

Advanced Detection of Electronic Counterfeits (ADEC)

DFARS Case 2012-D055, Detection and Avoidance of Counterfeit Electronic Parts

Emerging Technology for Detecting Counterfeit Electronics

28 June 2013

Nokomis, Inc
310 5th Street
Charleroi, PA 15022
www.nokomisinc.com

Presenters: Bogdan Pathak and Gena Johnson

gjohnson@nokomisinc.com

(P) 724-483-3946, x122

(F) 724-483-3968

- The National Defense Authorization Act (NDAA) of 2012 seeks to prevent counterfeit electronics insertion into weapons systems
- *Requires the development of technologies to test parts especially those parts the DOD buys itself*

Advanced Detection of Electronic Counterfeits (ADEC)

NOKOMIS

Supporting Americas Advanced Technology



- **ADEC is an Advanced Technology that Detects Counterfeits**
- **Government Funded Development to Mitigate Counterfeit Threats Under NDAA for FY2012**

ADEC Consistent with GAO Recommendations



- As recommended by Government Accountability Office (GAO) Report GAO-10-389, “DoD Should Leverage Ongoing Initiatives in Developing Its Program to Mitigate Risk of Counterfeit Parts,”
- ***ADEC is an Ongoing DoD Initiative***
 - *ADEC is being delivered ahead of schedule*
 - *Contractual performance metrics have been met*

Proposed Subsection DFARS 231.205-71



- Section 833 of the NDAA for FY 2013 provides specific exceptions that would enable these [rework and corrective action] costs to be reimbursed if (i) a contractor has a DoD-approved operational system to detect and avoid counterfeit parts; or the suspect counterfeit parts were provided as Government-furnished property;
- *ADEC should be a requirement for a DoD-approved operational system to detect and avoid counterfeit parts*

ADEC Comparison to Existing Methods

			Type of Analysis							
			Visual	Mark Perm	Internal Visual	ADEC	Basic DC Test	Min Func. Test	Full Spec. Extended	Test & Qual
Counterfeit Types	non-functional devices	No die	Possible	Possible	Yes	Yes	Yes	Yes	Yes	Yes
		Wrong-die	Possible	Possible	Likely	Yes	Yes	Yes	Yes	Yes
		Board pull	Possible	No	No	Yes	Possible	Likely	Yes	Yes
	Functional Devices	Failed real part	No	No	No	Likely	Possible	Likely	Yes	Yes
		Speed up-marking	Possible	Possible	No	Yes	No	Possible	Yes	Yes
		Spec up-marking	Possible	Possible	No	Yes	No	Possible	Yes	Yes
		Temp up-range	Possible	Possible	No	Likely	No	No	Yes	Yes
		Lesser part / knock-off	Possible	Possible	Possible	Yes	Possible	Possible	Likely	Yes
		high-end counterfeit	No	No	Possible	Yes	No	No	Possible	Possible

Sophistication

Expense

*Modified from "Basic Detection Methods for Counterfeit Components," Integra, March 2010

Conclusion

- New technologies needed to meet NDAA and DFARS requirements to detect and avoid counterfeit parts.
- ADEC is recently emerged government funded technology based solution for the “Detection and Avoidance of Counterfeit Electronic Parts”
- ADEC is critical to functionally meeting the proposed DFARS regulations.