
3. Know your source and where they procured their parts (traceability).
4. Certificates of Conformance ARE not trustworthy and can not be relied on for product authentication.
5. Test and inspection is required to authentic product when procuring from independent distribution. Use industry standards for minimum guidance.

USEFUL INFORMATION LINKS

- Lockheed Martin Business Area Procurement
 - <https://www.lockheedmartin.com/en-us/suppliers/business-area-procurement.html>
- Frequently Asked Questions - Counterfeits
 - <https://www.lockheedmartin.com/en-us/suppliers/faqs/counterfeits.html>
- Terms & Conditions
 - <https://www.lockheedmartin.com/en-us/suppliers/documentation.html>
- What Makes A Good Counterfeit Prevention Control Plan
 - MFC site – External Forms & Guides
 - <https://www.lockheedmartin.com/en-us/suppliers/business-area-procurement/mfc.html>

QUESTIONS



LOCKHEED MARTIN

