Honeywell is building a smarter, safer, and more sustainable world.

THAT'S THE POWER OF **CONNECTED**. THAT'S THE POWER OF **HONEYWELL**.

Connected Aircraft | Connected Automobile | Connected Home | Connected Building Connected Plant | Connected Supply Chain | Connected Worker







Welcome

Parts Standardization & Management Committee Team Members to Honeywell's D&S Albuquerque Site

Main Conference Room: CR 311 & CR312

Side Conference Rooms: CR 302 and 323



Safety Emergency Situations

The Security Team is the Albuquerque First Response Team

In an Emergency – Dial 828-5555

- This is Security's emergency response hot line
- Know your room number, column location, or common name of area

DO NOT CALL 911 - DO NOT CALL HSE - CALL X5555

- Security will contact outside emergency response agencies and assist them upon arrival
- Security will contact appropriate HSE&F team members

See WIS8301061 - Section 711 Emergency Response



Evacuation Plans

Be Prepared for an Evacuation:

- Know where to find the nearest exit Main door You originally entered
- Know an alternate exit route Outside the west entrance
- Emergency Exit Doors are Painted Red

The Emergency Evacuation Signal begins with a Tone:

- The tone will be followed by a voice command over the public address system
- Stop work and calmly leave the building immediately
- Move away from the building and gather in one of the eight designated evacuation assembly areas
- Remain at your designated gathering area until notified you may return to the building or until the all-clear signal is heard. The all clear signal is a steady tone and/or voice announcement

See WIS8301061 - Section 711 Emergency Response



Albuquerque Site Overview

- Aerospace-Albuquerque (200116) Locations
 - Albuquerque (ABQ)
 - Production, Engineering & Repair
 - 521,974 sq. ft. facility on 64 acres
 - 822 employees & contractors
 - Phoenix Service Center (PSC)
 - Embedded Repair & Overhaul Shop
 - 24,140 sq. ft. at Deer Valley Site
 - 36 employees
 - Morristown (MTO)
 - Legacy Teterboro Engineering
 - Office space at Morristown campus
 - 52 employees

- Defense & Space (D&S) SBU
- AEOC/AESC Product Centers
- Military Integrated Avionics
- On-site DCMA, DACO and DCAA



Site Certifications

- AS9100C & ISO 9001:2000
- CMMI Level III certified for Surface Applications
 - ITAR Compliant
- OSHA's Voluntary Protection Program (VPP) "STAR"
 - HOS Bronze



The Warfighters' Trusted Source



Our Mission: One team committed to meeting the needs of the Warfighter... where every second counts

We execute using the Honeywell Operating System (HOS) to:

- Collaborate cross-functionally and with our customer to meet commitments;
- Design, manufacture, and deliver high-quality products and services;
- Foster open communication, active participation, and fact-based decision making; and
- Drive continuous process improvement to build and sustain performance.

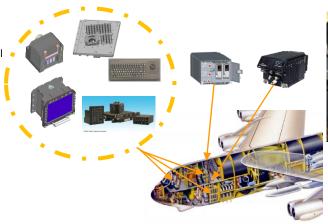




Albuquerque Production Overview

Defense Electronic OEM Products

- Cockpit Displays
- Flight Controls
- Display Processors
- Flight Director Panel
- Mission Data Processors Keyboards Digital Map systems
 - T-Hawk UAV
- **Spare Components**
 - "Make" Spares
 - "Buy" Spares
- Repair and Overhaul
 - Embedded in-house repair for many products
 - R&O shared with Phx Product Support Center







Displays





V-22





F-18 E/F 5x5 **AMPD**



F-18C/D & AV-8B **AMPCD**



F-15C/D/E **MPCD**

Mission Data Processors



F16 iPDG



F-15E/K ADCP Singapore



F15 ADCP II



T-45 MDP

Digital Map Systems



F-15E Replacement DMS





F-16 Digital Embedded Digital Map





Albuquerque Production Overview

- 68 Diverse End Item Products
 - 48 Unique Test Platforms
 - All Make to order
 - Customer Demand varies from 1 per day to 1 per year
 - Average lead times of 12 months

Factory Capabilities

- End Item assembly and test
 - Extensive Functional and Environmental Test Capabilities
- Surface-Mount circuit card assembly
- Plated Thru-Hole circuit card assembly
- Manufacture of OE spares for legacy "sun-setted" products
- LCD (Liquid Crystal Display) ruggedization for military applications
- T-Hawk Unmanned Aerial Vehicle (UAV) build, flight ops, training

In-house Customer Oversight

- Defense Contracting Management Agency (DCMA)
- Defense Contracting Audit Agency (DCAA)
- Government Flight Representative (GFR) for T-Hawk Products
- Boeing
- Lockheed Martin





Honeywell Overview

Aerospace and Albuquerque

Presenter: Honeywell



Aerospace Profile



Headquartered in Phoenix, Arizona, USA and Rolle, Switzerland

2

35,000 Employees ~80 Global manufacturing and service sites





Innovates and integrates thousands of products and services to advance and easily deliver safe, efficient, productive and comfortable experiences worldwide.



An airliner with Honeywell Wheels & Brakes lands somewhere in the world every 5 seconds.

Aerospace Products & Services Span Platforms



Fighter/Attack/
Trainer Aircraft

30
PLATFORMS



Human Space 10+ PLATFORMS

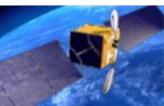


Commercial & Business A/C 110 + PLATFORMS



Aircraft

3
PLATFORMS



DoD, Civil, and Commercial Space

30 +
PLATFORMS



Military
Helicopters
20 +
PLATFORMS



Mobility/Tanker
Aircraft
40 +
PLATFORMS



Missiles and Munitions 80 +



Naval
Platforms
10+
PLATFORMS



Special Mission/ UAV Aircraft 20 + PLATFORMS



International 20 + PLATFORMS



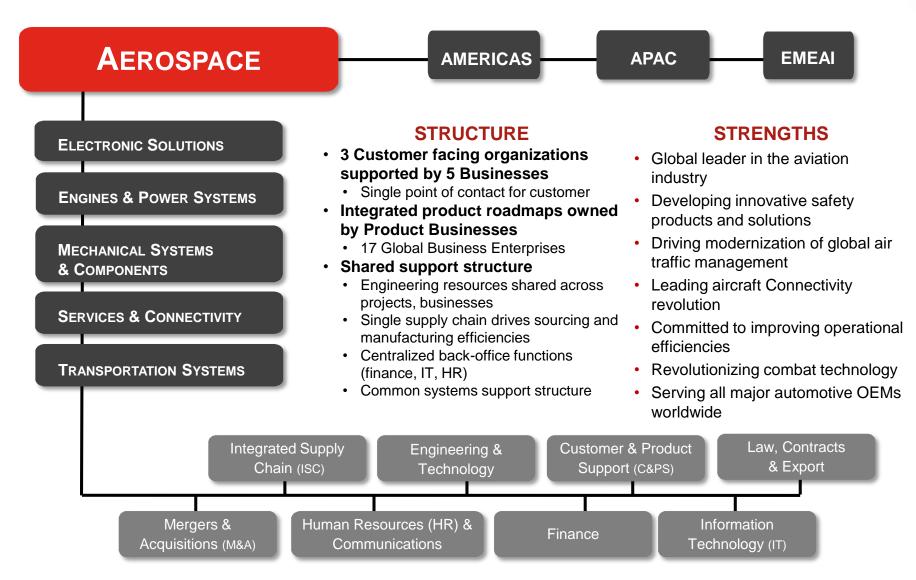
Commercial Helicopters
20 +
PLATFORMS



Surface/ Soldier Vehicles

15 +
PLATFORMS

Business Overview





Electronic Solutions: Major Product Offering / Areas

- Bendix King
 - General Aviation avionics
- Cockpit Systems
 - Primus Epic Avionics and software upgrades
 - Legacy Primus 1000/2000/SPZ and AIMS/VIA avionics
 - Flight Management and Flight Control Systems
- Space Systems
 - Satellite and Space Products
- Navigation and Sensors
 - Inertial Measurement Units/Systems/Air Data
- Safety Systems
 - Radio, Radar, Safety products
 - Lighting portfolio



Bendix King



Cockpit Systems



Space



Navigation & Sensors



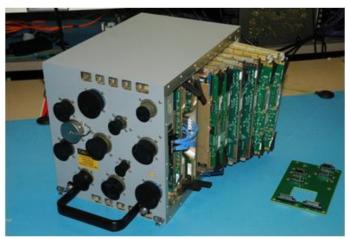
Homovan

F-15 ADCP II Program Summary

Boeing

- Saudi Production
 - Currently Delivering 13/month
- Recent development work
 - USAF
 - Qatar
 - USAF EMD support
- Future Opportunities
 - USAF Production thru 2023
 - Other Boeing FMS potential





http://www.boeing.com/features/2016/08/f15e-fastest-computer-08-16.page



F-16 iPDG and DFLCC Production

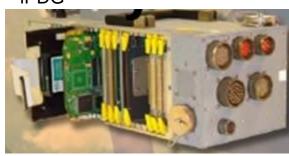
Lockheed Martin

 F-16 Improved Programmable Display Generator (iPDG)

- F-16 Digital Flight Control Computer (DFLCC)
 - Recent retrofit work:
 - Thunderbird
 - Singapore
 - Lockheed Martin



iPDG



DFLCC





Sample of Albuquerque Programs & Customers

- AH-64 Apache (ARMY)
- B-52, B-1B and B-2
- C-5 USAF
- C-130J and P-3 Platforms (LM)
- C-17 (Boeing)
- CH-47 (RNLAF)
- DARPA
- DCMA
- F15 (Boeing)
- F18 (Navy)
- T45 (L-3)
- V22 (Boeing)
- International Customers
- A Varity of Depot Partnering Programs



C-5



C-130



AH-64E Apache



C-17













AERO & ABQ PARTS MANAGEMENT



ALBUQUERQUE, MORRIS PLAINS, REDMOND and TORRANCE Component Engineers

Name	Programs and Commodity Speciality	Phone
	CE Technical Manager for Albuquerque, with virtual team members in Morris Plains, Redmond and Torrance	
	ABQ Programs: F18 AMPDs and AMC Kits, F15 ADCP I(non-depot) & DMSR, and T-45 MDP ABQ Commodities: None, transferring Processors to Oracio Garcia	(505) 828- <mark>568</mark> 7
	Aerospace Parts Specialist "Team Leader": Microprocessors (General Purpose Processors, Microcontrollers, Digital Signal Processors and Graphic Processing Units)	
	GIDEP Representative, PCNs & CEARs, CCA Outsourcing Support, AMPL technical coordination Aerospace Corporate Passives Team member	(505) 828- <mark>662</mark>
	Programs: B-1B FIDL & AVMEC; F-15 Test Station, C-130 AMP/AFCP, B-2 CIDS, Blackhawk/Seahawk, FCC, Morristown CM Transitions	
	Aerospace Parts Specialist "Team Leader": Passives (Capacitors, EMI/RFI Suppression Devices, Resistors, Thermistors, & Varistors) Magnetics (Inductors, Transformers, Cores)	(973) 455- <mark>313</mark> 9
	ABQ Programs: C-130J, C-130 RNZAF, C-130 BAF, C-17, B-2, C-27, Obsolescence Management Service (F15 ADP/ADCP I(USAF)/DMS Depot Partnership) ABQ BOM Analysis Guideline and ABQ Commodities: Magnetic, Analog/Linear, ASIC, Hybrids and Relays Commodities	(505) 828-716
	Aerospace Corporate Magnetic, Analog/Linear & Interface Team member	
	ABQ Programs: F15 ADCP II, I/RD and Counterfeit Parts Prevention ABQ Commodities: Microprocessors, Microcontrollers, Digital Signal Processors and Graphic Processing Units and backup for Semiconductors Aerospace Corporate Processors Team Member	(505) 828- <mark>606</mark> 8
	Programs: ABQ V-22, CH-47 RNLAF, Misc Clearwater programs ABQ Commodity: Passives, Memories and FPGAs Back up for: F16 Legacy(out of production)	(505) 828- <mark>544</mark> 5
	Aerospace Corporate Passive Team member & Memory-FPGA Team member	
	ABQ Programs: Supporting all programs with BOM Analysis, EBOM and requested activities Technical Coordinator: OMT focal, BOM Analysis & AMPL ABQ Commodities: Oscillator-Crystal and Connectors	(425) 885- <mark>8041</mark>
	Programs: ABQ B52 Connect, Third Party Design activities, NG HUMs, legacy HUMs and Poway-Olathe program support Aerospace Corporate Digital Logic and Interfaces Team Member ABQ Commodities: Diodes and Transistors	(310)-512- 5796
	ABQ Programs: F16 iPDG, DLFCC & EDFLCC, MAV-UAV, CH-47 RNLAF, F-2, T-50, and F-16 Production (ECPDG, MPDG, CCMFD, DFLCC, EDFLCC), F-16 Legacy (out of production) Back up for: V22, B-1B AVMEC & FIDL, Test Equipment Part Drawings ABQ Commodities: Connectors and Mechanical (fastners-misc) and backup for Oscillators-Crystals Aerospace Corporate Connector Team member	(505) 828-573
	Depot Partnering Program Leader (Repair Overhaul/Depot Partnership Proposals) ABQ Programs: C5, C5 AIU , C5 VIA, C5 CPMII, CH-47 RNLAF, C130 DMS Multi Year, C27J, AH64, ADCP II(Back up) and CPRT Core Team	(505) 222 533
	ABQ Commodity: ASICs	(505) 828- 649



Albuquerque Parts Management Plans

Parts Management

- Most Albuquerque Programs have unique parts management plans (PMP)
- Depending on the time of the plan/program, recent plans, i.e. within the last 6-7 years, have incorporated the processes noted in the Honeywell Aerospace Parts Management Plan, EB53000249-102, typically noted as ECMP(electronics components management plan)
- The program PMP processes, obsolescence items, Pb-Free requirements and SDRL items are tailored to the program specific needs.



EB53000249-102: Honeywell Aerospace Parts Management Plan

Within the -102 we address the following:

- Technical Requirements
 - Planning and Execution of EEE Project Parts Plan
 - Program EEE Parts Requirements
 - Aerospace Standard Parts
 - Part Selection and Standardization
 - New Part Requests
 - Part Assessment
 - Part Rating
 - Bill of Material Analysis and Scorecard
 - Risk Mitigation Log
 - APPROVED MANUFACTURER'S PARTS LIST (AMPL)
- Component Application
 - Planning and Execution of EEE Project Parts Plan
 - Program



EB53000249-102: Honeywell Aerospace Parts Management Plan

Within the -102 we address the following:

- Component Application, continued
 - Electromagnetic Compatibility
 - De-rating and Stress Analysis
 - Thermal Analysis
 - Mechanical Analysis
 - Testing, Testability and Maintainability
 - Avionics Radiation Environment
- Component Qualification
 - Component Manufacturer Quality Management
 - Component Manufacturer Process Management Approval
 - Demonstration of Component Qualification
 - Qualification of a Component from a Supplier that is Not Qualified
 - Qualification by Similarity



EB53000249-102: Honeywell Aerospace Parts Management Plan

Within the -102 we address the following:

- Continuous Component Quality Assurance
 - General Quality Assurance Requirements
 - On-going Component Quality Assurance
 - In-house Continuous Monitoring
- Monitoring of Product Change Notices, Errrata, End of life Notices and Internal Alerts
- Component Dependability
- Component Obsolescence
 - Proactive Measures for Component Obsolescence
 - Component Obsolescence Awareness
 - Reaction to Component Obsolescence
 - Parts Obsolescence and Pb-Free lead finishes
- Component Compatibility with the Equipment Manufacturing Process
- Component Data
- Configuration Management
- Honeywell Part numbers and Documentation

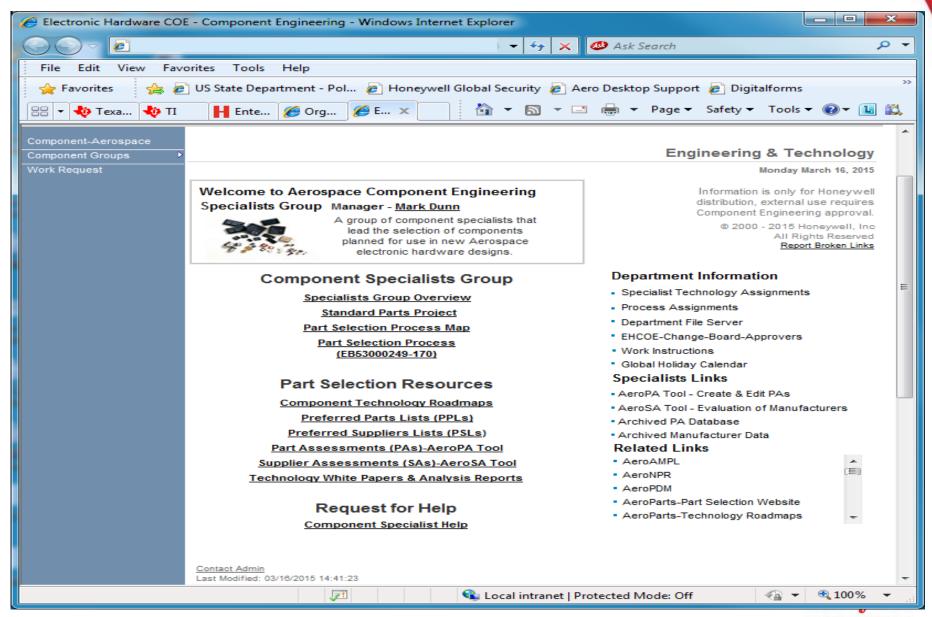


- EB53000249-102: Honeywell Aerospace Parts Management Plan
 Within the -102 we address the following:
 - Equipment Change Documentation
 - Customer Notifications and Approvals

The parts management plan encompasses more than just Component Engineering, it includes Reliability, Quality, Design/Product Eng., Materials Eng., Mechanical Eng., Radiation, EMI/EMC, Manufacturing, Subcontractors and Procurement.



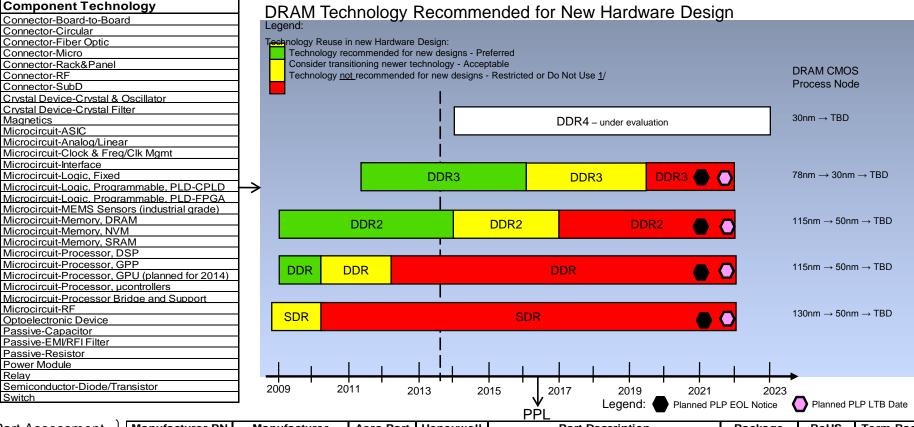
Aero Parts Selection Website - Hub for Part Selection



Aero Standard Parts – Roadmaps, PSLs & PPLs

Component Technologies (Technology Roadmaps, PSLs & PPLs)

Roadmap Output: Targeted technologies, suppliers and product families (Goal: Achieve high alignment with Honeywell product roadmaps, supplier roadmaps and CM suppliers)



Part Assessment

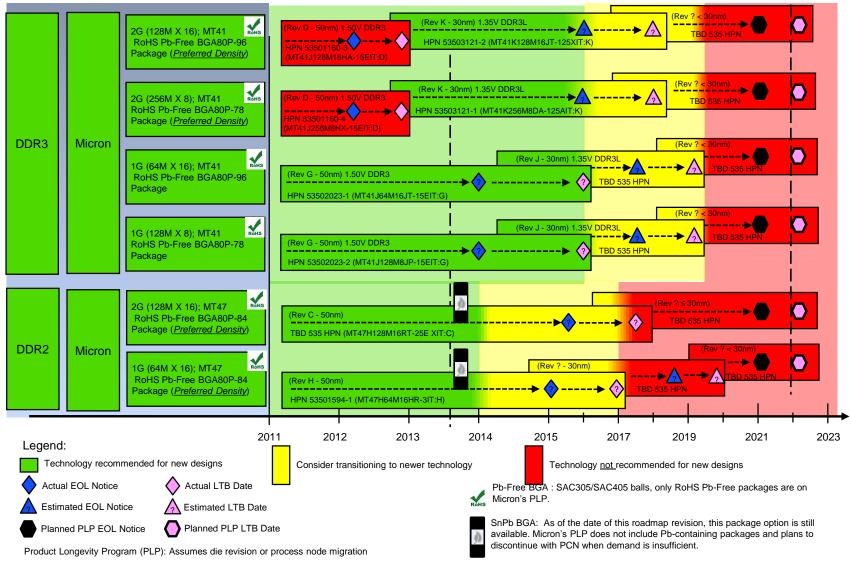
- 1. Manufacturer's rating
- 2. Obsolescence (YTEOL)
- 3. Availability
- 4. PCN/Alert Review
- Number of Sources
- 6. Temperature Range
- 7. Technology Review
- 8. Construction Review 9 Qualification review

٥.	Qualification review
10.	Radiation Sensitivity

	Manufacturer PN	Manufacturer	Aero Part	Honeywell	Part Description	Package	RoHS	Term Base
		Name	Rating	PN		Name		Material
	MT41J128M8JP- 15EIT:G	MICRON TECHNOLOGY INC	3-Restricted	53502023-2	MCKT, MEMORY, SDRAM, DDR3, 1G, 128M X 8, 1.5V, DIE REVISION G, 1.5NS AT CL=9	BGA80P-78	Is RoHS Compliant	Ball- SnAg3.0Cu0.5 (SAC305)
ļ	M T 41J 64 M 16JT - 15 E I T : G	MICRON TECHNOLOGY INC	3-Restricted	53502023-1	MCKT, MEMORY, SDRAM, DDR3, 1G, 64M X 16, 1.5V, DIE REVISION G, 1.5NS AT CL=9	BGA80P-96	Is RoHS Compliant	Ball- SnAg3.0Cu0.5 (SAC305)
	MT41J128M16HA- 15EIT:D	MICRON TECHNOLOGY INC	3-Restricted	53501160-3	MCKT, MEMORY, SDRAM, DDR3, 2G, 128M X 16, 1.5V, DIE REVISION D, 1.5NS AT CL=9	BGA80P-96	Is RoHS Compliant	Ball- SnAg3.0Cu0.5 (SAC305)
ley	M T41J256M 8HX- 15EIT:D	MICRON TECHNOLOGY INC	3-Restricted	53501160-4	MCKT, MEMORY, SDRAM, DDR3, 2G, 256M X 8, 1.5V, DIE REVISION D, 1.5NS AT CL=9	BGA80P-78	Is RoHS Compliant	Ball- SnAg3.0Cu0.5 (SAC305)

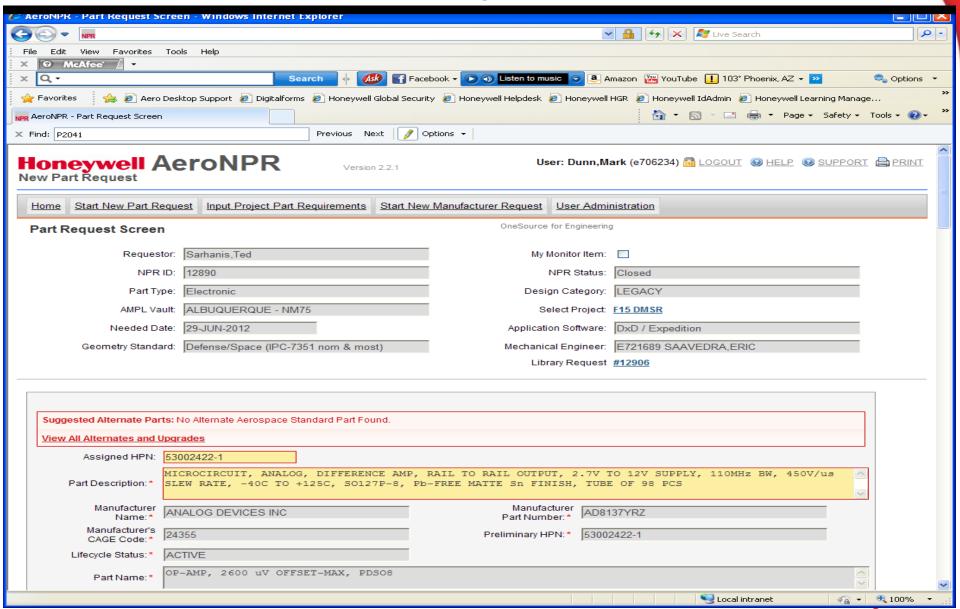
THE POWER OF CONNECTED

Aero Standard Parts - Roadmap Example - SDRAM (DDR3 & DDR2)





AeroNPR Tool - Tool for Processing New Part Requests

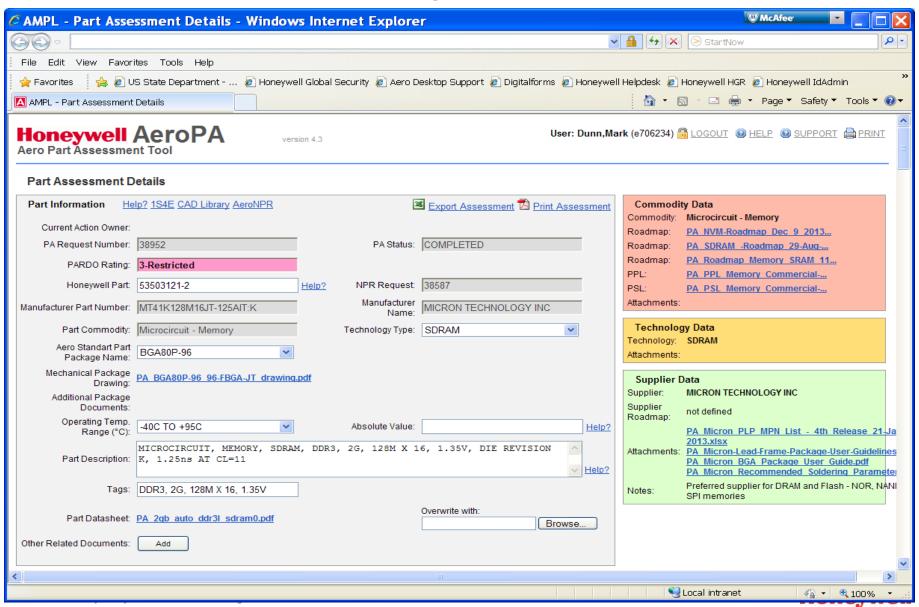


Aero Standard Parts – Proactive Obsolescence

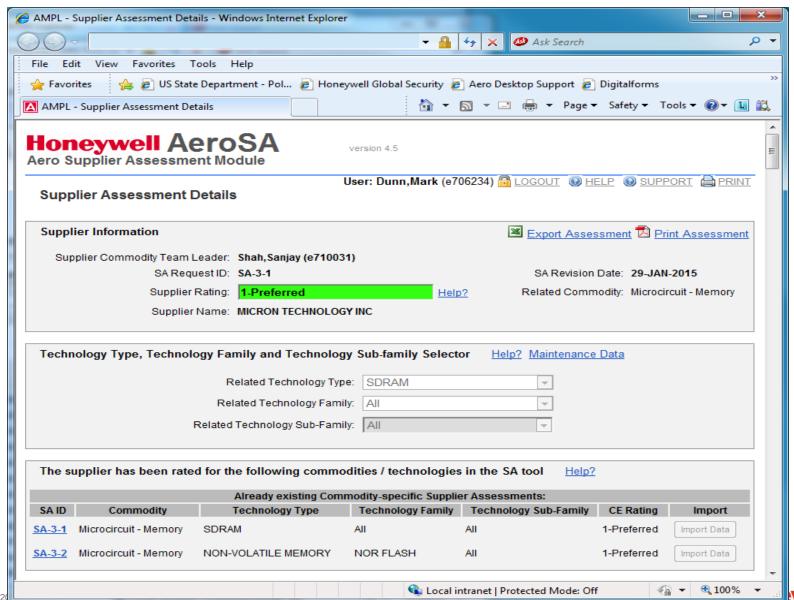
Aero Part Assessment (PA) Tool - Element 2 Enhanced for OCC

AMPL - Part Assessment	Details - Windows	s Internet Exp	olorer	McAfee -	
		~ ♣ ← ₂	StartNow		9-
File Edit View Favorites Too	s Help				
🚖 Favorites 🛮 🚕 💋 US State De	epartment 휻 Honeywell	l Global Security 🧧	Aero Desktop Support	Digitalforms	>>
AMPL - Part Assessment Details		<u> </u>	- 🖺 - 📑 -	Page ▼ Safety ▼	Tools ▼ 🕡 ▼
2. Part Obsolescence Status (YT	EOL) and OCC Obsolescen	ce Data Help? 19	S4E PCNAlert PartMin	ner AeroPCN	
YTEOL Resources: Supplier	YTEOL: 8 or more	~			
Aero Obsolescence Critical Componer	nt (OCC)? Yes	~			
OCC Obsolescence Data:					
Current Die Revision: K	rrent Process Node: 30nm				
Forecasted EOL Notification Date for C	urrent Die Revision: 2018				
Forecasted Next Die Revision Release	Date: 2018				
Forecasted Next Die Revision: TBD	Forecasted Process Noo	de: TBD			
Covered by Product Longevity Program	(PLP)? Yes	~			
PLP End Date: 2021					
Forecasted Product Family EOL Notific	ation Date: 2021				
MT41K128M16JT-125AIT:K is Longevity Program (PLP) li least 8 years of life; the		uld have at		1-Pref	erred
> 4 years	1-Preferred				
< 4 years	O 3-Restricted O 4-Do No	ot Use			
Discontinued or LTB	O 5-Obsolete				
	6-Not Rated				
Related Documents:	Add				
			🥞 Local intranet	€ - €	100%

AeroPA Tool – Tool for Assessing Parts



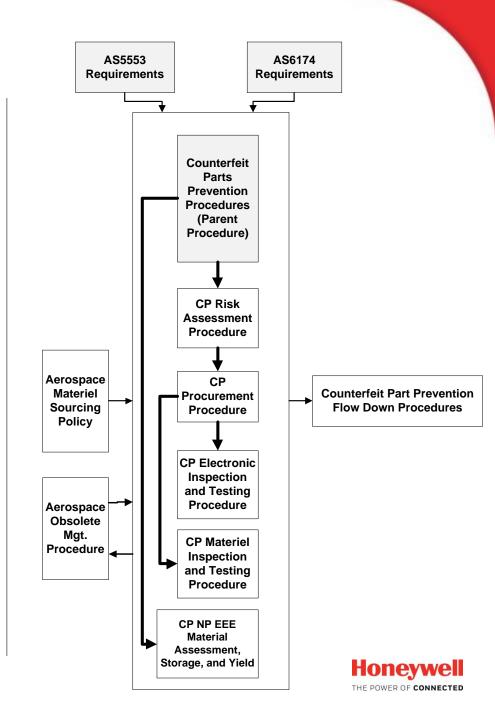
AeroSA Tool – Tool for Assessing Suppliers



CPP Process

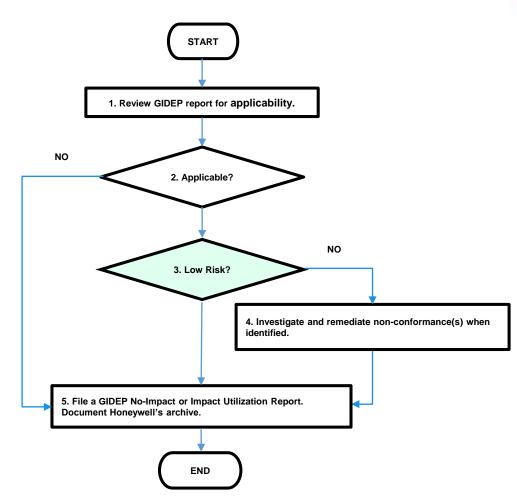
The risk assessment process (shown to the right) standardizes practices to:

- Develop and deploy a risk assessment plan when parts are not available from authorized sources, or when a risk is identified per this procedure.
- Determine appropriate testing processes determined in the commodity statement of work regarding the suspect product.
- Document and follow risk mitigation actions located in CAWS.



GIDEP Process

- 1) GIDEP representative reviews the report.
- Does it apply to Honeywell Product, if so it is distributed to all parties involved.
- 3) Low risk: Production may already be aware of the issue, Process changes may have solved the problem, or the issue may not appear due to processes.
- 4) A deep dive is performed to identify the issue and a plan created to mediate it.
- 5) File the report with DCMA, GIDEP, and internally.





Q&A?

