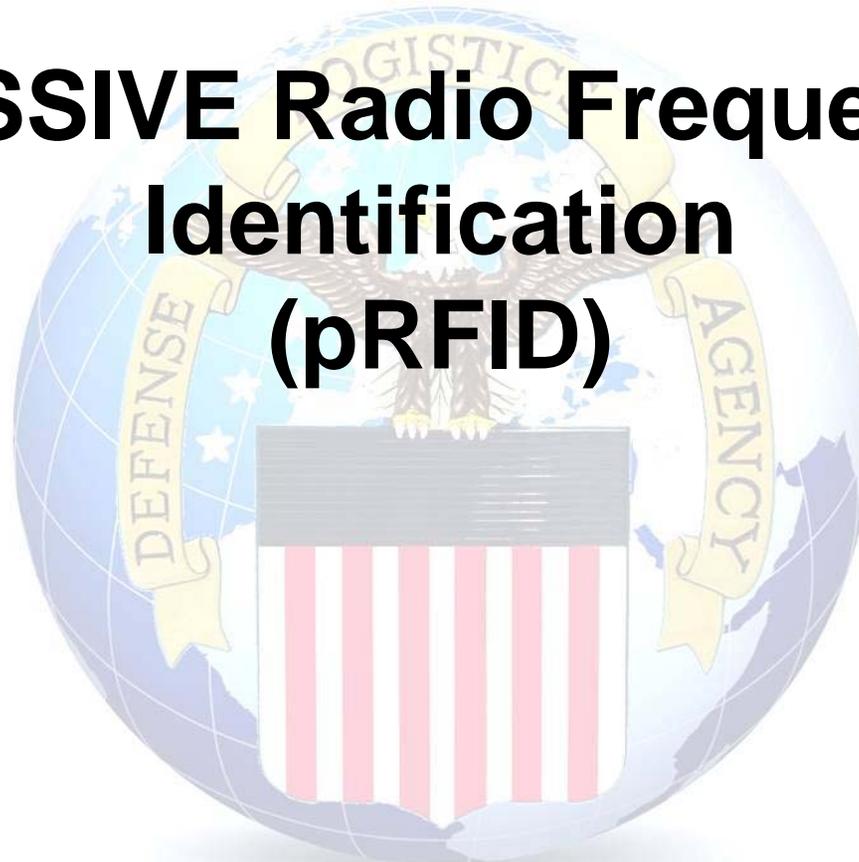


DEFENSE LOGISTICS AGENCY

AMERICA'S COMBAT LOGISTICS SUPPORT AGENCY

DLA LAND AND MARITIME

PASSIVE Radio Frequency Identification (pRFID)





Agenda



- **When is pRFID Required**
- **RFID Technology**
- **Tag Encoding**
- **WAWF – Advance Ship Notice**
- **Compliance**



Clause Location



- **Solicitations and Awards as Required**
 - Manual awards - Section D
 - Automated Awards also require pRFID
 - Clauses are include by reference
 - Automated Master Solicitation – Section D
 - “V” in the 9th position – SPM7M112V1234 –
 - Inclusion in the solicitation or award triggers the requirement



PASSIVE RADIO FREQUENCY IDENTIFICATION (SEP 2011)



- Department of Defense FAR Supplement (DFARS) 252.211-7006 Passive Radio Frequency Identification.
- As prescribed in 211.275-3, use the following clause:



Prescription for Use



- Department of Defense FAR Supplement
- Prescription for Use
 - DFARS 211.275-3 Contract clause.
Use the clause at [252.211-7006](#), Passive Radio Frequency Identification, in solicitations and contracts that will require shipment of items meeting the criteria at [211.275-2](#) , and complete paragraph (b)(1)(ii) of the clause as appropriate.



1st Criteria



- Inclusion of the clause in solicitations and/or awards triggers the requirement
- What is required
 - Radio frequency identification (RFID)
 - In the form of a passive RFID tag
 - Cases/Exterior containers and Palletized unit loads
 - Any additional consolidation level(s) deemed necessary by the requiring activity



2nd Criteria



– for shipments of items that—

- Are in any of the following classes of supply (as listed in the clause)
 - Subclass of Class I –
 - Class II –
 - Class III P –
 - Class IV –
 - Class VI –
 - Subclass of Class VIII –
 - Class IX –

- And



3rd Criteria



- Will be shipped to
 - one of the locations listed at <http://www.acq.osd.mil/log/rfid/> or to—
 - A location outside the contiguous United States when the shipment has been assigned Transportation Priority 1* ; or
 - Any additional location(s) deemed necessary by the requiring activity.

*Ship to address will include: PROJ **TP 1**



Excluded from pRFID



- Exclusions are in paragraph (b) of the clause
 - Shipments of bulk commodities
 - Shipments to locations other than Defense Distribution Depots when the contract includes the clause at FAR 52.213-1, Fast Payment Procedures



Classes of Supply

Passive RFID is not required for all shipments.

- **Required:**

- Subclass of Class I Packaged operational rations.
- Class II
- Class III
- Class IV
- Class VI
- Subclass of Class VIII Medical materials (excluding pharmaceuticals, biologicals, and reagents – suppliers should limit the mixing of excluded and non-excluded materials)
- Class IX

- **NOT** required:

- Subclass of Class I
- Class V
- Class VII
- Subclass of VIII
- Class X



Supply Chain Integration



- **Ship to Locations can be accessed through the following website**
 - http://www.acq.osd.mil/log/sci/RFID_ship_to_locations.html
- **The following Website has links to:**
 - <http://www.acq.osd.mil/log/sci/ait.html>
 - **DOD Suppliers Passive RFID Guide**
 - **MIL-STD-129P Military Marking for Shipment and Storage**



Ship-To Locations



- Home
- About SCI
- SCI Leadership
- SCI Organization
- SCI Programs
- Awards
- SCI Policy Vault
- Contact Us

Last Updated:
March 7, 2013

Passive RFID DFARS Clause 252.211-7006 Required to Ship-To Locations

DODACC	Location Name	Required as of
SV0400	Defense Distribution Depot, Richmond, VA	Jul-09
SV3100	Defense Distribution Depot, Susquehanna, PA	Jul-09
SV3113	Defense Distribution Depot, Cherry Point, NC	Jul-09
SV3114	Defense Distribution Depot, Tobyhanna, PA	Jul-09
SV3117	Defense Distribution Depot, Norfolk, VA	Jul-09
SV3119	Defense Distribution Depot, Warner Robins AFB, GA	Jul-09
SV3120	Defense Distribution Depot, Anniston, AL	Jul-09
SV3121	Defense Distribution Depot, Albany, GA	Jul-09
SV3122	Defense Distribution Depot, Jacksonville, FL	Jul-09
SV3144	Defense Distribution Depot, Pearl Harbor, HI	Jul-09
SV3147	Defense Distribution Depot, Santa Rita, Guam	Jul-09
SV3210	Defense Distribution Depot, Hill, UT	Jul-09
SV3211	Defense Distribution Depot, Tinker AFB, OK	Jul-09
SV3215	Defense Distribution Depot, Barstow, CA	Jul-09
SV3216	Defense Distribution Depot, Puget Sound, WA	Jul-09
SV3218	Defense Distribution Depot, San Diego, CA	Jul-09



Supply Chain Integration



Automatic Information Technology (AIT)

The Office of the Under Secretary of Defense (Supply Chain Integration) is responsible for leading the implementation of a modern and integrated materiel supply chain process that fully supports military operational requirements. The end goal of this initiative is to promote customer confidence in the DoD logistics process by building a responsive, cost-effective capacity to provide required products and services to the Warfighter.

RFID technology addresses key DoD challenges of lacking asset visibility and transportation process inefficiency between nodes in the DoD supply chain. Alone and when combined with other AIT capabilities, RFID will become a key technology enabler for the DoD logistics business transformation by facilitating accurate, hands-free data capture within an integrated end-to-end supply chain enterprise.

RFID Reference Documents:

- [MIL-STD-129P: Military Marking for Shipment and Storage](#)
- [Passive RFID DFARS Clause 252.211-7006 – List of Required “Ship To” Locations](#)
- [DoD Suppliers’ Passive RFID Information Guide](#)

Last Updated:
March 7, 2013



The Tag and Process



- **The passive RFID Tag must be**
 - Readable, undamaged, placed in the correct location on the shipment
 - Encoded with Globally Unique Data
- **Contractor must create**
 - Advance Shipping Notice (ASN) via WAWF
 - In the WAWF Receiving Report
 - Create the “Pack” Tab
 - Enter Passive RFID Tag Information
- **WAWF online training <https://wawf.eb.mil>**



Materiel and Ship To



Required for shipments of items that -

-are in any of the following classes of supply-
Subclass of I, II, III, IV, VI, Subclass of VIII and IX

And one of the following

Shipped to a location listed at
<http://www.acq.osd.mil/log/rfid/>

OR

OCONUS Transportation Priority 1 –shipments

OR

Location(s) deemed necessary by the requiring
activity – clause fill-in



Passive RFID at Work





RFID Technology

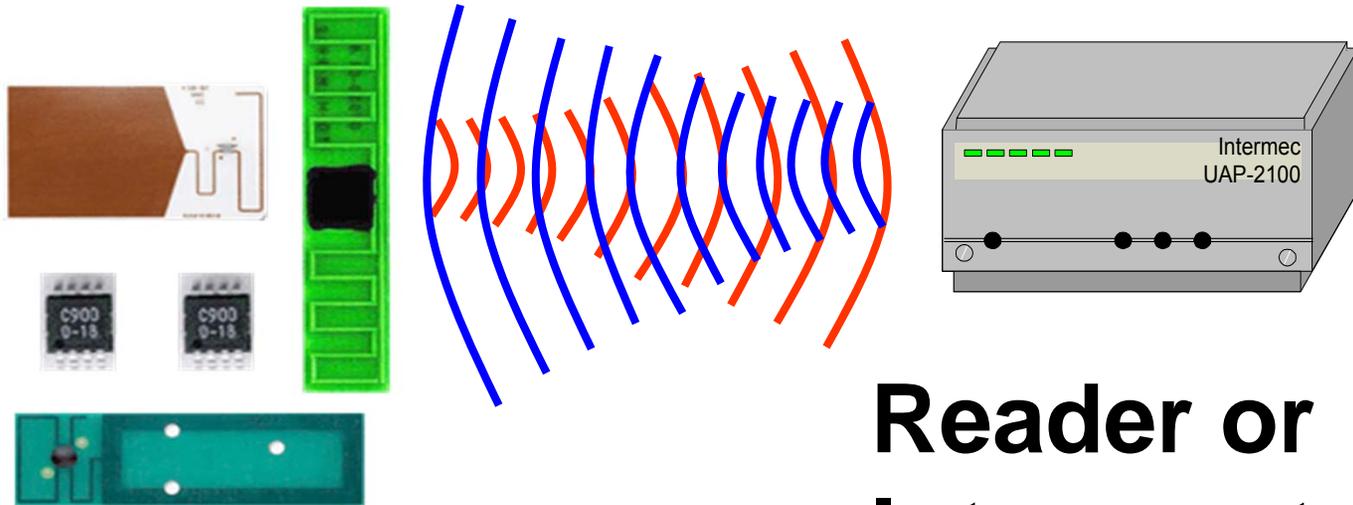


- RFID is
 - Fast
 - Reliable
- RFID does not require
 - Line of Sight
 - Physical Contact with the Tagged Item



Understanding the Technology

RFID: The Fundamentals



**Tags or
Transponders**

**Reader or
Interrogators**



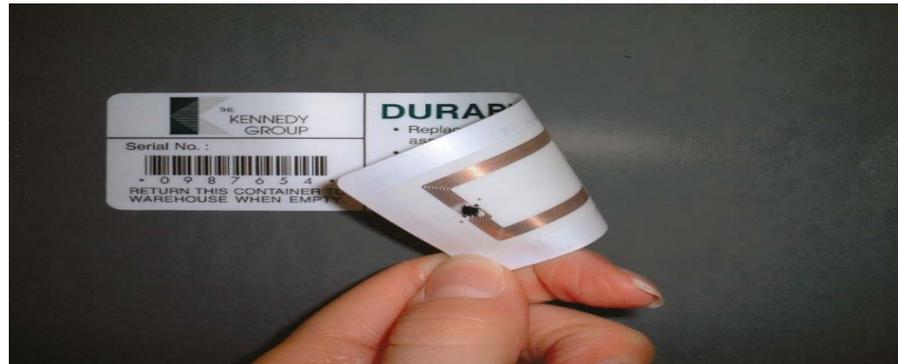
Active RFID



- **Self-contained power source**
- **Long read range – 100 feet or more**
- **Send and receive signals from readers**
- **Currently in-use by DOD**
- **Cost between \$75 - \$100**
- **High price precludes widespread adoption**



Passive RFID



- **Smaller Than Active Tags**
- **Short Read Range**
- **Relies on Signal Emitted from a Reader**
- **No Self-Contained Power Source**
- **Costs are Decreasing as Technology Matures**
- **Low Cost Allows For Widespread Deployment and Use**



Basic Components



- RF transponders (Tags)
 - Chip
 - Antenna
- Interrogators (Readers)
 - Reader
 - Antenna(s)
- Host computers
 - Hardware
 - Software





Potential Benefits



- **Improves**
 - Inventory Management
 - Shipment Visibility
 - Asset Tracking
 - Labor Productivity
 - Automated Receipt and Acceptance
 - Business Processes Within the DoD



Encoding the Tag



- Chip within the Passive RFID tag is encoded using
- Electronic Product Code (EPC)
 - An identification scheme
 - Universally known
 - Uniquely identifies an individual object
 - Via RFID tags and other means
 - Standardized EPC data consists of an EPC (or EPC identifier)





DoD Bit Format



Fields

96 bits total user memory on tag

Header	Filter	Government Managed Identifier	Serial number
8 bits	4 bits	48 bits	36 bits

- Header - Specifies Tag Data Encoding
 - Identity Type - **DoD 96-bit Tag**
 - “2F” encoded
 - Binary - 00101111

Hexadecimal Header	8-Bit Binary Header	Identifiers
2F	00101111	DoD-96
30	00110000	SGTIN-96
31	00110001	SSCC-96
33	00110011	GRAI-96
34	00110100	GIAI-96
35	00110101	GID-96
36	00110110	SGTIN-198
37	00110111	GRAI-170
38	00111000	GIAI-202



DoD Bit Format



96 bits total user memory on tag			
Header	Filter	Government Managed Identifier	Serial number
8 bits	4 bits	48 bits	36 bits

- **Filter**

- Identifies a pallet, case, or UID item associated with tag

- 0000 = pallet (palletized unit load)
 - 0001 = case (shipping and exterior container)
 - 0010 = unit pack
 - all other combinations = reserved for future use



DoD Bit Format



96 bits total user memory on tag			
Header	Filter	Government Managed Identifier	Serial number
8 bits	4 bits	48 bits	36 bits

- **Government Managed Identifier - CAGE Code**
 - Identifies the Supplier
 - Insures Uniqueness of Serial Number Across All Suppliers
- **Represented in ASCII format**
- **FOR CAGE CODES AN ASCII SPACE CHARACTER MUST BE PLACED IN FRONT OF THE CAGE TO MAKE A TOTAL OF 6 ASCII CHARACTERS**



DoD Bit Format



96 bits total user memory on tag			
Header	Filter	Government Managed Identifier	Serial number
8 bits	4 bits	48 bits	36 bits

- Serial Number uniquely Identifies up to 2^{36} = 68,719,476,736 tagged items represented in Binary Format
- After Converted to Binary Format MUST Left-pad with zeros to a total of 36 bits



Advance Shipment Notice



- **Contractor Shall Use**
- **Wide Area Workflow (WAWF)**
 - **DFARS [252.232-7003](#)**
 - **Electronic Submission of Payment Requests**
<https://wawf.eb.mil/>.
 - **Receiving Report/Invoice or Combo**
 - **Create “Pack” Tab in WAWF**
 - Enter Passive RFID Tag Information
 - Electronically Submit Advance Shipment Notice(s) (ASN)



WAWF



Wide Area Workflow 5.4.0
User ID : EDIP1139971160
[Printer Friendly](#)

[User](#) | [Government](#) | [Documentation](#) | [Lookup](#) | [Logout](#)

Inspector - Receiving Report

Header
Line Item
UID
ACRNs
Addresses
Misc. Info
Preview Document

Contract Number Type		Contract Number	Delivery Order	Reference Procurement Identifier	Issue Date	Inspection Point	Acceptance Point	
DoD Contract (FAR)		W15P7T07DA214	XP03		2012/04/12	S	S	
Shipment Number		Shipment Date	Final Shipment		Estimated Delivery Date	Supplies	Service	
CRC0134		2013/05/21	N			@	o	
Invoice Number			Invoice Date		Final Invoice			
A4240675			2013/05/21		N			
<input type="checkbox"/> Submit Transportation Data Later		TCN	Gross Weight	Transportation Method/Type	Serial Shipping Container Code	FOB	CoC	ARP
			120			S	o	@
Transportation Leg		Standard Carrier Alpha Code		Bill of Lading Number		Bill of Lading Type		
Secondary Transportation Tracking Number				Tracking Type		Tracking Description		
<input type="checkbox"/> Hazardous Material			<input type="checkbox"/> Refrigerated			<input type="checkbox"/> Perishable		
Summary of Detail Level Information						Total (\$)		
1 CLIN/SLIN(s)						72,800.00		
Routing Information								
Role	Location Code	Extension	Name					
Payee	13499		ROCKWELL COLLINS					
Admin	S2401A		DCMA TWIN CITIES					
Inspect By	S2401A	GTR016	DCMA TWIN CITIES					
Ship From	13499		Rockwell Collins					

Logon Date : 2013/05/22 05:00:06 MDT
Last Accessed Date : 2013/05/22 06:16:23 MDT

Initial Entry into the receiving report with UID tab



WAWF



Wide Area Workflow 5.4.0

User ID : EDIP1139971180

[Printer Friendly](#)

User Government Documentation Lookup Logout

Inspector - Receiving Report

Header Line Item **UID** ACRNs Addresses Misc. Info Preview Document

Contract Number	Delivery Order	Reference Procurement Identifier	Shipment Number	Invoice Number	Inspection Point	Acceptance Point
W15P7T07DA214	XP03		CRC0134	A4240675	S	S

Accept All Reject All

Collapse All Expand All

Document Level:

Item No.	Qty. Shipped	Qty. Accepted
0007AA	20	0

UID Type	Enterprise ID	Agency Code	Original Part Number	Lot / Batch	Warranty
UID2	0EFD0	D	622-6820-003		
Original Manufacturers Code	Original Manufacturers ID	Special Tooling Or Test Equipment Status	Current Part Number		
		Not Special Tooling Or Test Equipment			
UID Number	Serial Number				
DOEFD0622-6820-00340N8Y3	40N8Y3				

UID Type	Enterprise ID	Agency Code	Original Part Number	Lot / Batch	Warranty
UID2	0EFD0	D	622-6820-003		
Original Manufacturers Code	Original Manufacturers ID	Special Tooling Or Test Equipment Status	Current Part Number		
		Not Special Tooling Or Test Equipment			
UID Number	Serial Number				
DOEFD0622-6820-00340N8Y4	40N8Y4				

UID Type	Enterprise ID	Agency Code	Original Part Number	Lot / Batch	Warranty
UID2	0EFD0	D	622-6820-003		
Original Manufacturers Code	Original Manufacturers ID	Special Tooling Or Test Equipment Status	Current Part Number		

Save Draft Document Print UID Help

The UID Tab, indicating all items that had UID's applied



WAWF



Wide Area Workflow 5.4.0 User ID : EDIPH138971180
Printer Friendly

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Inspector - Receiving Report

[Header](#) | [Line Item](#) | [ACRNs](#) | [Addresses](#) | [Misc. Info](#) | [Pack](#) | [Preview Document](#)

Contract Number Type	Contract Number	Delivery Order	Reference Procurement Identifier	Issue Date	Inspection Point	Acceptance Point
DoD Contract (FAR)	SPRMM112PWH27			2012/06/12	\$	\$
Shipment Number	Shipment Date	Final Shipment	Estimated Delivery Date	Supplies	Service	
CRC00012	2013/05/17	Y		⊕	⊕	
Invoice Number	Invoice Date	Final Invoice				
A4247524	2013/05/17	Y				
Submit Transportation Data Later	TCN	Gross Weight	Transportation Method/Type	Serial Shipping Container Code	FOB	CoC ARP
<input type="checkbox"/>		1			D	⊕ ⊕
Transportation Log	Standard Carrier Alpha Code	Bill of Lading Number	Bill of Lading Type			
Secondary Transportation Tracking Number	Tracking Type	Tracking Description				
Hazardous Material	Refrigerated	Perishable				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Summary of Detail Level Information						Total (\$)
1 CLIN/SUN(s)						699.82
Routing Information						
Role	Location Code	Extension	Name			
Payee	13499		ROCKWELL COLLINS			
Admin	S2401A		DCMA TWIN CITIES			
Inspect By	S2401A	GTR016	DCMA TWIN CITIES			
Ship From	13499		Rockwell Collins			
Pay Official	HQ0339		DFAS - COLUMBUS CENTER			

Initial Entry into the receiving report with Pack(RFID) tab



WAWF



Wide Area Workflow 5.4.0 User ID : EDIF1139971180
Printer Friendly

[User](#) [Government](#) [Documentation](#) [Lookup](#) [Logout](#)

Inspector - Receiving Report

[Header](#) [Line Item](#) [ACRNs](#) [Addresses](#) [Misc. Info](#) [Pack](#) [Preview Document](#)

Contract Number	Delivery Order	Reference Procurement Identifier	Shipment Number	Invoice Number	Inspection Point	Acceptance Point
SPRMM112PWH27			CRC0001Z	A4247524	S	S

[Expand All](#) [Collapse All](#)

Package Type	Package ID
RFID	2F-1203133343939000002920
CLINE: 0001AA	Quantity: 1

[Save Draft Document](#) [Print Pack](#) [Help](#)

Logon Date : 2013/05/22 08:40:21 MDT Last Accessed Date : 2013/05/22 08:15:36 MDT
[Security & Privacy](#) [Accessibility](#) [Vendor Customer Support](#) [Government Customer Support](#) [FAQ](#) [Site Index](#)

Pack (RFID) Tab, indicating all items requiring RFID (Single shipment)



Compliance



- To Meet the Mandatory Requirement
- Supplier Options
 - Pre-Programmed DOD Compliant Tag



- On Demand Internal Printing Solution
- Full Passive RFID Integration



Non-Compliance



- **Passive RFID tag is missing**
- **Passive RFID tag is visibly damaged and unreadable**
- **Passive RFID tag is present but unreadable (not visibly damaged)**
- **Passive RFID tag read has no corresponding ASN (Advance Ship Notice)**
- **Passive RFID tag read duplicates previously used tag identification**



Websites



- **Supply Chain Integration**
 - <http://www.acq.osd.mil/log/rfid/>
 - **List of Required Ship-To Locations is in red**
- **DFARS Clause 252.211-7006- Passive Radio Frequency Identification**
 - <http://www.acq.osd.mil/dpap/dars/dfars/html/current/252211.htm#252.211-7006>
- **WAWF online training**
 - <https://wawf.eb.mil>
- **EPC™ Tag Data Standards Document**
 - <http://www.acq.osd.mil/log/rfid/index.htm>



QUESTIONS



DEFENSE LOGISTICS AGENCY

AMERICA'S COMBAT LOGISTICS SUPPORT AGENCY

DLA LAND AND MARITIME



WARFIGHTER SUPPORT ENHANCEMENT

STEWARDSHIP EXCELLENCE

WORKFORCE DEVELOPMENT