U.S. Army Automated Movement and Identification Solutions (AMIS) Passive Radio Frequency Identification (pRFID) III

Contract W52P1J-17-D-0006

PRFID USER & PRICING GUIDE

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Change Control

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1.0	1/31/2017	CSRA	Initial Draft to AMIS
1.1	2/16/2016	CSRA	Incorporating AMIS comments to initial draft
1.2	4/25/2018	CSRA	Incorporating HHR-C and HHR-D
1.3	2/5/2019	CSRA	Updated IAW MOD:P00003
1.4	9/16/2019	CSRA	Updated Price Matrix
1.5	12/2/2019	CSRA	Updated User Guide and Price Matrix

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1. INTRODUCTION

1.1. PURPOSE

The purpose of this User & Pricing Guide is to assist Government personnel in determining the system configuration that will best meet their Passive RFID (pRFID) operational requirements. This User & Pricing Guide is aligned with the Pricing CLIN/SLIN structure to enable prospective users to formulate potential solutions utilizing CLINs/SLINs within the contract that best meet their operational requirements.

1.2. PROGRAM PROFILE

Table 1-1: Program Profile

Elements of Identification	
Contract Type	Single Firm Fixed Price (FFP) with reimbursable ODC and travel CLINs
Award Date	December 19, 2016
Period of Performance (PoP)	December 20, 2016 to December 19, 2021
Vehicle (Program)	Indefinite Delivery Indefinite Quantity (IDIQ)
Contract Number	W52P1J17D0006
CSRA Role	Prime Contractor
CSRA Job Number	14868
Project Type	Other Services and Products
Client Organization	US Army
Client Name	Automated Movement and Identification Solutions

1.3. SCOPE

The pRFID III Contract provides hardware, software, documentation, and incidental services to authorized users worldwide. This contract is open for use by the Federal Government (including the entire DoD) as well as NATO and Coalition partners. Contract services include training, warranty, maintenance, and technical engineering services (TES). TES are turnkey solutions to fully implement pRFID technology into new and/or existing architectures.

1.4. POINTS OF CONTACT

Table 1-2: Points of Contact

Role	Contact Information
Army Contract Officer's Representative	Mr. Klaus B. Stroup Klaus.b.stroup.civ@mail.mil (703) 806-0284
CSRA Program Manager	Ms. Deirdre Hirt deirdre.hirt@gdit.com Office: 703-253-3144
CSRA Contract Administrator	Ms. Morná Green Morna.Green@gdit.com (571) 446-5310
CSRA Technical Director	Ms. Amy Coffee Amy.Coffee@gdit.com (703) 253-2096

1.5. ORDERING PROCEDURE AND GUIDE

The pRFID III IDIQ contract is decentralized for ordering purposes. Any Federal warranted Contracting Officer can place Delivery Orders and Task Orders against this contract. The IDIQ contract provides for five (5) one-year ordering periods from time of contract award, plus two (2) one-year option periods for maintenance during the 4th and 5th ordering periods. The appropriate CSRA Points of Contact (POC) are identified in Section 1.4. The pRFID III Help Desk is accessible by phone at (844)-542-9596 or (703) 253-3128 and via e-mail: PRFID_III@gdit.com. For more information on the pRFID III ordering procedures, please refer to the Army AMIS website (http://usarmyamis.army.mil/Contracts_pRFIDIII.html)

2. HARDWARE

2.1. pRFID FIXED READERS

2.1.1. Overview

A fixed reader is the solution for inserting visibility of tagged material at fixed chokepoints. Examples of this are dock doors and conveyor lines. Generally required for this type of solution is the fixed reader itself, a power supply and AC cord and 1-4 antennas, depending upon the size of the desired read zone. These items are included in the SLINs below. Optionally, Input/Output devices such as motion sensor triggers and stacklights can be used with this device. The solutions below incorporate built-in mounting solutions as indicated, though additional mounting (e.g. Door portals, NEMA enclosures and custom antenna brackets) may be required. The fixed reader is a network device controlled by middleware installed on a local server. For more information about this, please see Section 4.1 of this UG.

2.1.2. SLINs

Table 2-1: pRFID Fixed Reader (A) SLINs

SLIN 0001 AA	Intermec IF2A000014	3 Year Warranty	For FCC Use
SLIN 0001 AB		4 Year Warranty	
SLIN 0001 AC		5 Year Warranty	
SLIN 0001 AE	Intermec IF2A000002	3 Year Warranty	For ETSI Use
SLIN 0001 AF		4 Year Warranty	
SLIN 0001 AG		5 Year Warranty	
	Included in 0001 AA-AG	Mounting Hardware	

Figure 2-1: Intermec IF2 pRFID Fixed Reader

2.1.3. Description: pRFID Fixed Reader (A)

The Intermec IF2 is a compact, cost-effective network reader designed to support diverse passive UHF RFID applications in both enterprise and industrial environments. The IF2 supports Power over Ethernet, four mono- or bi-static RF ports, built-in powered general purpose input output (GPIO) control, and both standards-based low level reader protocol (LLRP) and Intermec's easy to use Basic Radio Interface (BRI) application interfaces, enabling scalable low-cost deployments for improved return on investment (ROI). The IF2 is packaged in a durable enclosure for nearly any environment and is factory configured to operate in regions across the globe. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical detail on the IF2, refer to Appendix A: SLIN 0001 pRFID Fixed Reader.

2.1.4. Included:

Included in SLIN 0001 AA – AG is the AC adaptor and power cord, a mounting bracket, CD with documentation & demonstration software, and two (2) Circular Polarized Antennae described below.

Figure 2-2: Intermec pRFID Circular Polarized Antenna

SLINs 0001 AA-AC include two (2) Intermec S9028PCRF-IT1 Circular Polarized antennas.

SLINs 0001 AE-AG include two (2) Intermec IA33F Circular Polarized antennas.

Table 2-2: pRFID Fixed Reader (B) SLINs

SLIN 0001 BA		3 Year Warranty	
SLIN 0001 BB	Impinj IPJ-REV-R420-USA2M1	4 Year Warranty	FCC
SLIN 0001 BC		5 Year Warranty	
SLIN 0001 BD		3 Year Warranty	
SLIN 0001 BE	Impinj IPJ-REV-R420-USA2M1	4 Year Warranty	ESTI
SLIN 0001 BF		5 Year Warranty	
SLIN 0001 BG		3 Year Warranty	
SLIN 0001 BH	Impinj IPJ-REV-R420-USA2M1	4 Year Warranty	FCC, with CM-LPR License
SLIN 0001 BJ		5 Year Warranty	
SLIN 0001 BK		3 Year Warranty	
SLIN 0001 BL	Impinj IPJ-REV-R420-USA2M1	4 Year Warranty	ETSI, with CM-LPR License
SLIN 0001 BM		5 Year Warranty	

Figure 2-3: Impinj 420 Prfid Fixed Reader

2.1.5.Description: pRFID Fixed Reader (B)

The Impinj Speedway Revolution R420 UHF RFID Reader delivers the performance, quality, and reliability necessary for maximum visibility of tagged inventory and assets. Able to maintain high read rates regardless of RF noise or interference as the readers adapt automatically for optimal functionality, Speedway readers are a powerful piece of item visibility platform solutions. Impinj's innovative Speedway® Revolution RFID reader with Autopilot automatically optimizes its operation to the environment—delivering peak performance at all times. The Speedway Revolution reader improves upon the legacy of the original, EPC-certified Speedway reader that was the first high-performance reader designed from the ground up (not merely upgraded) to support the EP Cglobal UHF Gen 2 standard in its entirety. The Speedway R420 reader is supported by a suite of software, hardware, and antennas that deliver application and deployment flexibility, making installation and expansion easier than ever. Please review Section 10: pRFID III CLIN

Pricing for the SLIN specification included under the pRFID III contract. For more technical detail on the R420, refer to Appendix A: SLIN 0001 pRFID Fixed Reader.

2.1.6. Included:

Included in SLIN 0001 BA to BK is a quick start guide and tag samples.

2.1.7. Not Included:

The following items are not included in the purchase of SLIN 0001 BA to BK and require a separate purchase:

Table 2-3: pRFID Fixed Reader (B) Separate Accessory SLINs

SLIN 0001 BN	IMPINJ Far Field Reader Antenna 902-928 MHz IPJ-A1000-USA	3 Year Warranty	FCC
SLIN 0001 BP		4 Year Warranty	
SLIN 0001 BQ		5 Year Warranty	
SLIN 0001 BR	IMPINJ Far Field Reader Antenna 862-870 MHz IPJ-A1000-EUI	3 Year Warranty	ESTI
SLIN 0001 BS		4 Year Warranty	
SLIN 0001 BT		5 Year Warranty	
SLIN 0001 BU	RP TNC Male Connector Crimp/Solder Attachment	Amphenole 122409RP	
SLIN 0001 BV	N-MALE Straight RP CONNECTOR Crimp/Solder Attachment	Impinj IPJ-A2003-000	
SLIN 0001 BW	Universal Power Cord for IMPINJ reader	CribMaster OUTDOOR_BOX	
SLIN 0001 BX	OUTDOOR ANTENNA BOX for IMPINJ Far Field Reader	Arcadian PCE1216-R420-002	
SLIN 0001 BY	Water Tight pRFID READER Enclosure	Arcadian EZ-M6-Combo	
SLIN 0001 BZ	Fully Articulating Die Cast Wall OR Mast Mounting Bracket for 2 or 4 stud panel Antennas	Arcadian EZ-M6-Combo	

2.2. PRFID VEHICLE MOUNT FIXED READERS
2.2.1. Overview

A vehicle mount fixed reader is the solution for inserting visibility of tagged material when a stationary choke point is not a viable solution. Examples of this are forklifts or other mobile material handing devices. The power for this device is generally provided by the vehicle battery, and a DC-DC power supply is provided in the SLINs below. Antennas are also required for this device, and two (2) are included in the SLINs below. This device is connected to and controlled by a vehicle mounted hand-held terminal (HHT) via provided serial cable. This HHT is included in the SLINs below. For more information about this, please see Section 4.1 of this UG.

2.2.2. SLINs:

Table 2-3: pRFID Vehicle Mount Fixed Reader SLINs

SLIN 0003 AA	Intermec IV7D202014	3 year warranty	For FCC Use
SLIN 0003 AB		4 year warranty	
SLIN 0003 AC		5 year warranty	
SLIN 0003 AD	Intermec IV7D202002	3 year warranty	For ETSI Use
SLIN 0003 AE		4 year warranty	
SLIN 0003 AF		5 year warranty	

Figure 2-3: Intermec IV7 Vehicle Mount pRFID Reader

2.2.3. Description:

The Intermec IV7 is a rugged UHF pRFID tag reader designed to be mounted on a vehicle for mobile use and operation in harsh industrial environments. The IV7 is IP65 rated and supports up to 4 antennae. It is designed to be connected serially to a rugged mobile computer. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information about the IV7 refer to Appendix B: SLIN 0003 Vehicle Mount pRFID Reader.

2.2.4. Included:

Included in SLINs 0003 AA-AF are the DC power supply kit and cables, two (2) Circular Polarized Antennae, and CN70e HHT with power supply, dock and communication cables.

Figure 2-4: CN70e HHT

Figure 2-5: Intermec pRFID Circular Polarized Antenna

SLINs 0003 AA-AC include two (2) Intermec IA33E Circular Polarized antennas.

SLINs 0003 AD-AF include two (2) Intermec IA33D Circular Polarized antennas.

2.3. pRFID Smart Table

2.3.1. Overview

The Smart Table is the hands free solution for inserting visibility into locations where material is processed or handled on a table top like surface. Examples of this are receipt, equipment checkout or issue, and performing counts. Generally a fixed reader and antenna(s) are mounted underneath the table surface, and tuned to read tagged material that is on the surface of the table, but not read tagged material that is not on the surface of the table. The SLINs below include the table, fixed reader and all components necessary for operation. The device is a network device controlled by middleware installed on a local server. For more information about this, please see Section 4.1 of this UG.

2.3.2. SLINs

Table 2-4: pRFID Smart Table SLINs

SLIN 0005 AA	TJMT ET-1001NA Motorola FX7500	3 year Warranty	For FCC Use
SLIN 0005 AB		4 year Warranty	
SLIN 0005 AC		5 year Warranty	
SLIN 0005 AD	TJMT ET-1001EU Motorola FX7500	3 year Warranty	For ETSI Use
SLIN 0005 AE		4 year Warranty	
SLIN 0005 AF		5 year Warranty	

2.3.3. Description:

The TJMT ET-1001 Series Eco Table is a rugged, portable workspace engineered to isolate the pRFID read field within the boundaries of the table. The unit is constructed of extruded aluminum and can withstand up to 300 lbs. It is IP54 rated, has surface visible light indicators. The legs are adjustable allowing for multiple work heights. The Smart Table includes the Motorola FX7500 reader and all components required for full operation. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the Smart Table refer to Appendix C: SLIN 0005 pRFID Smart Table.

2.4. pRFID HANDHELD READERS

2.4.1. Overview

A handheld pRFID reader is the solution for inserting visibility into processes that can occur in many locations. Examples of these processes are picking, packing, put-away, delivery, receipt and inventory. Handheld readers are made up of multiple components. There is a mobile computer, a pRFID reader/antenna combination, a docking/charging station, Common Access Card (CAC) authentication device, holster and all of the cables and adaptors necessary for connectivity. Handheld readers come with two batteries (one operational and one spare). The devices are connected wirelessly and managed by software on a local server (although provisions can be made to accommodate cloud based hosting), for more information about this; see Section 4.1 of this UG.

2.4.2. SLINs HHR-A (NOT AVAILABLE FOR ORDERING)

Table 2-5: pRFID Handheld Readers (A) SLINs

SLIN 0007 AA	Intermec CN70GQ6KN14G1E40	3 Year Warranty	For FCC Use
SLIN 0007 AB		RESERVED CLINS 7AA thru 7AF NOT AVAILABLE FOR ORDERING	
SLIN 0007 AC			
SLIN 0007AD	Inter		For ETSI Use
SLIN 0007 AE			
SLIN 0007 AF		5 Year Warranty	
SLIN 0007 AG	Intermec 318-043-113	Rechargeable Battery	
SLIN 0007 AH	Intermec DX1G51A20	Battery Charger/Communications Dock	
SLIN 0007 AJ	Intermec 850-835-001	CAC Reader with Software, and wall charger	
SLIN 0007 AK	Intermec 815-074-001	Carrying Device	
SLIN 0007 AL	Intermec 203-990-001	Kit including AC Adapter & Snap-on USB Adaptor w/ cables	

Figure 2-6: Intermec CN70 RFID Handheld Reader

2.4.3. Description HHR-A: (NOT AVAILABLE FOR ORDERING)

The Intermec CN70e RFID is an ultra-rugged mobile computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit. The UHF pRFID reader is fully integrated with no visible external antenna. HHR-A is certified for non-incendive (NI) operation. It also includes a barcode scanner, 2D imager and supports VoIP/Speech Recognition/Push to Talk applications. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the CN70e refer to Appendix C SLIN 0005 pRFID Handheld Reader.

2.4.4. Included HHR-A:

Included in SLINs AA-AF are 2 GB storage card, Flexdock, power adaptor and cables, trigger handle two batteries (one operational and one spare).

Figure 2-7: Intermec Trigger Handle

Figure 2-8: Intermec Flexdock

2.4.5. SLINs HHR-B (NOT AVAILABLE FOR ORDERING)

Table 2-6: pRFID Handheld Readers (B) SLINs

SLIN 0007 BA	Intermec CN70GQ6KN14G1E40	3 Year Warranty	For FCC Use
SLIN 0007 BB			
SLIN 0007 BC			
SLIN 0007 BD	Intermec CN70C	3 Year Warranty	For ETSI Use
SLIN 0007 BE			
SLIN 0007 BF			
SLIN 0007 BG	Intermec 318-043-113	Rechargeable Battery	
SLIN 0007 BH	Intermec DX1G51A20	Battery Charger/Communications Dock	
SLIN 0007 BJ	Intermec 850-835-001	CAC Reader with Software, and wall charger	
SLIN 0007 BK	Intermec 815-074-001	Carrying Device	
SLIN 0007 BL	Intermec 203-990-001	Kit including AC Adapter & Snap-on USB Adaptor w/ cables	

RESERVED
CLINS 0007BA thru 0007BF
NOT AVAILABLE FOR ORDERING

2.4.6. Description HHR-B:

The Intermec CN70e RFID is an ultra-rugged mobile computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit. The UHF pRFID reader is fully integrated with no visible external antenna. HHR-B is non-incendive (NI) certified. It also includes a barcode scanner, 2D imager and supports VoIP/Speech Recognition/Push to Talk applications. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the CN70e refer to Appendix D.

2.4.7. Included HHR-B: (NOT AVAILABLE FOR ORDERING)

Included in SLINs BA-BF are 2 GB storage card, Flexdock, power adaptor and cables, trigger handle, two batteries (one operational and one spare). Flexdock and trigger handle are shown in Figure 2-7 and 2.8.

2.4.8. SLINs HHR-C

Table 2-7 pRFID Handheld Reader (C) SLINs

SLIN 0007 CA	Juniper Systems MS2-114	3 Year Warranty	For FCC Use
SLIN 0007 CB		4 Year Warranty	
SLIN 0007 CC		5 Year Warranty	
SLIN 0007 CD	Juniper Systems MS2-117	3 Year Warranty	For ETSI Use
SLIN 0007 CE		4 Year Warranty	
SLIN 0007 CF		5 Year Warranty	
SLIN 0007 CG	Apriva Z-100141	CAC Reader	
SLIN 0007 CH	Juniper Systems 12867	Carrying Device	
SLIN 0007 CJ	Juniper Systems 25260	Rechargable Battery	
SLIN 0007 CK	Juniper Systems 24076	AC Adapter and Power Cord	
SLIN 0007 CL	Juniper Systems 26371	Battery Charger / Docking Station	

Figure 2-9 Juniper Mesa 2 Handheld Reader

2.4.9. Description HHR-C

The Juniper Systems Mesa 2 is an ultra-rugged tablet PC computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit and equipped with a Windows 10 Operating System. The UHF pRFID reader is fully integrated with no visible external antenna and the Mesa 2 includes a barcode scanner, 2D imager and supports Wi-Fi, Bluetooth, and LTE communications. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the Mesa 2 refer to Appendix R SLIN 0005 pRFID Handheld Reader.

2.4.10. Included HHR-C

Included in SLINs 007CA-CF are a docking station/battery charger, power adaptor and cables as well as a spare battery and spare battery charger.

2.4.11. SLINS HHR-D

Table 2-8: pRFID Handheld Reader (D) SLINs

SLIN 0007 DA	Juniper Systems MS2-219-HL	3 Year Warranty	For FCC Use
SLIN 0007 DB		4 Year Warranty	
SLIN 0007 DC		5 Year Warranty	
SLIN 0007 DD	Juniper Systems MS2-220-HL	3 Year Warranty	For ETSI Use
SLIN 0007 DE		4 Year Warranty	
SLIN 0007 DF		5 Year Warranty	
SLIN 0007 DG	Apriva Z-100141	CAC Reader	
SLIN 0007 DH	Juniper Systems 12867	Carrying Device	
SLIN 0007 DJ	Juniper Systems 25260	Rechargable Battery	
SLIN 0007 DK	Juniper Systems 24076	AC Adapter and Power Cord	
SLIN 0007 DL	Juniper Systems 26371	Battery Charger / Docking Station	

2.4.12. Description of HHR-D

The Juniper Systems Mesa 2 is an ultra-rugged tablet PC computer that combines passive UHF reading and mobile computing packaged in an optimal size, weight and rugged unit and equipped with a Windows 10 Operating System. The UHF pRFID reader is fully integrated with no visible external antenna and the Mesa 2 includes a barcode scanner, 2D imager and supports Wi-Fi, Bluetooth, and LTE communications. Our offering for HHR-D has been certified Non-Incendive for customers requiring operations in hazardous environments. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the Mesa 2 refer to Appendix R SLIN 0005 pRFID Handheld Reader.

2.4.13. Included HHR-D

Included in SLINs 007DA-DF are a docking station/battery charger, power adaptor and cables as well as a spare battery and spare battery charger.

2.5. PRFID TAGS

2.5.1. Overview

pRFID tags are the consumable item placed on material that is to be tracked. They come in many form factors based upon the application and the material being tagged. Disposable adhesive shipping labels generally come in rolls designed for a printer. For more information about printers, see the Printer section of this UG. Metal or liquid objects require a more substantial tag that has been tuned to operate in close

proximity to those materials. These tags are generally thicker, made of plastic, and come in smaller quantities. They can typically be mounted to objects using mounting holes rather than adhesive, and require hardware to do so.

2.5.2. SLINs

Table 2-9: pRFID Tag SLINs

SLIN 0009 AA	Lowry 305-00205	Shipping Tag - 4" X 2"
SLIN 0009 AB	Lowry 305-00206	Shipping Tag - 4" X 6"
SLIN 0009 AC	Omni ID Exo 750	Hardened Standoff Tag
SLIN 0009AD	Confidex Survivor B (FCC or ETSI – stipulate at time of ordering)	Battery Assisted Passive Tag
SLIN 0009 AE	Lowry 305-00207	Document Labeling/Tracking Tag
SLIN 0009 AF	Omni ID Fit 210	Office/Asset Tag
SLIN 0009 AG		

2.5.3. Description 0009 AA:

Lowry 305-00205 is a thermal transfer, white synthetic label with a high strength, permanent adhesive. It is a 4" x 2" general purpose label. The pRFID inlay included is the Alien Higgs3 Squiggle which is tuned for global use. Inlays are ordered by roll, with a quantity of 2000/roll. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this label refer to Appendix F: SLIN 0009 Shipping Tag – 4" x 2".

2.5.4. Description 0009 AB:

Lowry 305-00206 is a thermal transfer, white synthetic label with a high strength, permanent adhesive. It is a 4" x 6" general purpose label. The pRFID inlay included is the Alien Higgs3 Squiggle which is tuned for global use. Inlays are ordered by roll, with a quantity of 500/roll. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this label refer to Appendix G: SLIN 0009 Shipping Tag – 4" x 6".

2.5.5. Description 0009 AC:

The Omni-ID Exo 750 is a long range durable pRFID tag optimized for attachment to metal assets and is tuned for global use. It measures 2.0" x 1.9" x 0.5" and weighs 25.6 grams. The imbedded integrated circuit is the Monza 4 QT. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this tag refer to Appendix H: SLIN 0009 Hardened Stand-Off Tag.

Figure 2-10: Omni-ID Exo 750

2.5.6. Description 0009 AD:

The Confidex Survivor B is a super long range, rugged, compact tag specifically designed to provide long range operation around liquids and metals. It can store manifest, maintenance records, custody chain, history, and user information locally on the tag. The tag is sealed to IP68. It measures 6.1" x 1.02" x 0.57" and weighs 34 grams. The vendor specification for this device has been included in an Appendix. Please

review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this tag refer to Appendix I: Battery Assisted Passive Tag.

Figure 2-11: Confidex Survivor B

2.5.7. Description 0009 AE:

Lowry 305-00207 is a direct thermal, smooth white paper label with a non-tackified, all temperature acrylic adhesive. It is a 4" x 1" general purpose label. The pRFID inlay included is the Alien Higgs3 Squiggle which is tuned for global use. Inlays are ordered by roll, with a quantity of 2000/roll. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this label refer to Appendix J: Document Labelling Tag.

2.5.8. Description 0009 AF:

The Omni-ID Fit 210 is a small form factor, global, pRFID tag designed specifically for enterprise asset management environments. It measures 2.09" x 0.20" x 0.06" and weighs 1 gram. The imbedded integrated circuit is the Alien Higgs3. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this tag refer to Appendix K: Office/Asset Tag.

Figure 2-12: Omni-ID Fit 210

2.5.9. Description 0009 AG:

HID Global's Seal Tag edTamper Tags are tamper evident passive contact-less RAIN UHF transponders allowing detection of their seal status via RFID. The edTamper tags provide a digital notification if a sealed tag has been compromised to quickly scan large sets of sealed items for integrity. Typical applications include sensitive and highly-secure items, such as aircraft life vests or weapon/equipment racks that require periodic safety and security checks. It measures .69" x .13" and weighs 1 gram. Seal Tag eTamper products utilize a variety of HF/NFC compatible chips. The eTamper Coin TTS adds a non-replicable identity to each interaction when deployed with HID Trusted Tag® Services, a cloud-based authentication platform by HID Global - ideal for "proof of presence" applications. HID Global Seal Tag eTamper may be ordered personalized with custom encoding, laser engraved logos, Bar-/QRcode or text.

Figure 2-13: HID Seal Tag: eTamper

2.6. PRFID PRINTER

2.6.1. Overview

The pRFID Printer is the solution for printing and encoding pRFID labels that are to be placed on material. Generally required for this solution are the printer itself, AC power cord, printer ribbon and label stock. Seagull Scientific's BarTender Professional 2016 software provides an extremely easy to use solution to design and print labels, barcodes, design RFID labels, and cards. BarTender Professional 2016 provides nearly every barcode type including linear, 2D, postal or GS1 DataBar. BarTender Professional 2016 supports frequently used linear and 2D barcodes such as UPC, Codabar, Code 39s, 93s, and 128s and Data Matrix as well as design of RFID tags and QR codes.For more information on label stock, see Section 2.5 of this UG. The printers are network devices, and can be configured wirelessly or hard-wired. They are controlled by middleware installed on a local server. For more information about this, please see Section 4.1 of this UG.

2.6.2. SLINs

Table 2-10: pRFID Printer SLINs

SLIN 0011 AA	Intermec PM43G01NA0140201, Seagull Scientific Bartender Pro	3 year Warranty	For FCC Use
SLIN 0011 AB		4 year Warranty	
SLIN 0011 AC		5 year Warranty	
SLIN 0011 AD	Intermec PM43G01EU0140202. Seagull Scientific Bartender Pro	3 year Warranty	For ETSI Use
SLIN 0011 AE		4 year Warranty	
SLIN 0011 AF		5 year Warranty	
SLIN 0011 AG	Intermec 1-110501-00	Operator's Maintenance Kit	
SLIN 0011 AH	Intermec 201-031-420	Replacement Print Head	
SLIN 0011 AJ	Intermec 13634118	4" wide Resin-Based Printer Ribbon	

Figure 2-14: Intermec PM43 pRFID Printer

2.6.3. Description:

The Intermec PM43 pRFID Printer is an industrial printer ideal for a wide range of applications within the distribution center/warehouse environment. It has a large, color tamper proof touch screen, and supports all major 1D and 2D barcode symbologies. The printer has a resolution of 203 dpi, and a variable print speed from 100-300 mm/sec and supports label sizes up to 4.5 inches in width. The vendor specification for this device has been included in an Appendix. Please note that some vendor specification documentation may include options not available under the pRFID III contract. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on the PM43 refer to Appendix M: SLIN 00013 pRFID Printers.

2.6.4. Included:

Included with the Intermec PM43 pRFID Printer is one (1) Seagull Scientific Bartender Pro 2016 Label software, one (1) full length thermal transfer ribbon, and one (1) Operators Maintenance Kit.

2.7. WIRELESS RF DATA COMMUNICATIONS

2.7.1. Overview

Wireless data communications provide the network backbone on which AIT and pRFID peripheral devices communicate data to software systems and applications. These networks leverage the 802.11 air interface protocol (with FIPS 140-2 level security) and can provide coverage in either indoor or outdoor environments. Networks can be composed access points which provide connectivity to computers using the network and controllers that manage the settings and security on the access points. Individual networks can range in size from a single access point to hundreds of access points.

2.7.2. SLINs

Table 2-1: Wireless RF Data Communications SLINs

SLIN 0013 AA	Aruba AP-205-F1	Radio Frequency Access Point (Indoor Environment)
SLIN 0013 AB	Aruba AP-274-F1	Radio Frequency Access Point (NEMA)
SLIN 0013 AC	Aruba 7205-USF1	Wireless Network Controller

2.7.3. Description 0013 AA

The Aruba AP-205-F1 is a dual radio access point capable of supporting both 802.11ac (5 GHz) and 802.11n (2.4GHz) clients simultaneously. The AP-205-F1 is delivered with four integrated omni-directional, down tilting antennas for optimal area coverage when the access point is ceiling mounted. The AP-205-F1 is Power over Ethernet (POE) compatible and supports a 10/100/1000BASE-T Ethernet network interface. The AP-205-F1 measures 5.9" x 5.9" x 1.63" and weighs 380g. The AP-205-F1 is delivered with a mounting enclosure that provides IP 67 level environmental protection and can operate in temperatures from 0C to 40C. The AP-205-F1 is delivered with a 3-year comprehensive warranty and comes with Aruba's limited lifetime warranty. The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this device refer to Appendix M: SLIN 0013 Wireless Access Point (Indoor).

Figure 2-135: Aruba AP-205-F1 Access Point

2.7.4. Description 0013 AB

The Aruba AP-274-F1 is a high performance access point designed to work in the toughest outdoor environments. The AP-274-F1 is delivered with features that allow it to reduce unwanted RF interference and maximize performance for users moving within the network. The AP-274-F1 is PoE compatible and supports a 10/100/1000BASE-T Ethernet network interface. The AP-274-F1 measures 9.0" x 9.4" x 7.5" and weighs 2.7Kg. Housing for the AP-274-F1 provides IP 68 level protection and the AP-274-F1 is delivered with a 3-year comprehensive warranty (the AP-274-F1 also comes with Aruba's limited lifetime warranty). The vendor specification for this device has been included in an Appendix. Please review

Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this device refer to Appendix N: SLIN 0013 Wireless Access Point (NEMA).

Figure 2-146: Aruba AP-274-F1 Access Point

2.7.5. Description 0013 AC

The Aruba 7205-USF is a high capacity network controller capable of supporting up to 256 access points and over 8,000 individual clients. The 7205-USF manages authentication and encryption, VPN connectivity and IPv4 and IPv6 level services (the 7205-USF is delivered with firewall and RF protection software designed to increase network security). The Aruba 7205-USF is capable of operating in temperatures from 0C to 40C (and can even operate at an elevation of 10,000 feet). The 7205-USF is 1.75" x 13.13" x 17.38" and weighs 4.95Kg The vendor specification for this device has been included in an Appendix. Please review Section 10: pRFID III CLIN Pricing for the SLIN specification included under the pRFID III contract. For more technical information on this device refer to Appendix O: SLIN 0013 RF Gateway.

Figure 2-157: Aruba 7205-USF Controller

3. HARDWARE CABLES

Required cables are listed in the individual Hardware sections above. Cables that can be ordered individually are listed in the table below.

Table 3-1: pRFID Hardware Cable SLINs

SLIN	Cable Purpose	Cable Interface	Manufacturer	Part Number	Qty
0001 AA-AC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0001 AA-AC	AC Adapter	IEC 60320-1 C14 Inlet	Intermec	851-061-408	1
0001 AE-AG	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974027-025	1
0001 AE-AG	AC Adapter	IEC 60320-1 C14 Inlet	Intermec	851-061-501	1
0001 AE-AG	13' Antenna Cable	RP-TNC Male to N Male	Intermec	236-230-001	2
0003 AA-AF	IV7 Power Cable	3 pin circular connector	Intermec	203-713-003	1
0003 AA-AC	4.5' Antenna Cable	RP-SMA-P to RP-N-P	Intermec	203-850-001	2
0003 AA-AF	12' Data Cable	20-pin circular connector	Intermec	203-776-001	1
0003 AA-AF	DC/DC Power	Hirose Connection	Intermec	203-809-001	1
0003 AD-AF	4.5' Antenna Cable	SMA Plug/N Plug	Intermec	236-170-001	2
0005 AA-AC	AC Power Supply	IEC 60320-1 C14 Inlet	Zebra	PWRS-14000-260R	1
0005 AD-AF	AC Power Supply	IEC 60320-1 C14 Inlet	Zebra	PWRS-14000-260R	1
0007 AA-AC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0007 AD-AF	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974027-025	1
0007 AA-AF	USB Cable	USB-A to USB-microB	Intermec	236-209-001	1
0007 AH	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0007 AH	USB Cable	USB-A to USB-microB	Intermec	236-209-001	1
0007 AL	AC Power Supply	Hirose Connection	Intermec	203-990-001	1
0007 BA-BC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0007 BD-BF	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974027-025	1
0007 BA-BF	USB Cable	USB-A to USB-microB	Intermec	236-209-001	1
0007 BH	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0007 BH	USB Cable	USB-A to USB-microB	Intermec	236-209-001	1
0007 BL	AC Power Supply	Hirose Connection	Intermec	203-990-001	1
0011 AA-AC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974028-025	1
0011 AD-AC	AC Power Cord	IEC 60320-1 C13 Connector	Intermec	1-974027-025	1
0007CA-CF	AC Power Cord	Varies by Region	Juniper Sys	26371	1
0007DA-DF 0007CL & DL	AC Power Cord	Varies by Region	Juniper Sys	24076	1

4. SOFTWARE

4.1. PRIFD – SOFTWARE

GlobeRanger iMotion is the software solution for managing devices, as well as collecting data and applying business rules to the solution. An asset record of software versions and configurations being installed will be kept. For details on this refer to *pRFID III Management Plan (DCN# 14868.000.000.001) or the pRFID III Configuration Management Plan (CMP) (DCN# 14868.000.000.002).* Minimum server requirements are listed in Appendix P: SLIN 0015 pRFID Software.

4.1.1. SLINs

Table 4-1: pRFID Software SLINs

SLIN 0015 AA	GlobeRanger iMotion Software per Device GlobeRanger PFIM-SE-DVC-DL	Application Development Software (includes Middleware)
SLIN 0015 AB	GlobeRanger Federal Solutions Accelerator per Server GlobeRanger SA-FDRL-SVRPL GlobeRanger SA-FDRL-SVR-MT3	Special Software Development tool kits/utility Libraries
SLIN 0015 AC	GlobeRanger iMotion Perpetual per Device License GlobeRanger PF-IM-ES-DVC-PL GlobeRanger PF-IM-DVC-MT3	Development Software and Utilities Runtime License (includes Middleware)
SLIN 0015 AD	Seagull Scientific BT16-PRO	BarTender 2016 Professional Edition Label Software

4.1.2. Description:

GlobeRanger iMotion serves as the foundation for edge solutions, providing a platform runtime for managing devices and Edge processes, a software development kit (SDK) for easy extensibility, pre-build process components for rapid implementation, and comprehensive tools for rapid solution development, production deployment and on-going operation. Based on Microsoft's .NET Framework, iMotion enables business consultants, application developers, and systems engineers to easily create, configure and manage edge data and automation solutions.

The Federal Solution Accelerator, built on the iMotion Edgeware platform, consists of nine (9) key functional modules that can dramatically speed your Federal RFID implementation. Each of these modules can be used independently or can be combined for even greater benefit.

- Generic Site Configuration
- Reporting Framework
- Management Reporting
- Track & Trace
- N-Level Hierarchy
- Verification
- Wide Area Workflow
- EDI Document Format Integration
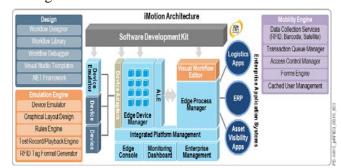- Control Number Management

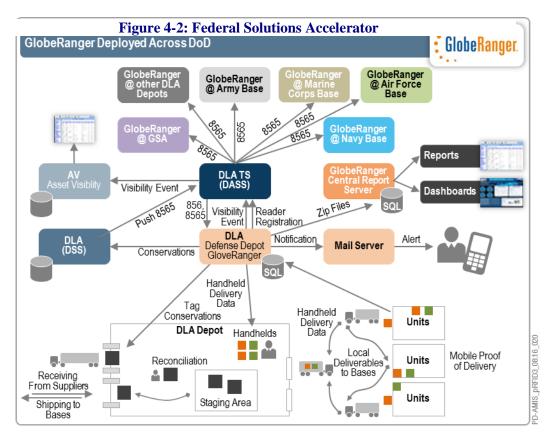**Figure 4-1: GlobeRanger iMotion Platform**

4.1.3. Application Development Software (SLIN 0015AA)

The iMotion Edgeware Platform Architecture includes device management, data aggregation, edge process management, and enterprise messaging. The functional layers are responsible for reliably collecting and transforming RFID tag read events into actionable business information. The high-level application

components of the iMotion Edgeware Platform architecture include the Edge Device Manager (EDM), Edge Process Manager (EPM), Edge Management Console & Monitoring Dashboard (EMC), Visual Device Emulator (VDE), and Event Workflow Editor (EWE). The application components used in concert are responsible for maintaining and managing the edge. Additionally, the Visual Device Emulator and Event Workflow Editor are GUI tools to aid in edge development and deployment.

4.1.4. Special Software Development tool kits/utility Libraries (SLIN 0015AB)

The Federal Solution Accelerator software module can help accelerate deployments and integration for AMIS supported customers. This module contains all the processing and logic needed to interact with current DoD systems and EDI transaction formats. It isolates the systems integration function into DoD specific requirements in one module of software. Therefore, this software is extensible to allow for quick introduction of new requirements with minimal change and configuration management needed within the software architecture. The software is based upon Microsoft Visual Studio and .Net technology. This foundation allows for agile methodology minimizing the cost of new software development, testing, and integration rework. This solution accelerator is a collection of technology subsystems that include out-of-the-box application functionality and Edge Device settings and Edge Process workflows.

Figure 4-2: Federal Solutions Accelerator

4.1.5. Development Software and Utilities Runtime License (SLIN 0015 AC)

The Development Software and Utilities Runtime Licenses allow any program developed with the application software to be installed and used without the need to purchase a separate license.

4.1.6. pRFID Printer Software (SLIN 0015 AD)

BarTender PRO Label software provides users with a "what-you-see-is-what-you-get" interface, allowing users to easily design and create custom labels and forms. The Bartender software also allows the user to embed data fields within a label. BarTender PRO Label software can be integrated with the iMotion platform allowing the iMotion platform populate data fields with application-specific values. The selected printer also has software pre-installed to allow for local configuration of print parameters. BarTender PRO

Label software is equipped with commercial and DoD standard label templates (including the Military Shipping Label and the DD-1348 Issue Release Receipt Document) and is capable of calling data from ubiquitously used commercial software packages such as MS Access and MS Excel.

4.1.7. pRFID Armory Management Software (SLIN 0015AE & SLIN 0015AF)

Smartrack RFID SMARTRACK – Digital Arms Room is a fully automated Armory Management system that integrates hardware, software, and a database-management system specifically to manage and track arsenal equipment in armories within the U.S. Military and Law Enforcement agencies. The fully integrated Digital Arms Room System is specifically designed to comply with Arms Room Operations and DOD FIPS 140-2 Security Specifications. The system is fully functional in a stand-alone environment in either a field or base deployment. The Digital Arms Room is capable of tracking and managing an unlimited variety of weapons and weapons related equipment, including real time information on individual weapon life cycles and maintenance states, and the duty assignments, team composition, training, and qualification of the soldiers to whom the weapons are assigned.

Smartrack RFID SS Server System SMARTRACK – Digital Arms Room is a fully automated Armory Management system that integrates hardware, software, and a database-management system specifically to manage and track arsenal equipment in armories within the U.S. Military and Law Enforcement agencies. The fully integrated Digital Arms Room System is specifically designed to comply with Arms Room Operations and DOD FIPS 140-2 Security Specifications. The Digital Arms Room is capable of tracking and managing an unlimited variety of weapons and weapons related equipment, including real time information on individual weapon life cycles and maintenance states, and the duty assignments, team composition, training, and qualification of the soldiers to whom the weapons are assigned. SMARTRACK Software works with SQL Server 2008, 2012 or 2014 and Windows Server 2008 or 2012. The Microsoft software can be included as an option along with the SmarTrack server software

5. RECOMMENDED EQUIPMENT CONFIGURATIONS

As common configurations are ordered, this section of the user and pricing guide will be augmented with orderable items which comprise common solutions.

5.1. DOCK DOOR CONFIGURATION

Implementation of parallel dock door solutions, depicted in Figure 5-1, require services including equipment and software. A recommended configuration for Dock Door Installation employs the following steps 1) Design, 2) Procure, and 3) Deploy:

Step 1. SLIN 0019 AA/AK/AM/AQ – Technical Engineering Services: Project Manager, RF Technical Radio Specialist, Senior Systems Engineer, Technical Writer

1.1 Perform a site survey

1.2 Design Solution

1.3 Complete Solution Design Document

Step 2. SLIN 0001 AA-AG pRFID Fixed Reader (Geographically dependent), SLIN 0009AX, pRFID Tags, SLIN 0015 AA-AC Software

2.1 Order the appropriate quantity of fixed readers (determined in site survey)

2.2 Order the appropriate quantity of accessories and mounting structure (determined in site survey)

2.3 Order the appropriate software and license quantity

Step 3. SLIN 0019 AA/AJ/AN/AP– Technical Engineering Services: Project Manager, Senior Field Engineer, Data Comm / Network Specialist, Senior Software Systems Engineer

3.1 Conduct hardware installation to include physical mounting of equipment, LAN and electric

3.2 Conduct software installation to include server and device configuration and testing
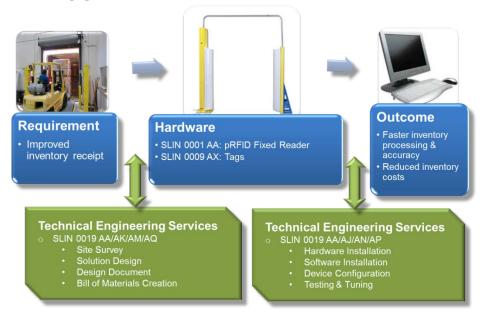
3.3 Tune equipment

Figure 5-1: Implementation of Dock Door solution

Note: All dock door solutions are different. The above assumes an existing pRFID installation is in place, and the AMIS pRFID III vehicle is being used to add additional coverage of dock doors.

5.2. SMART TABLE CONFIGURATION

Implementation of Smart Table solutions, depicted in Figure 5-2, requires services including equipment and software. A recommended configuration for a Smart Table Installation employs the following steps 1) Design, 2) Procure, and 3) Deploy:

Step 1. SLIN 0019 AA/AM/AQ – Technical Engineering Services: Project Manager, Senior Systems Engineer, Technical Writer

> 1.1 Perform a site survey
>
> 1.2 Design Solution
>
> 1.3 Complete Solution Design Document

Step 2. SLIN 0005 AA-AF pRFID Smart Table (Geographically dependent), SLIN 0011 AA-AF pRFID Printer (Geographically dependent), SLIN 0009 AE Document Labeling Tags, SLIN 0015 AA-AC Software

> 2.1 Order the appropriate quantity of equipment (Smart Tables, Printers, Tags)
>
> 2.3 Order the appropriate software and license quantity

Step 3. SLIN 0019 AA/AN/AP – Technical Engineering Services: Project Manager, Senior Field Engineer, Senior Software Systems Engineer

> 3.1 Conduct hardware installation to include physical mounting of equipment, LAN and electric
>
> 3.2 Conduct software installation to include server and device configuration and testing
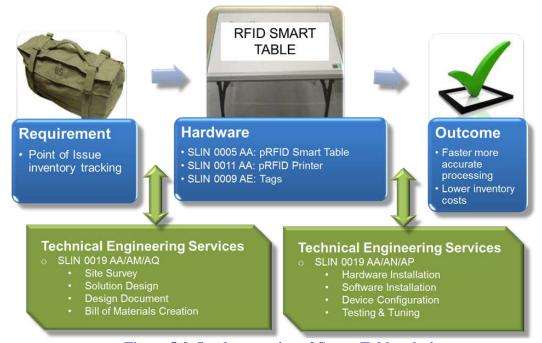>
> Tune equipment

Figure 5-2: Implementation of Smart Table solution

5.3. HAND HELD CONFIGURATION

Implementation of Handheld solution, depicted in Figure 5-3, requires services including equipment and software. A recommended configuration for a Hand Held Terminal installation employs the following steps 1) Design, 2) Procure, and 3) Deploy:

Step 1. SLIN 0019 AA/AM/AQ – Technical Engineering Services: Project Manager, Senior Systems Engineer, Technical Writer

1.1 Perform a site survey

1.2 Design Solution

1.3 Complete Solution Design Document

Step 2. SLIN 0007 AA-AF pRFID Handheld (Geographically dependent), SLIN 0007 AG Spare Battery, SLIN 0007 AH Docking Station/Battery Charger, SLIN 0007 AK Holster, SLIN 0015 AA-AC Software, SLIN 0013 AA RF Access Point (use SLIN 0013AB if Wireless Access Point is exposed to elements), and SLIN 0013AC RF Gateway

2.1 Order the appropriate quantity of equipment

2.3 Order the appropriate software and license quantity

Step 3. SLIN 0019 AA/AN/AP – Technical Engineering Services: Project Manager, Senior Field Engineer, Senior Software Systems Engineer

3.1 Conduct software installation to include server and device configuration and testing
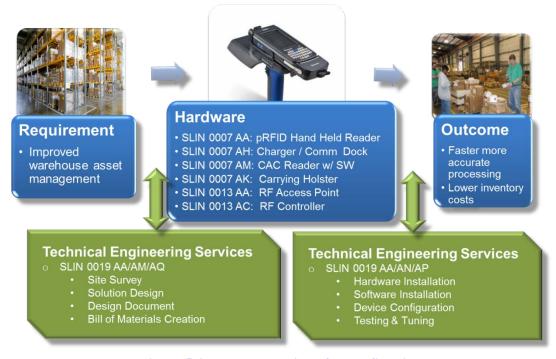
3.2 Tune equipment

Requirement
• Improved warehouse asset management

Hardware
• SLIN 0007 AA: pRFID Hand Held Reader
• SLIN 0007 AH: Charger / Comm Dock
• SLIN 0007 AM: CAC Reader w/ SW
• SLIN 0007 AK: Carrying Holster
• SLIN 0013 AA: RF Access Point
• SLIN 0013 AC: RF Controller

Outcome
• Faster more accurate processing
• Lower inventory costs

Technical Engineering Services
o SLIN 0019 AA/AM/AQ
  • Site Survey
  • Solution Design
  • Design Document
  • Bill of Materials Creation

Technical Engineering Services
o SLIN 0019 AA/AN/AP
  • Hardware Installation
  • Software Installation
  • Device Configuration
  • Testing & Tuning

Figure 5-3: Implementation of HHR Solution

5.4. PERSONNEL DOOR CONFIGURATION

Implementation of an entry door or interior personnel door solution, depicted in Figure 5-4, requires services including equipment and software. A recommended configuration for entry or interior personnel door installation employs the following steps 1) Design, 2) Procure, and 3) Deploy:

Step 1. SLIN 0019 AA/AK/AM/AQ – Technical Engineering Services: Project Manager, RF Technical Radio Specialist, Senior Systems Engineer, Technical Writer

1.1 Perform a site survey

1.2 Design Solution

1.3 Complete Solution Design Document

Step 2. SLIN 0001 AA-AG pRFID Fixed Reader (Geographically dependent), SLIN 0015 AA-AC Software, SLIN 0009AX pRFID Tags

2.1 Order the appropriate quantity of fixed readers (determined in site survey)

2.2 Order the appropriate quantity of accessories and mounting structure (determined in site survey)

2.3 Order the appropriate software and license quantity

Step 3. SLIN 0019 AA/AJ/AN/AP – Technical Engineering Services: Project Manager, Senior Field Engineer, Data Comm / Network Specialist, Senior Software Systems Engineer

3.1 Conduct hardware installation to include physical mounting of equipment, LAN and electric

3.2 Conduct software installation to include server and device configuration and testing
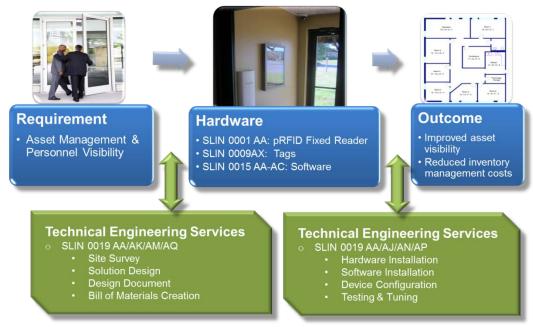
3.3 Tune equipment

Figure 5-4: Implementation of Personnel Door Solution

6. TECHNICAL ENGINEERING SERVICES

6.1. TECHNICAL ENGINEERING SERVICES

6.1.1. Overview

Technical Engineering Services (TES) are the solution to achieving success using pRFID Hardware and Software. Expertise in the areas of consulting, site survey, solution design, installation, tuning, testing programming, troubleshooting, documenting and analyzing is available.

6.1.2. Teammates

Users of this IDIQ can leverage the breadth of capabilities offered by industry thought-leaders. Each member of the CSRA Team boasts a wealth of pRFID experience with extensive resources specialized in government and commercial implementations and use-case specific demonstrated successes. We focus on ensuring AMIS and its customers receive reliable, flexible solutions by selecting teammates in key areas important to successful execution of varying task orders.

The table below summarizes the roles each team member plays and highlights the qualifications that make each member an excellent choice for that role.

Table 6-1: AMIS pRFID III Teammates

Team Mate	Role
Lowry Computer Solutions	Lowry provides select *equipment, helpdesk / warranty / repair service, and technical engineering services* as well as bar code, RFID, Auto ID, Labeling, Wireless & Mobile data collection solutions.
Evanhoe and Associates	Evanhoe and Associates provide select *technical engineering services.* As nationally recognized experts in DoD RFID and Unique Identification (UID) applications, as well as data integration and transformation, Evanhoe develops integrated data and Automated Identification Data Capture (AIDC) IT solutions.
ByLight Professional IT Services	ByLight provides select *technical engineering services* for infrastructure installation. ByLight currently provides a full range of hardware and software engineering services to defense, civilian, and commercial customers worldwide.
Integrated ID Solutions	Integrated ID Solutions provide select *technical engineering services*. Integrated ID Solutions provides subject matter expertise in Automatic Identification Technology (AIT), Project Management, and Systems Integration throughout the systems development life cycle by incorporating new business processes, new technology, and new capabilities in accord with existing processes.
Shipcom Wireless	Shipcom Wireless provides specialized *technical engineering services* in areas of Healthcare and Energy Management. Shipcom provides identification and tracking solutions that include advanced and hybrid Auto-ID technologies.
RFID Global Solution	RFID Global Solution provide select technical engineering services. As nationally recognized experts in RFID applications, as well as data integration and transformation, RFID Global Solution develops integrated data and RFID based IT solutions
National Material Supply Company	National Material Supply Company provides specialized technical engineering services for customer requiring preprinted/pre-encoded RFID labels. They also provide RFID based inventory management solutions as well as strategic logistics and supply chain management solutions for primarily federal customers.
Indatatech	Indatatech is an industry leader for fixed asset management solutions and has managed multiple fixed asset inventories using traditional bar coding and RFID tagging.
GlobeRanger	GlobeRanger is a trusted RFID software solution supplier. GlobeRanger's RFID, mobility and sensor-enabled solutions are powering and automating government and defense business processes.
University of Pittsburgh	University of Pittsburgh provides unbiased technical engineering services in advisory and research areas. The Swanson School of Engineering is home to the University's RFID Center of Excellence, which specializes in using RFID for asset tracking in challenging environments such as pipelines and inside body cavities.
Auburn University	Auburn University provides unbiased technical engineering services in advisory and research areas.

This comprehensive team allows AMIS and its customers the ability to design, consult, install, integrate, support, research, test, validate, and innovate pRFID technology and solutions with confidence; we have

assembled a world-class team with which we partner to deliver solutions for federal customers in an efficient, effective and repeatable manner.

6.1.3. Labor and Cost Reimbursable SLINs

TES labor categories are encompassed in SLIN 0019, while incidental materials are SLIN 0017 and travel costs associated with a task order are SLIN 0021. The following table shows these SLINs to include the labor categories.

Table 6-2: pRFID Labor and Cost Reimbursable SLINs

SLIN 0017 AA	Incidental Materials	Cost Reimbursable
SLIN 0019 AA	Project Manager	Labor Category
SLIN 0019 AB	Senior Information Systems Engineer	Labor Category
SLIN 0019 AC	Senior Programmer	Labor Category
SLIN 0019 AD	Systems Analyst	Labor Category
SLIN 0019 AE	Software Systems Designer	Labor Category
SLIN 0019 AF	Programmer/Analyst	Labor Category
SLIN 0019AG	Junior Programmer	Labor Category
SLIN 0019 AH	Systems Engineer	Labor Category
SLIN 0019 AJ	Data Comm/Network Specialist	Labor Category
SLIN 0019AK	RF Technical Radio Specialist	Labor Category
SLIN 0019 AM	Senior Systems Engineer	Labor Category
SLIN 0019 AN	Senior Software Systems Engineer	Labor Category
SLIN 0019 AP	Senior Field Engineer	Labor Category
SLIN 0019 AQ	Technical Writer	Labor Category
SLIN 0021 AA	Travel	Cost Reimbursable

6.1.4. Labor Category Descriptions

Project Manager: The Contractor's pRFID Project Manager shall serve as primary manager of large projects and shall be responsible for management, performance, and completion of major projects, as defined by the individual Task Order. The Project Manager shall be responsible for formulating and enforcing work standards, assigning schedules, and reviewing work performed for Task Orders.

Senior Information Systems Engineer: Applies business process improvement practices to reengineer methodologies/principles and business process modernization projects. Applies, as appropriate, activity and data modeling, transaction flow analysis, internal control and risk analysis and modern business methods and performance measurement techniques. Assist in establishing standards for information systems procedures. Develops and applies organization-wide information models for use in designing and building integrated, shared software and database management systems. Constructs sound, logical business improvement opportunities consistent with corporate Information Management guiding principles, cost savings, and open system architecture objectives. Provides daily supervision and direction to staff.

Senior Programmer: Analyzes functional business applications and design specifications for functional activities. Develops block diagrams and logic flow charts. Translates detailed design into computer software. Tests, debugs and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers to ensure program deadlines are met.

Systems Analyst: Analyzes and develops computer software possessing a wide range of capabilities, including numerous engineering, business and records management functions. Develops plans for

automated information systems from project inception to conclusion. Analyzes user interfaces, maintain hardware and software performance tuning, analyze workload and computer usage, maintain interfaces with outside systems, analyze downtimes, analyze proposed system modifications, upgrades and new COTS. Analyzes the problem and the information to be processed. Defines the problem, and develops system requirements and program specifications, from which programmers prepare detailed flow charts, programs, and tests. Coordinates closely with programmers to ensure proper implementation of program and system specifications. Develops, in conjunction with functional users, system alternative solutions.

Software Systems Designer: Works from specifications to develop or modify operating systems applications. Designer assists with design, coding, benchmark testing, debugging and documentation of programs. Designer works with applications generally dealing with utility programs, job control language, macros, subroutines and other control modules. Works on most phases of software systems programming applications, and may require instruction and guidance in other phases.

Programmer / Analyst: Analyzes functional business applications and design specifications for functional activities. Develops block diagrams and logic flow charts. Translates detailed design into computer software. Tests, debugs and refines the computer software to produce the required product. Prepares required documentation, including both program-level and user-level documentation. Enhances software to reduce operating time or improve efficiency. Provides technical direction to programmers to ensure program deadlines are met.

Junior Programmer: Participates in the design of software tools and subsystems to support reuse and domain analysis. Assists Applications Engineer and Applications Programmer to interpret software requirements and design specifications to code, integrate and test software components.

Systems Engineer: Analyzes and studies complex system requirements. Designs software tools and subsystems to support software reuse and domain analyses and manages their implementation. Manages software development and support using formal specifications, data flow diagrams, other accepted design techniques and Computer-Aided Software Engineering (CASE) tools. Estimates software development costs and schedule. Reviews existing programs and assists in making refinements, reducing operating time and improving current techniques. Supervises software configuration management.

Data Comm / Network Specialist: Analyzes network characteristics (e.g., traffic, connect time, transmission speeds, packet sizes and throughput) and recommends procurement, removals and modifications to network components. Designs and optimizes network topologies and site configurations. Plans installations, transitions and cutovers of network components and capabilities. Coordinates requirements with users and suppliers.

RF Technical Radio Specialist: Focuses on the design and implementation of pRFID system. The individual will organize and configure the installation of pRFID site. This includes the proper RF installation of pRFID readers, antennas, and printers. Identifies the proper location for the readers at the prescribed distances along the supply chain; on conveyors, at loading dock portals, near palletizers, and mounted on vehicles. Also properly deploy hand-held readers for use in warehouses, distribution centers, and field environments. Be able to identify the physical and RF environments, as well as throughput, speed and accuracy requirements. Required to be able to analyze the RF environment to identify any RF interference and take proper measures to avoid RF interference.

Senior Systems Engineer: Applies an enterprise-wide set of disciplines for the planning, analysis, design and construction of information systems on an enterprise-wide basis or across a major sector of the enterprise. Develops analytical and computational techniques and methodology for problem solutions. Performs enterprise wide strategic systems planning, business information planning, business and analysis. Performs process and data modeling in support of the planning and analysis efforts using both manual and automated tools such as Integrated Computer-Aided Software Engineering (I-CASE) tools. Applies reverse engineering and re-engineering disciplines to develop migration strategic and planning documents. Has experience with such methodologies as IDEF 0 process modeling and IDEF 1x data modeling. Provides technical guidance in software engineering techniques and automated support tools.

Senior Software Systems Engineer: Formulates and defines specifications for operating system applications or modifies and maintains existing applications using engineering releases and utilities from the manufacturer. Responsible for program design, coding, testing, debugging and documentation. Responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting and advanced mathematical/scientific software packages. Instructs, directs, and checks the work of other task personnel. Responsible for quality assurance review and the evaluation of existing and new software products.

Senior Field Engineer: Organizes and directs network installations on site surveys. Assesses and documents current site network configuration and user requirements. Designs and optimizes network topologies. Directs and leads preparation of engineering plans and site installation Technical Design Packages. Develops installation schedules. Mobilizes network installation team. Directs and leads preparation of drawings documenting configuration changes at each site. Prepares site installation and test reports. Coordinates post installation operations and maintenance support.

Technical Writer: Assists in collecting and organizing information required for preparation of user's manuals, training materials, installation guides, proposals, and reports. Edits functional descriptions, system specifications, user's manuals, special reports, or any other customer deliverables and documents.

Insert CLIN 0028 AA AND AB, AC

29 AA AND AB

7. TRAINING

7.1. AVAILABLE TRAINING

We can create training programs on media best suited to delivering the type of training (classroom, web-based, CD-ROM, and documentation / manuals). We recommend instructional materials to specific audiences:

- Administrator Training is targeted at improving system uptime and ensuring pRFID solutions are sustainable; several levels may be required from helpdesk personnel needing to effectively triage support calls, to more advanced IT support personnel who may be required to troubleshoot on-site incidents.
- User / Operator Training helps facilitate change management for use of pRFID systems and ensures operators understand the intent, purpose and value from process changes and technology insertion. This training generally includes an overview of pRFID technology, standard operating procedures using pRFID solutions and integrated change management, basic operational indicators and support procedures.
- Manager / Analyst Training is targeted at improved decision support and ensuring that organizations realize the benefits of pRFID solutions effectively. This training generally includes how to use pRFID information, supply chain effects of deployed pRFID solutions to upstream and downstream processes, as well as example business case frameworks and expected results from turnkey applications.

Our methodology for developing training programs applies the Instructional Systems Development (ISD) framework for the analysis, design, and development of an effective training curriculum, and incorporates a methodical approach for instructional evaluation, delivery, and continuous improvement. Our subject matter experts can facilitate training programs in the following areas:

- pRFID configuration and operations
- Hardware characteristics, principles of operation and protocols, and maintenance
- pRFID software components and data structure
- Data structures, queues, and internal tables of the Operating System (OS)
- Software design and integration
- Diagnostics to include problem definition and resolution
- Use case designs and configuration
- Tag performance, testing, and tag application
- Use of software interfaces, reports, and data analysis.
- In addition, our Team has developed relevant IT training materials including:
- Information assurance and maintenance processes and troubleshooting
- Operating System tailoring and generation
- Implementation of new software releases
- Security features
- Hardware maintenance and support.
- Other pRFID related needs

8. WARRANTY

8.1. WARRANTY SUPPORT

A methodical approach to warranty support reduces total cost of ownership. Integrating phone support, repair centers and warranty status information into a central location, enables a quick reaction and provides seamless support for our customers. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.2. MANUFACTURER'S WARRANTY

We provide a minimum three-year warranty for all equipment purchased and the option at time of purchase to procure a four or five year warranty that is in effect at the time of original purchase. The integrated support center serves as the centralized hub for initiating any warranty activity. Users call a toll free phone number where a person with access to a serial number database determines the warranty status of the device in question. This warranty information will also be available on the pRFID III contract website. Our Team uses the manufacturer's warranty for all equipment purchased with a warranty. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.3. WHEN EQUIPMENT IS UNDER WARRANTY

When a device is under the manufacturer's warranty, and over the phone troubleshooting does not solve an issue, we issue a Return Material Authorization (RMA) number, and forward instructions for shipping the device back to the manufacturer. We provide a loaner or permanent replacement to the device location while we have an assessment performed on the inoperable device. If the device is repairable, we have it repaired and swap it out for the loaner. If the device is not repairable, the permanent replacement is already in place. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.4. WHEN EQUIPMENT IS OUT OF WARRANTY

The physical asset flow and processes for requesting customer support remain the same for the customer. The exception is when the product is determined to be out of warranty. Our customer support team will provide a high-level assessment of the trouble and determine if the problem is a result of a missed software revision or update. In these situations, we will provide the correct revision to resolve the issue. If it is determined the product requires a more detailed analysis, the customer will have the option to purchase a replacement or send the item to a repair facility for a cost-to-repair assessment. At this point in the process, we will instruct the user on retuning the inoperable device to the appropriate integrated support center for evaluation. Upon completing the cost-to-repair evaluation, we will submit our findings to the customer for their decision. If the decision by the customer is to repair the asset, we will ensure repair activities (handling and processing, billing, quality assurance, etc.) are accomplished in compliance with both government contractual obligations and industry standards. Note: No repair action will occur without customer consent. If repair is not feasible, we will follow disposition instructions provided by the Government User. When a device is out of warranty, we provide options to users for how they can resolve potential failures through return, on-site service or other price alternatives. The support center can authorize a replacement device to the location if desired. We instruct the user on returning the inoperable device to one of the integrated support center's repair locations for evaluation. If the device is repairable, we have it repaired and placed into spare stock. If the device is not repairable, the Defense Reutilization and Marketing Office (DRMO) process begins. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.5. WARRANTY TRACKING

The support center is fully integrated into procurement, so that the warranty status of all devices in the field is tracked by serial number. We generate a monthly report to notify users of pending warranty expiration. Refer to Section 8.6 for the Warranty and Maintenance Procedures.

8.6. WARRANTY AND MAINTENANCE PROCEDURES

1. Prior to contacting us for service, please be sure to have the following information ready:
    a. Model of unit requiring service

    b. Serial number of unit requiring service
    c. Contact name
    d. Contact phone number
    e. Address where unit(s) requiring service are located
    f. Brief description of problem you are experiencing
2. Contact the service center for service request.
3. Service technicians will call users to determine if unit(s) return is necessary.
    a. If the issue can be resolved over the phone the service ticket is closed.
    b. If the issue requires that the unit(s) be returned a return material authorization (RMA) number and UPS return label are issued to the user.
        i.   Unit(s) are received and inspected
        ii. Unit(s) are repaired
        iii. Unit(s) are staged per contract requirements
        iv. Unit(s) are returned to user – Please provide address if different from pick-up location.

For unit(s) requiring return for repair service, please note the following:

- Ship unit in original packaging or equivalent to avoid shipping damage
- Options should not be returned with unit if not required for repair or evaluation
- Ribbons and labels should be removed from printers prior to shipping, but samples should be provided for testing purposes
- RMA# should appear on outside of package and on packing slip
- Batteries should be removed prior to shipping terminals

Contact Information for Hardware Warranty and Maintenance Repairs and information:

Phone: CONUS   800-733-0010
            OCONUS   810-229-7200

Email: servicerequest@lowrysolutions.com

Web: www.lowrysolutions.com/lowry-service-request-form
            OR
            www.lowrysolutions.com; select Services; select Support Services
            OR
            http://ait.srahosting.com/pRFID-III/index.html

NOTE: Procedures are the same for items covered under Hardware Maintenance Agreements.   If there is a lapse in coverage due to the expiration of the hardware warranty or a lapse in monthly hardware maintenance, unit(s) will be inspected to assure they are in proper working order. If any unit(s) require repair, the Government must order per incident maintenance for unit(s) before acceptance of the unit(s) under monthly hardware maintenance.

9. MAINTENANCE SUPPORT

9.1. PRFID COMPONENT RETURN AND TRACKING

The Government can request RMAs by phone or by the Asset Tracking System portal. Once the RMA number is issued, instructions for shipping the device back to the appropriate repair facility will be provided.

9.2. ON-CALL MAINTENANCE

The CSRA Team provides on-call maintenance when ordered.

9.3. MAINTENANCE REPLACEMENT PARTS

We take no chances on re-built or inferior components, utilizing only high quality, new and warranted equipment built at the same high standards by the OEM to repair / replace Government pRFID assets. All replacement parts will carry warrantees for a minimum of 90 days. Through close communications with the Government, we will comply with all disposition regulations and collaboratively ensure proper disposition or destruction of all end-of-life equipment.

Maintenance can be ordered through the CLINs specified below, pricing can be found in Section 10:

Table 9-1 : pRFID Maintenance SLINs

pRFID – Fixed Reader	
SLIN 0022 AA	Monthly Maintenance (CONUS/OCONUS)
SLIN 0022 AB	Per Incident (CONUS/OCONUS)
SLIN 0022 AC	On-Call (CONUS/OCONUS)
pRFID – Fixed Reader Vehicle Mount	
SLIN 0023 AA	Monthly Maintenance (CONUS/OCONUS)
SLIN 0023 AB	Per Incident (CONUS/OCONUS)
SLIN 0023AC	On-Call (CONUS/OCONUS)
pRFID – Smart Table	
SLIN 0024 AA	Monthly Maintenance (CONUS/OCONUS) Reader Only
SLIN 0024 AB	Per Incident (CONUS/OCONUS) Reader Only
SLIN 0024 AC	On-Call (CONUS/OCONUS)
pRFID – Handheld Reader	
SLIN 0025 AA	Monthly Maintenance (CONUS/OCONUS)
SLIN 0025 AB	Per Incident (CONUS/OCONUS)
SLIN 0025 AC	On-Call (CONUS/OCONUS)
pRFID - Printer	
SLIN 0026 AA	Monthly Maintenance (CONUS/OCONUS)
SLIN 0026 AB	Per Incident (CONUS/OCONUS)
SLIN 0026 AC	On-Call (CONUS/OCONUS)
pRFID – Software Maintenance	
SLIN 0027 AA	Annual Software Updates (CONUS/OCONUS)
SLIN 0027 AB	Software Fixes (CONUS/OCONUS)

9.4. SOFTWARE MAINTENANCE

9.4.1. Support Services

End user purchasing software from the pRFID-II IDIQ vehicle software SLINS will receive software support services. Software support services include Level I, II and III support services from the Customer Support organization. Software Support is available using the following contact information:

•Phone: (703) 284-3223 or (844) 542-9596
•Email: prfidiii@gdit.com

- **First Level Support**: Level 1 includes call acceptance and response by technical staff, problem trouble-shooting and identification and provision of fixes, work-arounds and other software maintenance releases.

- **Second Level Support**: Level 2 includes diagnosing problems surrounding more complex technical issues associated with a deployment. This level requires deeper technical knowledge and understanding of RFID, software, hardware, operating systems, protocols and interfaces. The solutions at this level require changing configuration data, tuning the platform, debugging applications, and etc.

- **Third Level Support**: Level 3 includes advance diagnostics from the engineering organization in analyzing logs, deciphering detailed error messages and looking at crash dumps. Engineering may need to analyze product code to determine the issue. This level requires deeper technical understanding of the software from a developer's perspective.

9.4.2. Support Responsibilities

Level 1 Response. Level 1 support will record the incident, perform diagnostics and resolve the issue using all internal support resources as well as support and reference materials in the form of support and product documentation and on-line knowledgebase(s). The initial support level is generally responsible for basic customer issues. The initial priority is to gather the customer's information and to determine the customer's issue by analyzing the symptoms and capturing the underlying problem. When analyzing the symptoms, it is important to identify what task the customer is trying to accomplish.

Level 2 Response. If a support agent cannot resolve a Level 1 incident, the incident is escalated to Level 2 support. This is a more in-depth technical support level than Level 1 response and the technicians are more experienced and more knowledgeable on a particular product or service. Technicians in this realm of knowledge are responsible for assisting Tier I personnel in solving basic technical problems and for investigating elevated issues by confirming the validity of the problem and seeking for known solutions related to these more complex issues.

Technicians will collect information such as program name that is failed or application name or any database related details (table name, view name, package name, etc.) or API names. Level 2 response may include reinstallation of software, replacements of various hardware components, software repair, diagnostic testing, and the utilization of remote control tools used to take over the user's machine for the sole purpose of troubleshooting and finding a solution to the problem.

Level 3 Response. If a support agent cannot resolve a Level 2 incident, the incident is escalated to Level 3. Whenever a Level 3 incident occurs, the Level 1 or 2 support technician will escalate to issues to the support team as soon as possible. The customer support agent will be provided with the following customer information by the Customer Point of Contact:
- Company name, contact name, address, telephone, email address, emergency contact information
- Devices installed
- Application installed
- Account status (maintenance level, payment status)
- Review case history
- Detailed description of the issue being reported

10. PRFID III CLIN PRICING

HARDWARE and SOFTWARE				5-YR Base: (20 DEC 2016 - 19 DEC 2021)	
			Passive RFID - Fixed Readers		
SLIN	MFG	PART NO	Product Description and Ancillary Items	Warranty	Firm Fixed Unit Price
0001 AA	Intermec	PRF3-0001AA	pRFID - Fixed Reader 902-928MHz (FCC)	3 year	$1,472.98
		IF2A000014	Network Reader (includes mounting bracket)		
		851-061-408	Universal AC Adapter		
		1-974028-025	AC Power Cord		
		S9028PCRF-IT1	Circular Polarized Antenna 915 MHz, includes integrated cable and mounting fixture (2)		
		SVCIF2-5FC3	IF2, 3 Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AB	Intermec	PRF3-0001AB	pRFID - Fixed Reader 902-928MHz (FCC)	4 year	$1,666.20
		IF2A000014	Network Reader (includes mounting bracket)		
		851-061-408	Universal AC Adapter		
		1-974028-025	AC Power Cord		
		S9028PCRF-IT1	Circular Polarized Antenna 915 MHz, includes integrated cable and mounting fixture (2)		
		SVCIF2-5FC4	IF2, 4-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AC	Intermec	PRF3-0001AC	pRFID - Fixed Reader 902-928MHz (FCC)	5 year	$1,746.91
		IF2A000014	Network Reader (includes mounting bracket)		
		851-061-408	Universal AC Adapter		
		1-974028-025	AC Power Cord		
		S9028PCRF-IT1	Circular Polarized Antenna 915 MHz, includes integrated cable and mounting fixture (2)		
		SVCIF2-5FC5	IF2, 5-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AE	Intermec	PRF3-0001AE	pRFID - Fixed Reader 862-870MHz (ETSI)	3 year	$2,053.05
		IF2A000002	Network Reader (includes mounting bracket)		
		851-061-501	Universal AC Adapter		
		1-974027-025	AC Power Cord		
		805-656-001	Circular Polarized Antenna 868 MHz (IA33F) (2)		
		805-653-001	Antenna Mounting Bracket (2)		
		236-230-001	13 ft Antenna Cable (2)		
		SVCIF2-5FC3	IF2, 3 Year Warranty		

		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AF	**Intermec**	**PRF3-0001AF**	**pRFID - Fixed Reader 862-870MHz (ETSI)**	**4 year**	**$2,128.20**
		IF2A000002	Network Reader (includes mounting bracket)		
		851-061-501	Universal AC Adapter		
		1-974027-025	AC Power Cord		
		805-656-001	Circular Polarized Antenna 868 MHz (IA33F) (2)		
		805-653-001	Antenna Mounting Bracket (2)		
		236-230-001	13 ft Antenna Cable (2)		
		SVCIF2-5FC4	IF2, 4 Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0001 AG	**Intermec**	**PRF3-0001AG**	**pRFID - Fixed Reader 862-870MHz (ETSI)**	**5 year**	**$2,201.19**
		IF2A000002	Network Reader (includes mounting bracket)		
		851-061-501	Universal AC Adapter		
		1-974027-025	AC Power Cord		
		805-656-001	Circular Polarized Antenna 868 MHz (IA33F) (2)		
		805-653-001	Antenna Mounting Bracket (2)		
		236-230-001	13 ft Antenna Cable (2)		
		SVCIF2-5FC5	IF2, 5-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		

SLIN	MFG	PART NO	Product Description and Ancillary Items	Warranty	Firm Fixed Unit Price
			Passive RFID - Vehicle Mount Fixed Readers		
0003 AA	**Intermec**	**PRF3-0003AA**	**pRFID - Vehicle Mount Reader 902-928MHz (FCC)**	**3 year**	**$5,611.69**
		IV7D202014	Vehicle Mount Reader (includes mounting plate)		
		203-850-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-002	Circular Polarized Antenna 915 MHz (IA33E) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC3	IV7, 3-Year Warranty		
		CN70GQ6KN00G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC3	CN70e, 3-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC3	Vehicle Dock, 3-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AB	**Intermec**	**PRF3-0003AB**	**pRFID - Vehicle Mount Reader 902-928MHz (FCC)**	**4 year**	**$5,838.71**
		IV7D202014	Vehicle Mount Reader (includes mounting plate)		
		203-850-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-002	Circular Polarized Antenna 915 MHz (IA33E) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC4	IV7, 4-Year Warranty		
		CN70GQ6KN00G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC4	CN70e, 4-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC4	Vehicle Dock, 4-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AC	**Intermec**	**PRF3-0003AC**	**pRFID - Vehicle Mount Reader 902-928MHz (FCC)**	**5 year**	**$6,023.95**
		IV7D202014	Vehicle Mount Reader (includes mounting plate)		
		203-850-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-002	Circular Polarized Antenna 915 MHz (IA33E) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC5	IV7, 5-Year Warranty		
		CN70GQ6KN00G1E40	CN70e Mobile Computer (incl RFID)		

		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC5	CN70e, 5-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC5	Vehicle Dock, 5-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AD	**Intermec**	**PRF3-0003AD**	**pRFID - Vehicle Mount Reader 862-870MHz (ETSI)**	**3 year**	**$5,447.97**
		IV7D202002	Vehicle Mount Reader (includes mounting plate)		
		236-170-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-001	Circular Polarized Antenna 915 MHz (IA33D) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC3	IV7, 3-Year Warranty		
		CN70GQ6KN00G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC3	CN70e, 3-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC3	Vehicle Dock, 3-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AE	**Intermec**	**PRF3-0003AE**	**pRFID - Vehicle Mount Reader 862-870MHz (ETSI)**	**4 year**	**$5,653.41**
		IV7D202002	Vehicle Mount Reader (includes mounting plate)		
		236-170-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-001	Circular Polarized Antenna 915 MHz (IA33D) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC4	IV7, 4-Year Warranty		
		CN70GQ6KN00G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC4	CN70e, 4-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC4	Vehicle Dock, 4-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0003 AF	**Intermec**	**PRF3-0003AF**	**pRFID - Vehicle Mount Reader 862-870MHz (ETSI)**	**5 year**	**$5,820.81**
		IV7D202002	Vehicle Mount Reader (includes mounting plate)		

		236-170-001	Antenna Cable 4.5 foot (2)		
		203-713-003	Kit, IV7, Power Cable		
		805-816-001	Circular Polarized Antenna 915 MHz (IA33D) (2)		
		203-776-001	Kit, Data Cable Assembly		
		SVCIV7-5FC5	IV7, 5-Year Warranty		
		CN70GQ6KN00 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		318-043-113 (2)	Battery Pack for CN70e		
		SVCCN70-5FC5	CN70e, 5-Year Warranty		
		871-034-001	CN70e Vehicle Dock		
		805-638-001	Vehicle Dock Mounting Kit		
		203-809-001	DC/DC Converter Kit		
		SVCCN7XACC-5FC5	Vehicle Dock, 5-Year Warranty		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
Passive RFID – Smart Tables					
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0005 AA	**TJMT**	**PRF3-0005AA**	**pRFID Smart Table 902-928MHz (FCC)**	**3 year**	**$5,253.15**
		ET-1001NA	pRFID Smart Table 30" x 48" 902-928MHz (FCC), Includes Motorola FX7500 pRFID reader		
		ET-1001NA3W	Smart Table, 3-Year Warranty		
			FOB: Destination		
0005 AB	**TJMT**	**PRF3-0005AB**	**pRFID Smart Table 902-928MHz (FCC)**	**4 year**	**$5,491.91**
		ET-1001NA	pRFID Smart Table 30" x 48" 902-928MHz (FCC), Includes Motorola FX7500 pRFID reader		
		ET-1001NA4W	Smart Table, 4-Year Warranty		
			FOB: Destination		
0005 AC	**TJMT**	**PRF3-0005AC**	**pRFID Smart Table 902-928MHz (FCC**	**5 year**	**$5,570.03**
		ET-1001NA	pRFID Smart Table 30" x 48" 902-928MHz (FCC), Includes Motorola FX7500 pRFID reader		
		ET-1001NA5W	Smart Table, 5-Year Warranty		
			FOB: Destination		
0005 AD	**TJMT**	**PRF3-0005AD**	**pRFID Smart Table 862-870MHz (ETSI)**	**3 year**	**$5,253.15**
		ET-1001EU	pRFID Smart Table 30" x 48", 862-870MHz (ETSI), includes Motorola FX7500 pRFID Reader		
		ET-1001EU3W	Smart Table, 3-Year Warranty		
			FOB: Destination		
0005 AE	**TJMT**	**PRF3-0005AE**	**pRFID Smart Table 862-870MHz (ETSI)**	**4 year**	**$5,491.91**
		ET-1001EU	pRFID Smart Table 30" x 48", 862-870MHz (ETSI), includes Motorola FX7500 pRFID Reader		
		ET-1001EU4W	Smart Table, 4-Year Warranty		
			FOB: Destination		
0005 AF	**TJMT**	**PRF3-0005AF**	**pRFID Smart Table 862-870MHz (ETSI)**	**5 year**	**$5,570.03**
		ET-1001EU	pRFID Smart Table 30" x 48", 862-870MHz (ETSI), includes Motorola FX7500 pRFID Reader		

			Passive RFID – Hand Held Readers (HHRs)		
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0007AA	**Intermec**	**PRF3-0007AA**	**pRFID HHR-A (Not-NI Certified) 902-928MHz (FCC)**	**3 year**	**$2,628.96**
		CN70GQ6KN14 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		805-835-101	CN70e Scan Handle		
		31̶8̶-0̶4̶3̶-1̶1̶3̶	C̶N̶7̶0̶e̶ ̶B̶a̶t̶t̶e̶r̶y̶ ̶P̶a̶c̶k̶ ̶(̶2̶)̶		
		S̶V̶			
		D̶X̶			
		8̶7̶			
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		1̶-			
		S̶V̶ -5̶			
		La̶	(maint)		
		La̶			
		9̶4̶			
0007AB	**Intermec**	**PI**		**4 year**	**$2,729.21**
		C̶I̶ G̶	D)		
		8̶5̶			
		8̶0̶			
		3̶1̶			
		S̶V̶			
		D̶X̶			
		8̶7̶			
		2̶3̶			
		1̶-			
		S̶V̶ -5̶			
		La̶	(maint)		
		La̶			
		9̶4̶			
0007AC	**Intermec**	**PI**		**5 year**	**$2,733.95**
		C̶I̶ G̶	D)		
		8̶5̶			
		8̶0̶			
		3̶1̶			
		S̶V̶			
		D̶X̶			
		8̶7̶			
		236-209-001	USB-A to USB-BMicro Cable		
		1-974028-025	AC Power Cord		
		SVCFLEXDOCK -5FC5	Desktop Dock 5-Year Warranty		
		LauncherLN-001	ILaunch Software Kit (incl 1-Year maint)		
		Launcher-Sft1	ILaunch SW 1-Year maint (4)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		

[Overlay box obscuring portions of table:] CLINS 0007AA-0007AF PRFID Hand Held Readers (HHR-A) (Non-NI) 902-928 MHz — RESERVED NOT AVAILABLE FOR ORDERING

[Above table, partially visible rows at top:]

| | | ET-1001EU5W | Smart Table, 5-Year Warranty | | |
| | | | FOB: Destination | | |

0007AD	Intermec	PRF3-0007AD	**pRFID HHR-A (Not-NI Certified) 8622-870MHz (ETSI)**	3 year	$2,569.87
		CN70GQ6KN02 G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		805-835-101	CN70e Scan Handle		
		318-043-113	CN70e Battery Pack (2)		
		SVCCN70-5FC3	CN70e 3-Year Warranty		
		DX1G51A20	Desktop Dock for CN70e		
		871-238			
		236-209			
		1-97402			
		SVCFLB -5FC3			
		Launche			
		Launche			
		946-006			
0007AE	Intermec	PRF3-00		4 year	$2,667.32
		CN70G G1E40			
		856-065			
		805-835			
		318-043			
		SVCCN			
		DX1G51			
		871-238			
		236-209			
		1-97402			
		SVCFLB -5FC4			
		Launche			
		Launche			
		946-006			
0007AF	Intermec	PRF3-00		5 year	$2,748.57
		CN70G G1E40			
		856-065			
		805-835			
		318-043			
		SVCCN			
		DX1G51			
		871-238			
		236-209			
		1-97402			
		SVCFLB -5FC5	Desktop Dock 5-Year Warranty		
		LauncherLN-001	ILaunch Software Kit (incl 1-Year maint)		
		Launcher-Sft1	ILaunch SW 1-Year maint (4)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0007AG	Intermec	PRF3-0007AG	**pRFID HHR-A Rechargeable Battery**	3 year	$148.19
		318-043-113	CN70e Battery Pack		
			FOB: Destination		
0007AH	Intermec	PRF-0007AH	**pRFID HHR-A Battery Charger/Docking Station**	3 year	$428.17
		DX1G51A20	Desktop Dock for CN70e		

CLINS 0007AA-0007AF PRFID Hand Held Readers (HHR-A) (Non-NI) 902-928 MHz

RESERVED NOT AVAILABLE FOR ORDERING

		871-238-011	Ethernet Mod for Desktop Dock		
		236-209-001	USB-A to USB-BMicro Cable		
		1-974028-025	AC Power Cord		
		SVCFLEXDOCK-5FC3	Desktop Dock 3-Year Warranty		
			FOB: Destination		
0007AJ	**Intermec**	**PRF3-0007AJ**	**pRFID HHR-A CAC Reader with SW**	**3 year**	**$404.39**
		850-835-001	CN70e Snap-On CAC Reader		
		213-023-001	Flexdock Cup with CAC for CN70e		
		474-302-001	CAC SW Bundle		
			FOB: Destination		
0007AK	**Intermec**	**PRF3-0007AK**	**pRFID HHR-A Carrying Device**		**$107.43**
		815-074-101	Holster for CN70e		
			FOB: Destination		
0007AL	**Intermec**	**PRF3-0007AL**	**pRFID HHR-A AC Adapter**		**$55.57**
		203-990-001	Universal AC Adapter Kit		
			FOB: Destination		
0007BA	**Intermec**	**PRF3-0007BA**	**pRFID HHR-B (NI Certified) 902-928MHz (FCC)**	**3 year**	**$2,628.96**
		CN70GQ6KN14G1E40	CN70e Mobile Computer (incl RFID)		
		856-065-005	2GB SD Memory Card		
		805-8...			
		318-0...			
		SVCC...			
		DX1G...			
		871-2...			
		236-2...			
		1-974...			
		SVCF...-5FC3			
		Launc...			
		Launc...			
		946-0...			
0007BB	**Intermec**	**PRF3-...**		**4 year**	**$2,729.21**
		CN70...G1E4...			
		856-0...			
		805-8...			
		318-0...			
		SVCC...			
		DX1G...			
		871-2...			
		236-2...			
		1-974...			
		SVCF...-5FC4			
		Launc...			
		Launc...			
		946-0...			
0007BC	**Intermec**	**PRF3-...**		**5 year**	**$2,733.95**
		CN70...G1E4...			
		856-0...			
		805-8...			
		318-043-113	CN70e Battery Pack (2)		
		SVCCN70-5FC5	CN70e 5-Year Warranty		
		DX1G51A20	Desktop Dock for CN70e		

CLINS 0007BA thru 0007BF PRFID Hand Held Readers (HHR-A) (Non-NI) 902-928 MHz

RESERVED NOT AVAILABLE FOR ORDERING

		871-238-011	Ethernet Mod for Desktop Dock		
		236-209-001	USB-A to USB-BMicro Cable		
		1-974028-025	AC Power Cord		
		SVCFLEXDOCK -5FC5	Desktop Dock 5-Year Warranty		
		LauncherLN-001	ILaunch Software Kit (incl 1-Year maint)		
		Launcher-Sft1	ILaunch SW 1-Year maint (4)		
		946-			
0007BD	Intermec	PRF		3 year	$2,569.87
		CN70 G1E			
		856-			
		805-			
		318-			
		SVC			
		DX1			
		871-			
		236-			
		1-97			
		SVC -5FC			
		Laun			
		Laun			
		946-			
0007BE	Intermec	PRF		4 year	$2,667.32
		CN70 G1E			
		856-			
		805-			
		318-			
		SVC			
		DX1			
		871-			
		236-			
		1-97			
		SVC -5FC			
		Laun			
		Laun			
		946-			
0007BF	Intermec	PRF		5 year	$2,748.57
		CN70 G1E			
		856-			
		805-			
		318-			
		SVCCN70-5FC5	CN70e 5-Year Warranty		
		DX1G51A20	Desktop Dock for CN70e		
		871-238-011	Ethernet Mod for Desktop Dock		
		236-209-001	USB-A to USB-BMicro Cable		
		1-974027-025	AC Power Cord		
		SVCFLEXDOCK -5FC5	Desktop Dock 5-Year Warranty		
		LauncherLN-001	ILaunch Software Kit (incl 1-Year maint)		

CLINS 0007BA thru 0007BF

PRFID Hand Held Readers (HHR-A) (Non-NI) 902-928 MHz

RESERVED NOT AVAILABLE FOR ORDERING

		Launcher-Sft1	ILaunch SW 1-Year maint (4)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0007BG	Intermec	PRF3-0007BG	pRFID HHR-B Rechargeable Battery	3 year	$148.19
		318-043-113	CN70e Battery Pack		
			FOB: Destination		
0007BH	Intermec	PRF-0007BH	pRFID HHR-B Battery Charger/Docking Station	3 year	$428.17
		DX1G51A20	Desktop Dock for CN70e		
		871-238-011	Ethernet Mod for Desktop Dock		
		236-209-001	USB-A to USB-BMicro Cable		
		1-974028-025	AC Power Cord		
		SVCFLEXDOCK-5FC3	Desktop Dock 3-Year Warranty		
			FOB: Destination		
0007BJ	Intermec	PRF3-0007BJ	pRFID HHR-B CAC Reader with SW	3 year	$404.39
		850-835-001	CN70e Snap-On CAC Reader		
		213-023-001	Flexdock Cup with CAC for CN70e		
		474-302-001	CAC SW Bundle		
			FOB: Destination		
0007BK	Intermec	PRF3-0007BK	pRFID HHR-B Carrying Device		$107.43
		815-074-101	Holster for CN70e		
			FOB: Destination		
0007BL	Intermec	PRF3-0007BL	pRFID HHR-B AC Adapter		$55.57
		203-990-001	Universal AC Adapter Kit		
			FOB: Destination		
0007CA	Juniper Sys	PRF3-0007CA	pRFID HHR-C 900-928 (FCC)	3 year	$4,755.00
		MS2-114	Mesa 2 Tablet Computer, (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007CB	Juniper Sys	PRF-0007CA	pRFID HHR-C 900-928 (FCC)	4 year	$5,172.00
		MS2-114	Mesa 2 Tablet Computer, (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		25682	Mesa 2 non-Hazloc 1yr Platinum Warranty		
			FOB: Destination		
0007CC	Juniper Sys	PRF-0007CA	pRFID HHR-C 900-928 (FCC)	5 year	$5,589.00
		MS2-114	Mesa 2 Tablet Computer, (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		25682	Mesa 2 non-Hazloc 1yr Platinum Warranty (qyt = 2)		
			FOB: Destination		
0007CD	Juniper Sys	PRF3-0007CD	pRFID HHR-C 862-870 (ETSI)	3 year	$4,755.00
		MS2-117	Mesa 2 Tablet Computer (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		

			FOB: Destination		
0007CE	**Juniper Sys**	**PRF-0007CE**	**pRFID HHR-C 862-870 (ETSI)**	**4 year**	**$5,172.00**
		MS2-117	Mesa 2 Tablet Computer (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		25260	Mesa 2 non-Hazloc 1yr Platinum Warranty		
			FOB: Destination		
0007CF	**Juniper Sys**	**PRF-0007CF**	**pRFID HHR-C 862-870 (ETSI)**	**5 year**	**$5,589.00**
		MS2-117	Mesa 2 Tablet Computer (incl RFID)		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		25260	Mesa 2 non-Hazloc 1yr Platinum Warranty (qty = 2)		
			FOB: Destination		
0007CG	**Apriva**	**PRF-0007CG**	**HHR-C CAC Reader**	**3 year**	**$312.00**
		Z-100141	BT200Z Bluetooth CAC Reader		
		Z-100146	BT200Z Wall Charger		
			FOB: Destination		
0007CH	**Juniper Sys**	**PRF-0007CH**	**HHR-C Carrying Device**		**$61.00**
		12867	HHR-C Carrying Case		
			FOB: Destination		
0007CJ	**Juniper Sys**	**PRF-0007CJ**	**HHR-C Rechargeable Battery**		**$152.00**
		25260	MS2 Rechargeable Battery		
			FOB: Destination		
0007CK	**Juniper Sys**	**PRF-0007CK**	**HHR-C AC Adapter & Power Cord**		**$56.00**
		24076	20W Universal AC Power Supply Ki		
			FOB: Destination		
0007CL	**Juniper Sys**	**PRF-0007CL**	**HHR-C Docking Station**		**$757.00**
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007DA	**Juniper Sys**	**PRF3-0007DA**	**pRFID HHR-D 900-928 (FCC), NI**	**3 year**	**$5,238.00**
		MS2-219-HL	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007DB	**Juniper Sys**	**PRF3-0007DB**	**pRFID HHR-D 900-928 (FCC), NI**	**4 year**	**$5,774.00**
		MS2-219-HL	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		26422	Mesa 2 non-Hazloc 1yr Platinum Warranty		
			FOB: Destination		

0007DC	Juniper Sys	PRF3-0007DC	pRFID HHR-D 900-928 (FCC), NI	5 year	$6,311.00
		MS2-114	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		26422	Mesa 2 Hazloc 1yr Platinum Warranty (qyt = 2)		
			FOB: Destination		
0007DD	Juniper Sys	PRF3-0007DD	pRFID HHR-D 862-870 (ETSI), NI	3 year	$5,238.00
		MS2-220-HL	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		
0007DE	Juniper Sys	PRF3-0007DE	pRFID HHR-D 862-870 (ETSI), NI	4 year	$5,774.00
		MS2-219-HL	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		26422	Mesa 2 non-Hazloc 1yr Platinum Warranty		
			FOB: Destination		
0007DF	Juniper Sys	PRF3-0007DF	pRFID HHR-D 862-870 (ETSI), NI	5 year	$6,311.00
		MS2-114	Mesa 2 Tablet Computer, (incl RFID), NI		
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
		26422	Mesa 2 Hazloc 1yr Platinum Warranty (qyt = 2)		
			FOB: Destination		
0007DG	Apriva	PRF-0007DG	HHR-D CAC Reader	3 year	$312.00
		Z-100141	BT200Z Bluetooth CAC Reader		
		Z-100146	BT200Z Wall Charger		
			FOB: Destination		
0007DH	Juniper Sys	PRF-0007DH	HHR-D Carrying Device		$61.00
		12867	HHR-C Carrying Case		
			FOB: Destination		
0007DJ	Juniper Sys	PRF-0007DJ	HHR-D Rechargeable Battery		$152.00
		25260	MS2 Rechargeable Battery		
			FOB: Destination		
0007DK	Juniper Sys	PRF-0007DK	HHR-D AC Adapter & Power Cord		$56.00
		24076	20W Universal AC Power Supply Ki		
			FOB: Destination		
0007DL	Juniper Sys	PRF-0007DL	HHR-D Docking Station		$757.00
		26371	45W Universal AC Power Supply Kit		
		26362	Office Docking Station		
		25679	Removable Battery Charger		
		24076	20W Universal AC Power Supply Kit		
			FOB: Destination		

			Passive RFID – Tags		
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0009AA	**Lowry**	**PRF3-0009AA**	**Shipping Tag - 4" X 2"**		**$420.00 (min order)**
		305-00205	Lowry 4x2 Synthetic RFID Label w/Alien Squiggle Higgs 3 inlay; 2000 labels/roll, (minimum order 1 roll / $420.00 per roll)		
			FOB: Destination		
0009AB	**Lowry**	**PRF3-0015AB**	**Shipping Tag - 4" X 6"**		**$155.00 (min order)**
		305-00206	Lowry 4x6 Synthetic RFID Label w/Alien Squiggle Higgs 3 inlay; 500 Labels/Roll, (minimum order 1 roll / $135 per roll)		
			FOB: Destination		
0009AC	**Omni ID**	**PRF3-0009AC**	**Hardened Standoff Tag**		**$2.39**
		078-GS	Omni ID Exo 750		
			FOB: Destination		
0009AD	**Confidex**	**PRF3-0009AD**	**Battery Assisted Passive Tag**		**$43.35**
		3000858 (FCC) or 3000857 (ETSI)	Confidex Survivor, EPCglobal Class 3, Gen 2 battery assisted, hardened tag		
			FOB: Destination		
0009AE	**Lowry**	**PRF3-0009AE**	**Document Labeling/Tracking Tag**		**$360.00 (min order)**
		305-00207	Lowry 4x1 Direct Thermal Paper RFID Label w/Alien Squiggle Higgs 3 inlay; 2000 Labels/Roll, (minimum order 1 roll /$360 per roll)		
			FOB: Destination		
0009AF	**Omni ID**	**PRF3-0009AF**	**Office/Asset Tag**		**$3.17**
		137-GS	Omni ID Fit 210		
			FOB: Destination		
0009AG	**HID**	**PRF3-0009AG**	**Small Arms Well Tag**		**$2.04**
		7A1941-001	**Seal Tag: eTamper**		
			FOB: Destination		

			Passive RFID - Printer		
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0011AA	**Intermec**	**PRF3-0011AA**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 902-928MHz (FCC)**	**3 year**	**$3,620.87**
		PM43G01NA0140201	PM43 Printer, RFID 915 MHz, 203 dpi resolution		
		136-34-118	4" wide Resin-Based Ribbon		
		SVCPM43-5FC3	PM43, Full Comprehensive, 5 day Turn, 3 year, DayOne		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AB	**Intermec**	**PRF3-0011AB**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 902-928MHz (FCC)**	**4 year**	**$3,793.05**
		PM43G01NA0140201	PM43 Printer, RFID 915 MHz, 203 dpi resolution		
		SVCPM43-5FC4	PM43, Full Comprehensive, 5 day Turn, 4 year, DayOne		
		136-34-118	4" wide Resin-Based Ribbon		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AC	**Intermec**	**PRF3-0011AC**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 902-928MHz (FCC)**	**5 year**	**$3,825.45**
		PM43G01NA0140201	PM43 Printer, RFID 915 MHz, 203 dpi resolution		
		136-34-118	4" wide Resin-Based Ribbon		
		SVCPM43-5FC5	PM43 Full Comprehensive, 5 day Turn, 5 year, DayOne		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AD	**Intermec**	**PRF3-0011AD**	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 862-870MHz (ETSI)**	**3 year**	**$3,620.87**
		PM43G01EU0140202	PM43 Printer, RFID 866 MHz, 203 dpi resolution		
		SVCPM43-5FC3	PM43, Full Comprehensive, 5 day Turn, 3 year, DayOne		
		136-34-118	4" wide Resin-Based Ribbon		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		

SLIN	MFG	PART NO	Product Description and Ancillary Items	Warranty	Firm Fixed Unit Price
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AE	Intermec	PRF3-0011AE	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 862-870MHz (ETSI)**	**4 year**	**$3,793.05**
		PM43G01EU0140202	PM43 Printer, RFID 866 MHz, 203 dpi resolution		
		SVCPM43-5FC4	PM43, Full Comprehensive, 5 day Turn, 4 year, DayOne		
		136-34-118	4" wide Resin-Based Ribbon		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
			FOB: Destination		
0011AF	Intermec	PRF3-0011AF	**pRFID Thermal Transfer Printer - Desktop w/printing and RFID encoding software 862-870MHz (ETSI)**	**5 year**	**$3,825.45**
		PM43G01EU0140202	PM43 Printer, RFID 866 MHz, 203 dpi resolution		
		SVCPM43-5FC5	PM43 Full Comprehensive, 5 day Turn, 5 year, DayOne		
		BT16-PRO	BarTender 2016 Professional Edition Label Software		
		946-006-001	CD with Documentation and Demo Software (if applicable)		
		136-34-118	4" wide Resin-Based Ribbon		
		1-110501-00	Operator Maintenance Kit with cleaning card (box of 25)		
			FOB: Destination		
0011AG	Intermec	PRF3-0011AG	**Operator's Maintenance Kit**		**$24.09**
		1-110501-00	Cleaning Card, 4.5x6", box of 25		
			FOB: Destination		
0011AH	Intermec	PRF2-0011AH	**Replacement Print Head**		**$107.90**
		201-031-420	203 dpi Printhead, PC43 (User Installable)		
			FOB: Destination		
0011AJ	Intermec	PRF2-0011AJ	**4" wide Resin-Based Printer Ribbon**		**$67.99**
		136-34-118	4" wide Resin-Based Printer Ribbon		
			FOB: Destination		
			Passive RFID – Wireless RF Data Communications		
SLIN	MFG	PART NO	Product Description and Ancillary Items	Warranty	Firm Fixed Unit Price
0013AA	Aruba	PRF3-0013AA	**RF Access Point (Indoor Environment)**	**3 year**	**$831.73**
		AP-205-F1	Aruba AP-205 WAP FIPS/TAA		
		AP-220-MNT-W1W	WAP Mounting Kit		
		AR12106CHSSLT	IP67 Rated NEMA Enclosure		
		ALB1210	Aluminum Back Plate		
		N/A	Cable Gland		
		SN3-AP-205-F1	3-Year Warranty		
			FOB: Destination		
0013AB	Aruba	PRF3-0013AB	**RF Access Point (NEMA)**	**3 year**	**$3,239.77**

		AP-274-F1	Aruba AP-274 WAP FIPS/TAA		
		AP-270-MNT-V2	WAP Outdoor Mounting Kit		
		AP-LAR-24	2.4-2.5 GHz Lightning Arrestor (3)		
		AP-LAR-1	2-6 GHz Lightning Arrestor (3)		
		ANT 3x3-5005	Set of 3 5 GHz Antennas		
		ANT 3X3-2005	Set of 3 2.4 GHz Antennas		
		SN3-AP-274-F1	3-Year Warranty		
			FOB: Destination		
0013AC	**Aruba**	**PRF3-0013AC**	**RF Gateway**	**3 year**	**$21,238.53**
		7205-USF	Aruba 7205 10GBASE-X Controller, TAA/FIPS		
		LIC-PEF	Firewall SW License (8)		
		LIC-RFP	Access Protection SW Licesnse (8)		
		LIC-AP	Access Point License (8)		
		SN3-LIC-PEF	3-year support for LIC-PEF (8)		
		SN3-LIC-RFP	3-year support for LIC-RFP (8)		
		SN3-LIC-AP	3-year support for LIC-AP (8)		
		SN3-7205-USF	3-year NDB support for 7205-USF		
			FOB: Destination		

			Passive RFID – Software		
SLIN	**MFG**	**PART NO**	**Product Description and Ancillary Items**	**Warranty**	**Firm Fixed Unit Price**
0015AA	**Globe-Ranger**	**PRF3-0015AA**	**Application Development Software (includes Middleware)**	3 year License / Updates / Maintenance and Warranty	**$326.44**
			iMotion Software per Device Development License for development use only, Model Number PFIM-SE-DVC-DL		
			FOB: Destination		
0015AB	**Globe-Ranger**	**PRF3-0015AB**	**Special Software Development tool kits/utility Libraries**	3 year License / Updates / Maintenance and Warranty	**$10,588.38**
			Federal Solution Accelerator per Server, Model Numbers SA-FDRL-SVRPL, SA-FDRL-SVR-MT3		
			FOB: Destination		
0015AC	**Globe-Ranger**	**PRF3-0015AC**	**Development Software and Utilities Runtime License (includes Middleware)**	3 year License / Updates / Maintenance and Warranty	**$1,229.56**
			iMotion Perpetual per Device License, Model Numbers PF-IM-ES-DVC-PL, PF-IM-DVC-MT3		
			FOB: Destination		
0015AD	**Seagull Scientific**	**PRF3-0015AD**	**pRFID Printer Software**		**$323.41**
			BarTender 2016 Professional Edition Label Software BT16-PRO		
			FOB Destination		
0015AE	**Williams Software Associates**	**SMARTRACK RFID**	**Small Arms Room Management Software**	**Perpetual License / Perpetual Warranty**	**$11,694.11**
			Williams Software Associations (WSA) SMARTRACK Armory Management SW. Includes perpetual license and perpetual warranty		
			FOB Destination		
0015AF	**Williams Software Associates**	**SMARTRACK RFID – SS**	**Small Arms Room Management Software (Server)**	**Perpetual License / Perpetual Warranty**	**$17,541.93**
			Williams Software Associations (WSA) SMARTRACK Armory Management SW. Includes perpetual license and perpetual warranty		
			FOB Destination		

			Passive RFID – MATERIALS (COST REIMBURSABLE)		
SLIN	**PWS**	**PART NO**		**Warranty**	**Firm Fixed Unit Price**
0017 AA		Incidental Materials (Cost Reimbursable)		Negotiated at Task Order Level ($100k ceiling)	

Technical Engineering Services (TES)			
SLIN	**Labor Category**	**Ordering Period 3 (20 DEC 18 to 19 DEC 19)**	**Ordering Period 4 (20 DEC 19 to 19 DEC 20)** / **Ordering Period 5 (20 DEC 20 to 19 DEC 21)**

SLIN	Labor Category	Ordering Period 3 (20 DEC 18 to 19 DEC 19)	Ordering Period 4 (20 DEC 19 to 19 DEC 20)	Ordering Period 5 (20 DEC 20 to 19 DEC 21)
0019 AA	Project Manager	$133.41	$135.26	$137.30
0019 AB	Senior Information Systems Engineer	$111.51	$113.06	$114.75
0019 AC	Senior Programmer	$103.16	$104.58	$106.17
0019 AD	Systems Analyst	$83.28	$84.43	$85.69
0019 AE	Software Systems Designer	$89.17	$90.41	$91.77
0019 AF	Programmer / Analyst	$64.41	$65.31	$66.29
0019 AG	Junior Programmer	$55.67	$56.46	$57.30
0019 AH	Systems Engineer	$93.68	$94.97	$96.39
0019 AJ	Data Comm / Network Specialist	$68.60	$69.55	$70.60
0019 AK	RF Technical Radio Specialist	$77.87	$78.96	$80.14
0019 AM	Senior Systems Engineer	$124.26	$125.96	$127.86
0019 AN	Senior Software Systems Engineer	$106.44	$107.91	$109.53
0019 AP	Senior Field Engineer	$74.12	$75.16	$76.30
0019 AQ	Technical Writer	$55.15	$55.91	$56.75
0021	Travel (Cost Reimbursable)		Negotiated at Task Order Level	

			Item Description	Maint - Year 1 20 Dec 2019 - 19 Dec 2020 (to be exercised)	Maint - Year 2 20 Mar 2020 - 19 Dec 2021 (to be exercised)
			OPTION PERIOD(s) **Maintenance Support (Mail-In/Carry-In/On-Call)**		
SLIN			**Item Description**		
			pRFID - Fixed Reader		
0022 AA			Monthly Maintenance (CONUS/OCONUS)	$8.70	$8.70
0022 AB			Per Incident (CONUS/OCONUS)	$522.29	$522.29
0022 AC			On-Call (CONUS/OCONUS)	$522.29	$522.29
			pRFID - Fixed Reader (Vehicle Mount)		
0023 AA			Monthly Maintenance (CONUS/OCONUS)	$10.88	$10.88
0023 AB			Per Incident (CONUS/OCONUS)	$946.65	$946.65
0023 AC			On-Call (CONUS/OCONUS)	$946.65	$946.65
			pRFID -Smart Table		
0024 AA			Monthly Maintenance (CONUS/OCONUS)	$32.65	$32.65
0024 AB			Per Incident (CONUS/OCONUS)	$544.05	$544.05
0024 AC			On-Call (CONUS/OCONUS)	$544.05	$544.05
			pRFID - Hand Held Reader		
0025 AA			Monthly Maintenance (CONUS/OCONUS)	$9.79	$9.79
0025 AB			Per Incident (CONUS/OCONUS)	$1,186.04	$1,186.04
0025 AC			On-Call (CONUS/OCONUS)	$1,1186.04	$1,186.04
			pRFID – Printer		
0026 AA			Monthly Maintenance (CONUS/OCONUS)	$9.79	$9.79
0026 AB			Per Incident (CONUS/OCONUS)	$1,044.59	$1,044.59
0026 AC			On-Call (CONUS/OCONUS)	$1,044.59	$1,044.59
			pRFID – SW Maintenance		
0027 AA			Annual Software Updates (CONUS/OCONUS)	$394.44	$394.44
0027 AB			Software Fixes (CONUS/OCONUS)	$394.44	$394.44

11. APPENDIX A: SLIN 0001 PRFID FIXED READER

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Product Profile

IF2

Network Reader

- Advanced performance in a compact and cost-effective design
- Easily deployed and managed on common networks
- Low cost per read point for superior ROI
- Choice of Power over Ethernet lowers cost of installation
- Directly monitors and controls peripherals without extra equipment
- Factory configurable to operate in world regions supporting FCC or ETSI frequency bands

The Intermec IF2 is a compact, cost-effective network reader designed to support diverse RFID applications in both enterprise and industrial environments that require a scalable RFID system with a low cost per read point.

The IF2 is based on an Intermec-designed radio frequency (RF) platform that offers best-in-class read performance and includes support for Intermec's exclusive Advanced RFID Extensions (ARX), helping customers achieve a new level of visibility to the identification of RFID tags for greater accuracy of reading tags of interest over readers utilizing less-versatile commodity chipsets.

Packaged in a small and lightweight, yet durable enclosure, the IF2 is suited for nearly any environment, including industrial warehouse and manufacturing operations and enterprise environments for asset and inventory management applications.

Reduces System and Deployment Costs for Large and Small Installations
With a focus on keeping the cost of ancillary equipment and installation low, the IF2 Network Reader includes features that reduce the costs and complexity of the overall solution.

Not only does the low-profile enclosure with integrated mounting slots allow the IF2 to be easily installed in virtually any environment, the IF2 also supports Power over Ethernet (PoE) for scalable deployments without the cost of adding electrical drops where AC line power is not available or practical. An optional DC converter is available to support conventional wall power. Either power method supports the full RF output power capability of the IF2 (up to 30 dBm).

Because the general purpose input/output (GPIO) circuitry can be powered directly through either PoE or the DC power converter, the IF2 allows for direct monitoring and controlling of peripherals such as presence detectors and signal lights without requiring extra devices and power supplies to facilitate the connection.

Further reducing installation and equipment costs, the IF2's four antenna ports can be configured to transmit in either mono- or bi-static mode, increasing the flexibility of the system to achieve the best results for the application and environment. A variety of antennas from Intermec's extensive product line supports diverse applications, versus integrated antenna readers that include one type of antenna and limit the flexibility of applications and deployment.

Intermec

Easy to Use and Manage

The IF2 supports standard network device protocols, including auto-discovery and network service protocols, enabling seamless integration with common network infrastructures.

Supporting the standards-based LLRP application interface, the IF2 can quickly integrate with business solutions such as IBM® WebSphere® RFID and Microsoft® BizTalk® RFID, providing a scalable standardized platform for the development, deployment, and management of RFID solutions. The IF2 also supports Intermec's easy to use Basic Reader Interface (BRI), enabling Intermec customers and partners to quickly and seamlessly include the IF2 in their solutions.

The IF2 comes factory-loaded with the Intermec SmartSystems™ client at no extra charge. Intermec SmartSystems Foundation allows administrators to change device settings, send firmware upgrades, update software applications, and execute other changes on multiple devices directly from a centralized console to save time and cost for deploying, configuring, and maintaining the Intermec hardware.

Intermec's Advanced Services can provide process analysis, site analysis, installation and an 18-month guarantee of system performance.

In support of global operations, the IF2 is certified in regions across the globe and is factory configured to operate in the corresponding RFID frequency band.

General Description

The IF2 is a compact, cost-effective network reader designed to support diverse passive UHF RFID applications in both enterprise and industrial environments. The IF2 supports Power over Ethernet, four mono- or bi-static RF ports, built-in powered general purpose input output (GPIO) control, and both standards-based LLRP and Intermec's easy to use Basic Radio Interface (BRI) application interfaces, enabling scalable low-cost deployments for improved return on investment (ROI). The IF2 is packaged in a durable enclosure for nearly any environment and is factory configured to operate in regions across the globe.

Physical Characteristics

Length: 18.85 cm (7.42 in)
Length w/splashguard: 19.9 cm (7.87 in)
Width: 16.31 cm (6.42 in)
Height: 4.32 cm (1.70 in)
Weight: 1.0 kg (2.2 lbs)
LED Status Indicators: RFID service, power, PoE, Ethernet, tag detection, and antenna port connection status

Environmental

Operating Temperature: -20 to 50°C (-4 to 122°F)
Storage Temperature: -30 to 70°C (-22 to 158°F)
Relative Humidity: 5% to 95% (non-condensing)
Enclosure: IP53 sealing
Die cast magnesium base, Lexan plastic cover

Connectivity

Communications: 10/100 BaseT Ethernet
RS-232, USB for configuration
Input Power: PoE (802.3at compliant)
DC power input (12 VDC +/-5%, 30W), sealed/locking connection. Requires optional Intermec 100/240 VAC converter.

General Purpose

Input/Output (GPIO): Four input (0-40 VDC) and four output (0-48 VDC, 0.25 amp) circuits, powered via PoE or DC input (500 mA, 12 VDC)

RF Characteristics

Antenna Connections: Four reverse-polarity (RP) TNC ports configurable for mono- or bi-static operation. Antenna fault detection and auto tuning for best performance
Output Power: 1 to 30 dBm, configurable in 1 dB steps (calibrated above 9 dBm)
Frequency Ranges: FCC (902-928 MHz) and ETSI (865-868 MHz), factory configured

Software Platform

Passive UHF Tag Protocols:
ISO 18000-6B
ISO 18000-6C
EPCglobal UHF Class 1 Gen 2
Tag Features:
NXP G2X, Impinj Monza 4QT extensions
High memory tags (Fujitsu, Tego, ATA)
Host Application Protocols:
EPCglobal LLRP
Intermec Advanced RFID Extensions (ARX)
Intermec Basic Reader Interface (BRI)
Intermec Developer Library (IDL) resource kit for BRI (Java, C# .NET)
Management and Configuration:
Bonjour
Universal Plug and Play (UPnP)
Intermec SmartSystems client
Intermec Web Services and Web Configuration Interface
Network Protocols:
HTTP/HTTPS Web Server
IPv4, IPv6
DHCP, DNS, NTP, Syslog

Security

FIPS 140-2 compliance for HTTPS, LLRP-secure, and Web Services (DCWS)-secure
RADIUS client support
SSL Certificate support

Accessories

Intermec approved antennas, antenna cables

Regulatory Approvals and Compliance

Model: 1009FF01
Safety: IEC/UL 60950-1
EMC: Class B - FCC/ICES/EN

Intermec Global Services Support

www.intermec.com --> Support --> Knowledge Central
Telephone support available in the USA & Canada (+1-800-755-5505). Outside of this area, contact your local representative.

Restrictions on Use

Some approvals and features may vary by country and may change without notice. Please check with your local Intermec sales office for further information.

12. APPENDIX B: SLIN 0003 VEHICLE MOUNT PRFID READER

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Product profile

IV7
Vehicle Mount RFID Reader

On top of the cage

Underside of the cage above the driver

Bolted to the cage support

- First RFID reader specifically created for mobile mount applications

- Supports multiple air interfaces including ISO, Gen 2 and Class 1

- Rugged cast aluminum alloy housing, sealed to IP65

- Designed for serial attachment to Intermec's CV60 vehicle mount computer

- General purpose inputs/outputs

RFID has always delivered the twin conveniences of hands-free scanning with little or no human intervention. Now, Intermec has taken that to the next level by adding the convenience of mobility with the new IV7 Intellitag® Vehicle Mount RFID reader. The IV7 joins an award winning family of Intellitag readers that include several handheld and fixed mount form factors.

As Intermec's first packaged forklift-mounted RFID reader system, the IV7 is designed for serial attachment to the Intermec® CV60 vehicle mount computer. Both are built to withstand the rigors of harsh, industrial environments and are sealed to IP65 ratings. The CV60, acting as the local host for the IV7, provides network management and security. The built-in DC-DC converter handles the noisy input power environment.

RFID standards are continuing to evolve, which requires manufacturers and retailers to have multi-protocol reading capability if they are implementing RFID in an open supply chain. When fully equipped, the IV7 can read multiple air interface protocols, even in mixed populations of tags, including EPC UHF Generation 2 (Gen 2), ISO 18000 6-b and EPC Class 1.

While portal mounted readers are capable of capturing pallet data and some carton data, the tagged items must be brought to the reader. Enterprises often need the

flexibility to read RFID tags in certain and not-so-certain locations which may not be near the location of a fixed reader. The Intellitag IV7 not only delivers the flexibility of "read where you need," but also a cost advantage over portal reader systems wherever the number of dock doors is significantly larger than the number of fork trucks.

Commercial and U.S. government supply chains will find the IV7 ideal for pick and put away applications. The CV60 can command the IV7, equipped with a location tag-sensing antenna, to scan for RFID tags when a pallet is picked up. The IV7 captures not only the location of the pallet pick up, but also through what doorway it passed, the path the forklift traveled and where the pallet will be placed.

The wireless capability of the CV60 combined with the snappy reads of the IV7 mean that warehouse management systems are automatically updated with location status as the truck moves through tag-equipped zones, as well as with shelf location data when the pallet is dropped off or retrieved.

The IV7's cast aluminum housing has built-in cable strain relief features, and with pre-drilled holes in the base plate, is designed for either U-bolt or flexible strap attachment to many makes of fork trucks. The IV7 can be mounted in any position on the vehicle within 3.5 m (10 ft.) of the

Intermec

vehicle battery or power source such as a terminal strip. The communication to the CV60 is via RS232 cable and connection.

Physical Description
The IV7 is a rugged RFID tag reader designed to be mounted on a vehicle for mobile use and operation in the same harsh environment as the CV60 vehicle mount computer.

Physical Characteristics of the Reader
Length: 34.3 cm (13.5")
Height: 9.5 cm (3.75")
Width: 23.6 cm (9.3")
Weight: 3.08 kg (6.8 lbs)

Standard Features
4 Antenna Connections
4 General Purpose Inputs / 4 Outputs

Multiple Tag Environments
Capable of operation in mixed tag populations – ISO 18000-6b, EPC UHF Gen 2, and EPC Class 1. Configurable for mixed or single tag-type operation. Air interface software on IV7 is downloadable to add Gen 2 and Class 1 air interfaces and to "future-proof" the product as standards evolve and new features become available.

Power
Supply: Vehicle DC power 12 to 60V, 4.5 A maximum

Software
Application software for IV7 will reside on the "host" vehicle-mount computer, such as Intermec's CV60. Application program interface (API), Basic Reader Interface (BRI), demonstration and example applications software are included in the RFID Resource Kit, available through Intermec's Developers' Library.

Options
RFID Frequency Options
915 MHz (US FCC), 865 MHz (ETSI 302-208), and 869 MHz (ETSI 300-220)

Communications Interface
RS232

Accessories
Vehicle-mount DC power cable kit
Antennas, and antenna cables

Environment
Operating Temperature:
-25°C to 55°C (-13°F to 131°F)
Storage Temperature:
-30°C to 75°C (-22°F to 167°F)
Humidity (non-condensing): 10% to 90%
Shock and Vibration Protection: Withstands standard material handling vehicle environments. Meets or exceeds MIL STD 810F
Environmental Rating: IP65

Safety & Regulatory Approvals
ANS INCITS 256:1999 (R2001) - Parts 2, 3.1 & 4.2
ANSI MH10.8.4
ISO/IEC CD18000 Part 4
ISO/IEC WD18000 Part 6
• US/C UL Listed
• TÜV/GS Licensed
• CB Report for EN 60950, addressing all national deviations
• FCC OET Bulletin 65, FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields
• CENELEC EN50364/EN50357, European RF Exposure standard
• AS/NZS 2772.1, Australia/New Zealand RF Exposure standard
• Mexico NOM 19

Restrictions on Use
Some approvals and features may vary by country and may change without notice. Please check with your local Intermec sales office for further information.

Intermec reserves the right to make changes without notice to any products herein for any reason at any time, including but not limited to improving the reliability, form, fit, function or design. Please contact Intermec for current price list and availability.

13. APPENDIX C: SLIN 0005 PRFID SMART TABLE

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

TJMT Technology

EcoTable™
Simplicity in RFID Design

Passive RFID Enabled Workspace Solution

The EcoTable™ from TJMT is a fully functional, fully enabled "Plug & Play" platform that provides a 48 inch (121.92 cm) x 30 inch (76.2 cm) RFID-enabled workspace. The system is engineered to isolate the read field within the boundaries of the table, both above and around the table surface. This design translates to accurate reads of tagged items placed on or above the EcoTable™. The EcoTable™ is ideally suited for receiving, shipping and kitting, as well as counting applications.

At 85 pounds, the 48 inch EcoTable™ is constructed of an aircraft quality aluminum base with adjustable and foldable steel legs, and includes a durable High-density polyethylene (HDPE) 3/8 inch thick work surface designed specifically for industrial shop floor use. Each unit is durable enough to withstand harsh industrial environments, with an IP 54 rating, and is capable of supporting not less than 300 **pounds (136 kg)** loads. The EcoTable™ has adjustable legs allowing users to level the unit virtually anywhere and support a variable top height of between 27-1/2" and 32-1/2"High.

The 48 inch EcoTable™ ships with the Zebra FX 7500 Fixed RFID Reader, but can be ordered with the optional Intermec IF2 Fixed RFID Reader. Please specify North American, or ETSI operating location when ordering table. Reader installed is based on operating region.

Features:

- **Rugged and Portable**
- **Plug & Play**
- **Easy to Assemble**
- **Supports up to 300 lbs (136 kg)**
- **Adjustable Legs**
- **Network Interface**
- **Additional Options: Status Lights, Poly Carry Case, UPS.**
- **Custom Near-field Compound Antenna**

Characteristic	Description
Name/Model	Shelf Antenna
Type	Four circular polarized patch array
Dimensions	32" long × 10" wide × 0.59" thick
Weight	Approximate 5 pounds
Casing	Interleaved
Temperature	Operating : 0° to + 50°C (+32° to + 122°F) Storage : -20 to + 60°C (-4° to + 148°F)
Connectors	TNC Female Connectors
VSWR to center 914MHz	
3db Beam Width	22.2
Gain in db/linear	5.62

The 48 inch EcoTable™ (specifications above) features a custom near-field compound antenna array, specifically designed to enhance read zone modulation.

EcoTable™

Designed by RFID experts who understand your business needs

Warranty

The EcoTable™ is warranted against defects in workmanship and materials for a period of 1 year (12 months) from date of shipment, provided the product remains unmodified and is operated under normal and proper conditions.

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Sterling, VA 20165
Tel: +1 734 709-8908
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14. APPENDIX D: SLIN 0007 PRFID HAND HELD READERS (HHR-A & HHR-B)

Product profile

70 Series RFID

Ultra-Rugged Mobile Computers with Integrated Passive UHF Reader

CN70 RFID   CN70e RFID   CK70 RFID

The Intermec 70 Series RFID is the no compromise, next generation family of ultra-rugged mobile computers that combine passive UHF reading with purpose-built designs in one common platform.

- Fully integrated UHF RFID reader with no visible external antenna

- Optimal device size, weight and ruggedness

- Choice of three ergonomic designs, one common platform

- Full compatibility with printers, application software, communications, peripherals and accessories integrating and enabling a comprehensive enterprise business solution

- Exceptional battery life to eliminate downtime

- Advanced imaging technology for remarkable scanning snappiness, tolerance to motion and low light

The No-Compromise Solution is Now RFID Enabled
When it comes to accomplishing routine data collection tasks with greater efficiency and accuracy, the 70 Series RFID mobile computers are the answer. These devices combine RFID reading with a no-compromise design with best-in-class ruggedness, battery life, and ergonomics. Intelligently designed into three different form factors yet built on a singular core platform, the 70 Series RFID gives you the benefits of purpose-built devices with the reduced complexity and cost savings that come from adopting a common platform.

Because each 70 Series RFID model is designed for a specific application environment, we have surrounded it with a complete set of software, tools, services and training modules—both from us and from our PartnerNet ecosystem—to create the smoothest possible integration into your workflows.

The Simplicity of One
With its single platform approach, the 70 Series RFID is unique in its ability to deliver the benefits that come with

one architecture, one software build, one set of peripherals and one charging system. It brings simplicity to the frequent tasks of software updates, training new employees, managing spares pools and charging devices.

Break the Cycle of Infrastructure Replacement
The 70 Series RFID is fully compatible with the entire suite of original 70 Series accessories, including the FlexDock modular docking system designed to meet your current and future charging and communication needs while maximizing the return on your accessory investment. For details on compatible accessories, see the 70 Series Accessory Guide.

More than Just Hardware
The three form factors comprising the 70 Series RFID include choices of radios, keypads, software and services providing you the flexibility to tailor a specific solution to meet the demands of your environment and the preferences and needs of your employees.

Intermec

Physical Characteristics
CN70 RFID
Dimensions with battery:
L x W x D: 16.9 x 8.0 x 3.4 cm (6.65 x 3.15 x 1.34 in)
Weight: 450 g (15.9 oz) with battery

CN70e RFID
Dimensions with battery:
L x W x D: 19.5 x 8.0 x 3.4 cm (7.66 x 3.15 x 1.34 in)
Weight: 491 g (17.3 oz) with battery

CK70 RFID
Dimensions with battery:
L x W x D: 23.7 x 8.0 x 4.3 cm (9.33 x 3.16 x 1.69 in)
Weight: 562 g (19 oz) with battery

Environmental
Operating Temperature: -20° C to +60° C*
(-4F° F to +140° F)*
Storage Temperature: -30° C to +70° C
(-22° F to +158° F)
Charging Temperature: +5° C to +35° C (41° F to 95° F)
Relative Humidity: Non-condensing, 95%
Rain & Dust Resistance: IP67
Drop Specification: 2.4m (8 ft.) to concrete per MIL-STD 810G; 1.8m (6 ft.) to concrete across operating temperature range per MIL-STD 810G; 2,000 (1m) tumbles per IEC 60068-2-32 specification
Electrostatic Discharge: +/- 15 kV air discharge, +/- 8 kV direct discharge
*Max Ambient: 50° C T6

Power
CK70 RFID
Battery Pack: 3.7 V, 5200 mAh; IEEE 1725 compliant, lithium ion, removable, rechargeable

CN70/CN70e RFID
Battery Pack: 3.7 V, 4000 mAh; IEEE 1725 compliant, lithium ion, removable, rechargeable

Operating System
Microsoft Windows Embedded Handheld built on Windows 6.5.3 technology, Getting started information: www.windowsmobile.com/getstarted

Multi-Engine Processor Architecture
Texas Instruments 1GHz OMAP3 multi-engine processor architecture

Memory and Storage
Memory: 512 MB RAM
ROM: 1 GB Flash
Customer-accessible micro-SD slot for removable memory cards up to 32 GB

Display
- 8.9 cm (3.5 in) Transmissive VGA
- 480 x 640 pixels
- High-Durability Touch Screen
- 65,536 (16bit RGB) Colors
- LED Backlight
- Ambient Light Sensor

Standard Communications
USB – Full Speed 2.0 Host©
USB – Full Speed 2.0 Client©
IrDA

Software Options
Device Management: Intermec SmartSystems™ support includes ScanNGo provisioning for use alone or with device management software from Intermec ISVs
Device Health Monitoring: Remote access requires SmartSystem Management option
Application Development: Intermec Developer Library www.intermec.com/dev

Apps & Components
VERDEX (imaging based data extraction and verification), Mobile Document Imaging (eMDI)

Data Management
Skynax® Mobile Communications

Integrated Radios
Wireless LAN: IEEE®802.11 a/b/g/n Dual Band WLAN
Security: WIFI Certified for WPA and WPA2, WAPI Certified
Authentication: 802.1x
Cisco Compatibility: CCXv4
Encryption: WEP (64 or 128 bit), AES, TKIP

Wireless PAN: Integrated Bluetooth® Class II, Version 2.1+EDR
Operating channels: 0 to 78 (2402-2480 MHz)
Data Rates: 1, 2, 3 Mbps
Antenna: Internal

UHF RFID
Frequency: 902-928 MHz (US) or 865-868 MHz (EU)
Standards: EPCglobal Class 1 Gen 2, ISO 18000-6C
Maximum Output Power: 30 dBm (1 W)
Antenna: Internal, orientation insensitive

Sensor Technology
Accelerometer: Embedded accelerometer enables automatic or application-specific features such as "screen rotation" or system suspend

Audio Support
Supports VoIP / Speech recognition / Push to talk applications; front and rear speakers; rear speaker has >80 dB at 40 cm (15.7 in); Front receiver and front panel microphone for handset audio communication and audio recording; Wireless Bluetooth headset support; Wired headset support via a snap on adapter.

Integrated Scanner
EA30 high performance motion tolerant 2D Imager; white LED illumination; red laser aimer optimized for all lighting conditions; 35 degree downward scan angle; capable of scanning all common 1D and 2D barcodes, 1D as small as 5 mil, PDF as small as 6.6 mil, DataMatrix as small as 7.5 mil, and standard UPC codes from distances up to 33 cm (13 in)

Integrated Camera Option
5 megapixel auto focus color camera with LED flash

Intermec Global Services Support
www.intermec.com --> Support --> Knowledge Central
Telephone support available in the USA & Canada (1-800-755-5505). Outside of this area, contact your local representative.

Maintain equipment with INControl managed services
Current listing of service locations can be found at: www.intermec.com --> Support --> Returns and Repairs --> Repair Locations

Accessories
FlexDock modular docking system, vehicle dock and holder, snap on adaptors, removable scan handle, magnetic stripe reader (see 70 Series Accessory Guide for complete listing).

Regulatory Approvals and Compliance
CN70 RFID: 1000CP01F9, 1000CP01F8
CN70e RFID: 1000CP02F9, 1000CP02F8
CK70 RFID: 1001CP01F9, 1001CP01F8
Safety: cULus (pending), DEMKO
EMC: Class B - FCC/ICES/EN
Radio: FCC, Industry Canada, CE (Europe), 34 countries in total
Environmental: EU Directives-WEEE; RoHS; Batteries & Accumulators; Packaging & Waste Packaging

Regulatory Approvals and Compliance for Non-Incendive Models
Specific non-incendive models in the 70 Series RFID family are suitable for use in the following Division 2 locations:
Safety: cULus (pending) - ISA/ANSI 12.12.01
Gases: Class I - Groups A, B, C, D
Dusts: Class II - Groups F, G
Fibers and Flyings: Class III
* Max Ambient: 50° C T6

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Intermec

15. APPENDIX E: SLIN 0007 SINGLE BATTERY CHARGER/DOCK (HHR-A & HHR-B)

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Product profile

FlexDock
Modular Docking System

Intermec's FlexDock Docking System brings a whole new ease to mobile device docking and charging. Interchangeable bases and cups provide multiple options for data communications and/or charging. No longer do you need separate infrastructures for your various mobile computers, scanners, and printers. You can tailor the dock to meet your specific configuration needs: traditional (a single type of mobile device or battery); mixed (a mix of mobile device types and/or batteries); or transitional (a mix of current and future product choices).

- A modular and extensible design, with replaceable cups, allows for field configuration or reconfiguration of the FlexDock base to match changing needs

- Engineered for large scale deployments, a small footprint allows for high density docking and charging utilizing standard 19" IT racking solutions

- Reduces installation costs and simplifies wiring with 100Base-T Ethernet daisy chaining capability (up to 10)

- A future-proof design delivers docking system infrastructure investment protection, so upgrading to next generation devices only requires the purchase of the devices and battery cups—the docking system infrastructure can be reused

Docking Made Simple
The Intermec FlexDock is a uniquely scalable, modular docking system for Intermec products providing the flexibility to design the docking system that best suits your needs today, as well as in the future.

The Dual or Quad Base supports optional 100Base-T Ethernet connectivity, enabling high-speed data communications over your network infrastructure. "Daisy chaining" capability allows up to ten bases (up to 40 mobile devices) to share a single host network port, significantly reducing cabling requirements.

The Quad Base, designed for large scale deployments, can be configured to hold either a maximum of four mobile devices or four battery charging stations allowing for simultaneous charging of up to 8 battery packs.

The Desktop Base, designed for use in home or small office environments, accommodates one mobile device and one auxiliary battery charger (supporting up to two battery packs) and provides USB Host and USB Client data connectivity. You may choose to connect the mobile computer to a host PC via Microsoft ActiveSync or use optional adapter modules that plug directly into the Desktop Base to provide 100Base-T Ethernet or analog modem communications. In addition, the USB Host port may be used to connect supported peripherals such as an external keyboard to facilitate data input.

No longer do you need to comply with rigid docking requirements or the purchase of different peripherals to perform different tasks. As needs change, FlexDock can be easily modified in its cup configuration to accommodate new requirements.

Space and Installation Cost Savings
In addition to its ground-breaking modular design, FlexDock also improves utilization of valuable backroom storage space. The FlexDock Rack Mount allows FlexDock bases to be mounted in standard 19-inch IT equipment racks, enabling convenient vertical stacking of docks within a significantly smaller footprint. Racks may be mounted horizontal or angled 15 degrees up or down to improve visibility and accessibility of devices while docked. A power supply and cable management shelf provides a convenient means of keeping cables under control and out of the way.

Future-Proof Design
When it's time to upgrade devices, FlexDock provides an extremely cost-effective means of preserving infrastructure investments. Cups for the new mobile computers, printers, handheld scanners and battery packs can easily be snapped into existing bases. No more "rip and replace" or costly installation and rewiring necessary – just snap and go. Intermec's modular and extensible FlexDock System adapts to your current rugged mobile device docking requirements, while easing the transition to future deployments.

Intermec
by Honeywell

Physical Characteristics
Dimensions (L x W x H) & Weight:
(Base heights vary slightly based on type of cup used.)
Desktop Base: 23.1 x 12.7 x 4 cm (9.10 x 5.0 x 1.58 in);
541.5g (19.1 oz)
Dual Base: 23.1 x 12.7 x 4 cm (9.10 x 5.0 x 1.58 in); 553 g
(19.8 oz) or 654.9 g (23.1 oz) with Ethernet
Quad Base: 44.46 x 12.7 x 4 cm (17.5 x 5.0 x 1.58 in)
Power Supply (Dual/Desktop Base): 13 x 7.6 x 3.3 cm
(5.1 x 3.0 x 1.3 in); 272.2 g (9.6 oz)
Power Supply (Quad Base): 18 x 5.6 x 3.9 cm (7.09 x
2.27 x 1.52 in); 688.9 g (24.3 oz)
Cups: 10.6 x 12.5 cm (4.18 x 4.94 in); Cup height varies
from 4.8 to 10.2 cm (1.9 to 4.0 in); Cup weight varies
from 90.7 to 124.8 g (3.2 to 4.4 oz)

Supported Mobile Computers
CK3, CK70, CK71, CN3, CN3e, CN4, CN4e, CN50, CN51,
CN70, CN70e, CS40

Supported Mobile Printers
PR2, PR3

Supported Handheld Scanners
SF61B

Cups
Mobile Computer: Accommodates one mobile
computer; provide charging and data communication
connectivity; front-mounted Ethernet connectivity
indicator (where applicable)
Handheld Scanner: Accommodates one handheld
scanner; provides charging with status via indicators
on scanner.
Mobile Printer: Accommodates one mobile printer;
provides charging with status via indicators on printer.
Battery Pack: Accommodates up to one battery packs
per cup; provides charging; front-mounted charge
status indicator for each pack.

For a comprehensive overview of
FlexDock cups available by product line,
see the FlexDock System Accessory Guide
located at: www.intermec.com/FlexDock

Data Communications
Quad & Dual Base: Optional Ethernet 100Base-T; RJ45
Uplink and Downlink ports
Desktop Base: USB 2.0 Full Speed, Standard USB-A
Host port, Micro USB-B Client port
Desktop Base accepts optional Ethernet 100Base-T or
56 Kbps Analog Modem modules via USB Host port

Battery Charging Time
Typically less than 4 hours; maximum 6 hours for fully
discharged packs

Mounting Options
Rack Mounting Kit: Shelf for mounting one Quad Base
or one Dual Base with Power Supply Shelf underneath.
Options for mounting horizontal; adapters for 15
degree upward or downward angle mounting.

Regulatory Approvals and Compliance
Docks: 1002UD01, 1002UD02, 1002UD03, 1002UD04,
1002UD06
Cups: 1002UD01, 1002UD02, 1002UD03, 1002UD04,
1002UD06, 1002UD06, 1002UC01, 1002UC02, 1002UC06
Power Supplies: 9004AE01, 9006AE01
Safety: cULus Listed (pending), DEMKO (pending)
EMC: Class B – FCC/ ICES/EN (Desktop Base and Dual
Base configurations)
Class A – FCC/ IC/ EN (Dual Base, Quad Base Ethernet
and Quad Base Charge- only configurations)
Environmental: EU Directives – WEEE, RoHS,
Packaging & Waste Packaging

Contact your Intermec PartnerNet Reseller or Sales
Representative for full information on available
configurations.

Dual Dock with two CK70s

Dual Dock configured as 4-position
External Battery Charger

Dual Dock with CN70 and PR2

Quad Dock with CK3, CN51, SF61B, and PR2

Intermec by Honeywell

16. APPENDIX F: SLIN 0009 SHIPPING TAG – 4" X 2"

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Material Specification Sheet
305-00205

Features:
- Thermal Transfer, white synthetic label with a high strength, permanent adhesive.
- Facestock has a special topcoating that provides protection for the thermal layer and maximizes print head life.
- Excellent tear strength, heat resistance, and chemical resistance.
- Strong permanent bonding to a wide variety of substrates and high initial tack and adhesion.

Suggested Applications:
- Product identification
- Barcode and rating plates
- Durable goods labeling
- Work in process labeling

Material Construction:	Description	Caliper
Facestock	White topcoated polyester	2.0 mil
Adhesive	High tack, permanent, acrylic	1.0 mil
Liner	50 lb. super-calendered, kraft stock	3.2 mil

Min. Application Temp $+45^0$ F

Service Temp Range   -30° F to +300° F

Shelf Life
Unless specified otherwise in this document, one year when stored at 72°F at 50% RH.

Statement of Practical Use
As with all pressure sensitive materials, this product should be tested thoroughly under end-use conditions to ensure it meets the requirements of the specific application.

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17.APPENDIX G: SLIN 0009 SHIPPING TAG 4" X 6"

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Material Specification Sheet
305-00206

Features:

- Thermal Transfer, white synthetic label with a high strength, permanent adhesive.
- Facestock has a special topcoating that provides protection for the thermal layer and maximizes print head life.
- Excellent tear strength, heat resistance, and chemical resistance.
- Strong permanent bonding to a wide variety of substrates and high initial tack and adhesion.

Suggested Applications:

- Product identification
- Barcode and rating plates
- Durable goods labeling
- Work in process labeling

Material Construction:	Description	Caliper
Facestock	White topcoated polyester	2.0 mil
Adhesive	High tack, permanent, acrylic	1.0 mil
Liner	50 lb. super-calendered, kraft stock	3.2 mil

Min. Application Temp $+45^0$ F

Service Temp Range   -30°F to +300°F

Shelf Life
Unless specified otherwise in this document, one year when stored at 72°F at 50% RH.

Statement of Practical Use
As with all pressure sensitive materials, this product should be tested thoroughly under end-use conditions to ensure it meets the requirements of the specific application.

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18. APPENDIX H: SLIN 0009 HARDENED STAND-OFF TAG

Omni-ID
Building Intelligent Supply Chains

Visit www.omni-id.com to learn more about the complete line of Omni-ID RFID products.

Omni-ID® Exo 750

Omni-ID Exo 750 is a long range durable RFID tag optimized for attachment to metal assets. Designed with a broad read angle and with a global RF response, Exo 750 is compatible with handheld and portal use cases, anywhere on the globe. Featuring premium materials, Omni-ID Exo 750 offers market leading consistency and reliability in outdoor and industrial applications.

Building Intelligent Supply Chains

Based on a rugged construction, square footprint and moderate durability, the Exo 750 is ideally suited to RTI applications in:
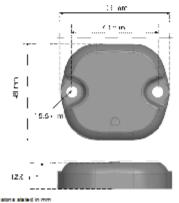
? Automotive supply chain.
? Logistics and Postal.
? Manufacturing tote tracking.

Physical Specifications

Encasement	ABS
Size (mm) (tolerance)	51 x 48 x 12.6 (+/-1.0)
Size (in) (tolerance)	2.01 x 1.9 x 0.50 (+/-0.04)
Weight (g)	25.6

RF Specifications
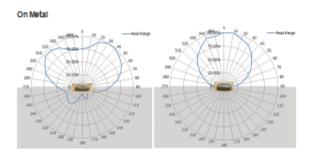
Protocol	EPC Class 1 Gen 2
Frequency Range (MHz)	860-930MHz (GS)
Read Range (Fixed reader)[1]	Up to 7m (EU) Up to 11m (US)
Read Range (Handheld reader)[1]	Up to 3.5m (EU) Up to 5m (US)
Material Compatibility	Optimized for metal
IC Type (chip)	Monza 4QT
Memory [2]	EPC - 96bits User - 512bits TID - 64bits

[1]. Quoted performance achieved using standard testing methodology. Read range will vary with reader hardware and output power.
[2]. EPC and User memory are reprogrammable, TID is locked at point of manufacture.

Radiation Patterns

On Metal

Dimensions stated in mm
DS0014-J PAGE 1 OF 2

Omni-ID
Building Intelligent Supply Chains

Visit www.omni-id.com to learn more about the complete line of Omni-ID RFID products.

Related Products and Services

◆ **Omni-ID Exo 600 -** High performance, global RFID tag designed to meet the diverse needs of logistics industries.

◆ **Omni-ID Dura 1500 -** Long range, high durability and global RFID tag for heavy industry applications.

◆ **Omni-ID Exo 800 -** Long range passive UHF RFID tag capable of reading on, off, and near metal surfaces

◆ **Service Bureau -** Omni-ID offers a full service bureau for printing and pre-encoding Omni-ID tags at point of manufacture.

Environmental Specifications

Operating Temperature	–40 to +85 °C
Long term Max Temperature [1] exposure - (days,weeks,years)	+85 °C
Short term Max Temperature [1] exposure - (minutes,hours)	+105 °C
IP Rating	IP68 Submersion proof to 3000m depth
Shock & Vibration	MIL STD 810-F
Attachment	Mechanical (std) Film adhesive (option) Foam adhesive (option)
Certifications	RoHS approved CE approved ATEX/IECEx certified (option) US&Canada (C1D1/D2) certified (option)
Warranty	3 years

1. Excludes adhesive options, consult adhesive data sheets for recommended temperature ratings.
2. Testing methodology available on request

Ordering Information

Order Numbers	078-GS
	:304 (ATEX/IECEx certified)
	:307 (US&Canada (C1D1/D2) certified)
	:701 (Standard Service Bureau)
	:702 (Custom Service Bureau)

CE RoHS Ex

Omni-ID office locations: US | UK | China | India | Southeast Asia

For product or technology inquiries email: sales@omni-id.com

022014

19. APPENDIX I: SLIN 0009 BATTERY ASSISTED PASSIVE TAG

PRODUCT DATASHEET

Confidex Survivor B™

All-surface tag with extreme performance that is powered with Confidex BOOST™ battery assisted passive technology.

ELECTRICAL SPECIFICATION

Device type
UHF RFID transponder

Air interface protocol
EPCGlobal Class3 Gen2, compliant with:
- EPCGlobal Class 1 Gen2 (ISO 18000-6C)
- ISO 18000-6D (TOTAL)
- AIAG™ B-11
- ATA Spec 2000 Low memory tag compliant

Operational frequency
EU 865 - 869 MHz, US 902 - 928 MHz

IC type
EM4325

Memory configuration
EPC 352 bit; User 3072 bit; TID 48 bit (unique)

EPC memory content
Unique 96 bit EPC encoded as a default

Read range (2W ERP)*
Up to 60m / 200ft

Default mode
Delivered in passive mode with default sensitivity

Applicable surface materials*
All surfaces

* Read ranges are theoretical values that are calculated for non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power according to ETSI EN 302 208 (2W ERP). Different surface materials may have an effect on performance. With BAP technology the reader sensitivity is in important role when it comes to maximum read range.

PERSONALIZATION OPTIONS

Pre-encoding
- Customer specific encoding of EPC or user memory. Locking permanently or with password

Customized data label
- Customer specific layout including logo, text, numbers, barcodes etc.

Customized laser engraving
- Customer specific layout including logo, text, numbers, barcodes etc.

1/2

MECHANICAL SPECIFICATION

Tag materials
High quality engineering plastics.

Battery
Disposable lithium battery. Contact Confidex for recycling instructions.

Weight
34 g

Delivery format
Single

Amount in box
100 pcs

Dimensions
155mm x 26mm x 14,5mm / 6.1" x 1.02" x 0.57"

ENVIRONMENTAL RESISTANCE

Operating temperature
-35°C to +65°C / -31°F to +149°F

Ambient temperature
-35°C to +65°C /-31°F to +149°F

IP classification
IP68

Weather ability
Good, including UV-resistance and sea water

Chemical resistance
No physical or performance changes in:
- 168h Motor oil exposure
- 48h Salt water (salinity 10%) exposure
- 48h Sulfuric acid (10%, pH 2) exposure
- 48h NaOH (10%, pH 13) exposure

Generally good resistance with moderate concentrations of acids, alcohols, alkalis, detergents and cleaners. Acetone should be avoided

Expected battery lifetime
Years in normal operating conditions with continuous reading. Extreme performances will affect the lifetime.

Values in the table are the best recommendations; resistance against environmental conditions depends on the combination of all influencing factors, exposure duration and chemical concentrations. Thus, product's final suitability for certain environmental conditions is recommended to be tested. Contact Confidex for more specific information.

CONFIDEX

PRODUCT DATASHEET
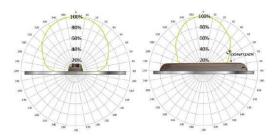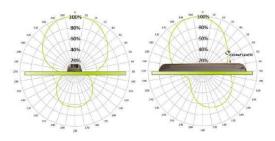
RADIATION PATTERNS

On metal

On plastic

INSTALLATION INSTRUCTIONS

Confidex Survivor B™ can be attached with several fixing methods:

1. High performance acrylic adhesive (not included by default)
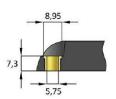
When background adhesive is ordered the tag is delivered with adhesive attached. Clean and dry the surface for obtaining the maximum bond strength. Ideal application temperature is from +21°C to +38°C (+70°F to +100°F), bond strength can be improved with firm application pressure and moderate heating from +38°C to +54°C (+100°F to +130°F). Installation at temperatures below 10°C (50°F) is not recommended.

2. Other adhesive fixings
   • Polyurethane adhesives
   • Epoxies
   • Silicone sealants

Structural adhesives like 3M DP410 provide very high bond strength and resistance against mechanical stress. When tag is attached with sealant adhesive, insert a layer of sealant under the tag and press the tag on the surface. Increase the bond by adding extra sealant from the tag holes. Insert maximum 2mm layer of adhesive under the tag. Please refer to adhesive supplier for exact fixing instructions.

3. Screw or pop rivet

Mechanical fixing is recommended to be used in every application that includes risk for high mechanical stress or low temperature during tag fixing. Refer the dimensional picture for selecting the best size for screw or pop rivet.

4. Cable tie

Confidex Survivor B™ has specific design that allows also plastic or metallic cable ties to be used for fixing. Maximum width of tie is 4mm. Please see picture below for an example.

Polarization of Confidex Survivor B™ is according to its longest dimension.

ORDER INFORMATION

Product number: 3000857
Product name: Confidex Survivor B™ EM4325 ETSI

Product number: 3000858
Product name: Confidex Survivor B™ EM4325 FCC

For other versions, additional information and technical support contact Confidex Ltd.

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20.APPENDIX J: SLIN 0009 DOCUMENT LABELLING TAG

Material Specification Sheet
Lowry 305-00207

Features:

- Direct thermal, smooth white paper label with a non-tackified, all-temperature acrylic adhesive.
- Facestock has a special topcoating for more demanding applications and higher imaging speeds.
- Adheres to a wide variety of packaging materials. Consider for general purpose labeling.

Material Construction:	Description	Caliper
Facestock	White high-sensitivity topcoated paper	3.0 mil
Adhesive	All temperature, permanent acrylic	0.7 mil
Liner	41 lb. white densified, kraft stock	2.5 mil

Min. Application Temp -20°F

Service Temp Range -65°F to +180°F

Statement of Practical Use
As with all pressure sensitive materials, this product should be tested thoroughly under end-use conditions to ensure it meets the requirements of the specific application.

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21.APPENDIX K: SLIN 0009 OFFICE/ASSET TAG

Omni-ID®

Visit www.omni-id.com to learn more about the complete line of Omni-ID RFID products.

nGLOBAL

n HIGH TEMPERATURE

Omni-ID® Fit 210

The Fit 210 is a low profile, small form-factor RFID tag, available in two versions. The High Temperature version expands the capabilities of this small, narrow tag to cycling applications with high temperatures to 225°C. Adding a Global version expands the Fit 210 capabilities. Both versions are ideal for integration within finishing processes, such as dipping, coating, heat shrinking and moulding in the harshest of environments.

Building Intelligent Supply Chains

With its low profile and durable design, Omni-ID's Fit 210 tags are ideally suited to tool tracking and embedding applications such as:

◆ Hand tools, including wrenches and ratchet tools
◆ Paint processes in automotive
◆ Integration within IT assets at point of manufacture
◆ Healthcare — high temperature sterilization

RF & Environmental Specifications

Version	nGLOBAL	n HIGH TEMPERATURE
Protocol	EPC Class 1 Gen2	EPC Class 1 Gen2
Frequency Range (MHz)	860-930 (G3)	866-868 (EU), 902-928 (US)
Read Range (Fixed)[1]	Up to 2.5m (8.2ft)	Up to 2m (6.6ft)
Read Range (Handheld)[1]	Up to 1.4m (4.6ft)	Up to 1m (3.3ft)
Material Compatibility	Optimized for metal substrates	Optimized for metal substrates
IC Type (chip)	Alien Higgs 3	Alien Higgs 3
Memory [2,4]	EPC: 96bits User: 512bits Unique TID: 64bits	EPC: 96bits User: 512bits Unique TID: 64bits
Operation Temperature [3] Max Temperature Exposure [3]	−20°C to +85°C −20°C to +120°C	−20°C to +85°C −20°C to +225°C[4]
Attachment	Film adhesive (included)	Permanent liquid adhesive (not included) Film adhesive (option for placement only)
IP Rating	IP68	IP68
Shock and Vibration	MIL STD 810-G	MIL STD 810-G
Impact[5]	2kg from 1m	2kg from 1m
Warranty	1 year	1 year

1. Quoted performance achieved using standard testing methodology. Read range will vary with reader hardware and output power.
2. EPC and User memory are reprogrammable, TID is locked at point of manufacture.
3. Excludes adhesive options, consult adhesive datasheets for recommended temperature ratings.
4. Maximum constant exposure 12 hours.
5. Testing methodology available on request.
6. Data retention 50 years at our operation temperature.

Physical Specifications

Version	nGLOBAL	n HIGH TEMPERATURE
Finish	Grey	Red
Size (mm)	53 X 5.0 X 1.5	57.1 X 5.95 X 1.3
Size (in)	2.09 X 0.20 X 0.06	2.25 X 0.23 X 0.05
Weight (g)	1.0	1.0

22. APPENDIX L: SLIN 0011 PRFID PRINTERS

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

Intermec Lifecycle Services – Delivering Business Continuity

Intermec lifecycle services provide customers and partners with best-in-class support, education, managed and advanced services. For your support plan needs, our Intermec Medallion® Services programs deliver the highest levels of productivity, device reliability, and uptime. The Medallion® Complete support package covers hardware failure, general wear and tear and accidental damage. Find out more about Intermec's lifecycle services solutions at http://www.intermec.com/services.

Description
Industrial Mid Range, Direct Thermal and Thermal Transfer label, ticket and tag printer. Also available with RFID.

Physical Characteristics
PM43: LxHxW: 483.54 x 294.61 x 284.2 mm (19.04 x11.6 x 11.19 in)
Weight: 15.82 kg (34.88 lbs.)
PM43C: LxHxW: 431.84 x 181 x 252.5 mm (17 x7.13x 9.94 in)
Weight: 12.5 kg (27.65 lbs.)
PM43C with Dome Door:
LXHXW: 500.22X244.87X252.5 mm (19.04X9.64X9.94 in)
Weight: 12.71Kg (28.02 lbs.)

Print Specifications
Max. Width with 203dpi: 108 mm (4.25 in)
Max. Width with 300 dpi: 106 mm (4.17 in)
Max. Width with 406 dpi: 104 mm (4.09 in)
Max. Length: depending on with 203 dpi – 406 dpi: (1.2 m) 48 in to (4.8 m) 191 in

RFID Standards & Frequencies
18000-6C / EPC Class 1 Generation 2 865-928 MHz radio configured to comply with local UHF RFID regulations including FCC and ETSI. Contact local representative for availability in particular regions.

Print Speed
100 – 300 mm/s (4 – 12 ips) variable (203/300 dpi)
100 – 250 mm/s (4 – 10 ips) variable (406 dpi)

Print Resolution
8 dots/mm (203 dpi)
11.8 dots/mm (300 dpi)
16 dots/mm (406 dpi)

Media
Type: Labels and Tags, Linerless and Linered media
Max/Min Width: 114.3 /19.05 mm (4.5 /0.75 in)
Thickness: 3 to 10.4 mil

Configuration: Roll-fed or fanfold
Sensing: Gap, notch, black mark, continuous
Label Roll Max Diameter: 212.75 mm (8.375 in)
Label Roll Core: 38-76 mm (1.5-3 in)
Type: Ribbons
Roll Max Diameter: 80 mm (3.15 in), approx. 450m
Core ID: 25.4 mm (1 in)
Type: Wax, mid-range, resin
Genuine Intermec Media: www.intermec.com/media

Interfaces
Standard:
• Ethernet 10/100 Mbps
• RS-232, up to 115.2 kB/s
  Supported Serial Protocols:
  • Fingerprint/Direct Protocol: XON/XOFF, ENQ/ACK, DSR/DTR, RTS/CTS
  • IPL: XON/XOFF, Intermec Std. Protocol
• USB 2.0
• USB Host/Boot (X1 on PM43C, X2 on PM43)
Optional:
• Parallel IEEE 1284
• Industrial Interface (8 digital in/out, 4 analog relays, 1 RS232/422/485 port)
• Dual Serial ports RS-232, RS-422, RS-485 and 20mA Current Loop
• Dual USB Host/Boot
Wireless:
• IEEE 802.11 b/g/n + Bluetooth
• Wi-Fi Certified, CCX (Cisco®) version 4 Certified
• Static WEP (64 bit and 128 bit), Dynamic WEP (TLS, TTLS, PEAP, LEAP, EAP-FAST), WPA (THIP/CCKM Personal and Enterprise, WPA2 (AES-CCMP/CCKM Personal and Enterprise)
• Multiple industrial antenna options for maximized coverage
Supported Protocols:
TCP/IP-suite (TCP, UDP, ICMP, IGMP, etc.), LPR/LPD, FTP, BOOTP, DHCP, HTTP, SNMPv1/2c/3, (SMTP.SNMP-MIBII supported – over UDP/IP – private enterprise MIB included)
• Supports IPv4 and IPv6
• No touch configuration capability through imbedded RFID chip

Software
Printer Command Languages:
• IPL
• Fingerprint/Direct Protocol
• ZSim (ZPL)
• DSim (DPL)
• Web Page configuration interface
• XML enabled for SAP® All and Oracle® WMS
Applications / Drivers:
• InterDriver™ Windows printer driver
• Intermec label design and print package
• PrintSet for printer configuration
Development Software:
• Intermec Fingerprint Application Builder™ (IFAB) (RFID libraries included)

Device Management Support:
• SmartSystems™
• Wavelink Avalanche™

Bar Code Symbologies
All major 1D and 2D symbologies are supported.

Standards Supported
UPC/EAN Shipping Container; UCC/EAN 128 Serial Shipping Container; MH10.8 Shipping Label; AIAG (shipping parts label); OGMARS; POSTNET; HIBCC; ISBT 128; GM1724; UPS shipping label; Global Transport Label

Fonts
Monotype font engine
Non-Latin fonts available through WTLE

Graphics
Supports PCX, PNG, GIF and BMP file formats.
Other formats supported with Label Generation Tools.

Memory
Standard: 128MB Flash memory, 128MB SDRAM, Multi-GB USB memory device (FAT16/FAT32 USB drivers supported)

User Interface
Color touch User Interface
Icon User Interface

User Interface Languages
Color Touch interface and Web Page support English, Russian, German, French, Portuguese, Spanish, Italian, Korean, Simplified and Traditional Chinese

Power Supply
AC Voltage: 100 to 240 VAC, 45 to 65Hz
PFC Regulation: IEC320/C14
Power Consumption: Standby 9W; Peak 300W

Operating Environment
Ambient Operating Temperature:
+5°C to +40°C (+41°F to +104°F)
Storage Temperature: -20°C to +70°C (-4°F to +152°F)
Humidity: 20 to 80% non-condensing

Regulatory Approvals
RoHS compliant, CE (EN55022 Class A), FCC Class A, UL/cUL, C-Tick, Energy STAR certified, D Mark and CCC

Options and Accessories
RFID UHF, integral self-strip unit with liner takeup, Label Taken Sensor (LTS), Full Batch Label/Liner Rewinder, parallel interface board, additional serial interface boards*, industrial interface boards*, real time clock, media supply hub, Collapsible Ribbon core cutter, Media low sensor, Linerless

*Not applicable when using IPL firmware

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23. APPENDIX M: SLIN 0013 WIRELESS ACCESS POINT (INDOOR ENV)

Not all listed options are included in SLIN. Refer to Section 10 for specific offering.

aP-200 seRIes sPeCIFICatIONs

- AP-205 and IAP-205
  - 2.4-GHz (300 Mbps max rate) and 5-GHz (867 Mbps max rate) radios, each with 2x2 MIMO and four integrated omni-directional downtilt antennas.
- AP-204 and IAP-204
  - 2.4-GHz (300 Mbps max rate) and 5-GHz (867 Mbps max rate) radios, each with 2x2 MIMO and two combined, diplexed external RP-SMA antenna connectors.

adVaNCedFeatURes

- RF management
  - Adaptive Radio Management™ (ARM) technology automatically assigns channel and power settings, provides airtime fairness and ensures that APs stay clear of all sources of RF interference to deliver reliable, high-performance WLANs.
  - The 200 Series APs can be configured to provide part-time or dedicated air monitoring for spectrum analysis and wireless intrusion protection, VPN tunnels to extend remote locations to corporate resources, and wireless mesh connections where Ethernet drops are not available.
- Spectrum analysis
  - Capable of part-time or dedicated air monitoring, the spectrum analyzer remotely scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference.
- Security
  - With an OpenDNS service subscription, Aruba Instant RAPs deliver integrated web filtering, malware and botnet protection to every device connected to the WLAN.
  - Integrated Trusted Platform Module (TPM) for secure storage of credentials and keys
  - SecureJack-capable for secure tunneling of wired Ethernet traffic.

OPeRatING MOdes

- Aruba Instant AP
- Mobility Controller-managed AP
- Remote AP (RAP) for branch deployments
- Air monitor (AM) for wireless IDS, rogue detection and containment
- Spectrum analyzer, dedicated or hybrid
- Secure enterprise mesh

WIReLess RadIO sPeCIFICatIONs

- AP type: Indoor, dual radio, 5-GHz 802.11ac and 2.4-GHz 802.11n 2x2:2
- Software-configurable dual radio supports 5 GHz (Radio 0) and 2.4 GHz (Radio 1)
- 2x2 MIMO with two spatial streams and up to 867 Mbps wireless data rate
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 to 5.250 GHz
  - 5.250 to 5.350 GHz
  - 5.470 to 5.725 GHz
  - 5.725 to 5.850 GHz
- Available channels: Dependent on configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
- Supported modulation types:
  - 802.11b: bPSK, QPSK, CCK
  - 802.11a/g/n/ac: bPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dbm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +21 dbm (18 dbm per chain)
  - 5-GHz band: +21 dbm (18 dbm per chain)
- Advanced Cellular Coexistence (ACC) minimizes interference from cellular networks
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay/shift diversity (CDD/CSD) for improved downlink RF performance
- Short guard interval for 20-MHz, 40-MHz and 80-MHz channels
- Space-time block coding (STbC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Transmit beamforming (TxbF) for increased reliability in signal delivery

- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: 6.5 to 300 (MCS0 to MCS15)
  - 802.11ac: 6.5 to 867 (MCS0 to MCS9, NSS = 1 to 2)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDu, A-MSDu

aNteNNas

- AP-204/IAP-204: Two RP-SMA connectors for external dual band antennas. Internal loss between radio interface and external antenna connectors (due to diplexing circuitry): 1.5 db in 2.4 GHz and 3.0 db in 5 GHz.
- AP-205/IAP-205: Four integrated down-tilt omni-directional antennas for 2x2 MIMO with maximum antenna gain of 4.0 dbi in 2.4 GHz and 6.0 dbi in 5 GHz. built-in antennas are optimized for horizontal ceiling mounted orientation of the AP.

OtheR INteRFaCes

- 10/100/1000bASE-T Ethernet network interface (RJ-45)
  - Auto-sensing link speed and MDI/MDX
  - 802.3az Energy Efficient Ethernet (EEE)
  - PoE-PD: 48 Vdc (nominal) 802.3af PoE
- DC power interface, accepts 1.7/4.0-mm center-positive circular plug with 9.5-mm length
- Visual indicators (LEDs):
  - Power/system status
  - Ethernet link status (ENET)
  - Radio status (two; RAD0, RAD1)
- Reset button: factory reset (during device power up)
- Serial console interface (RJ-45)
- Kensington security slot

POWeR

- Maximum (worst-case) power consumption: 12.5 watts (PoE) or 11.7 watts (DC)
- Maximum (worst-case) power consumption in idle mode: 8.4 watts (PoE) or 7.7 watts (DC)
- Direct DC source: 12 Vdc nominal, +/- 5%
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3af-compliant source
- Power sources sold separately
- When both power sources are available, DC power takes priority

MOUNtING

- Included with AP:
  - Mounting brackets (2) for attaching to 9/16-inch or 15/16-inch T-bar drop-tile ceiling
- Spare mounting kit:
  - AP-220-MNT-C1: Aruba AP mount kit contains two ceiling-grid rail adapters for flat rails
- Optional mounting kits:
  - AP-220-MNT-C2: Aruba AP mount kit contains two ceiling-grid rail adapters for Interlude and Silhouette style rails
  - AP-220-MNT-W1: Aruba AP mount kit contains one basic flat-surface wall/ceiling mount bracket
  - AP-200-MNT-W2: Aruba AP mount kit contains one secure flat-surface wall/ceiling mount cradle

MeChaNICaL

- Dimensions/weight (unit, excluding mount accessories):
  - 150 mm x 150 mm x 41.5 mm (W x D x H)
  - 380 g
- Dimensions/weight (shipping):
  - 190 mm x 187 mm x 57 mm (W x D x H)
  - 550 g

eNVIRONMeNtaL

- Operating:
  - Temperature: 0° C to +40° C (+32° F to +104° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)

ReGULatORY

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- uL/IEC/EN 60950
- EN 60601-1-1 and EN 60601-1-2

For more country-specific regulatory information and approvals, please see your Aruba representative.

ReLIaBILItY

MTbF: 711,187 hours (81.2 years) at +25° C operating temperature

datasheet
ARubA 200 SERIES ACCESS POINTS

ReGULatORY MOdeL NUMBeR

- AP-204 and IAP-204: APIN0204
- AP-205 and IAP-205: APIN0205

CeRtIFICatIONs

- Cb Scheme Safety, cTuVus
- uL2043 plenum rating
- Wi-Fi Alliance (WFA) certified 802.11a/b/g/n/ac

WaRRaNtY

- Aruba limited lifetime warranty

MINIMUM sOFtWaRe VeRsIONs
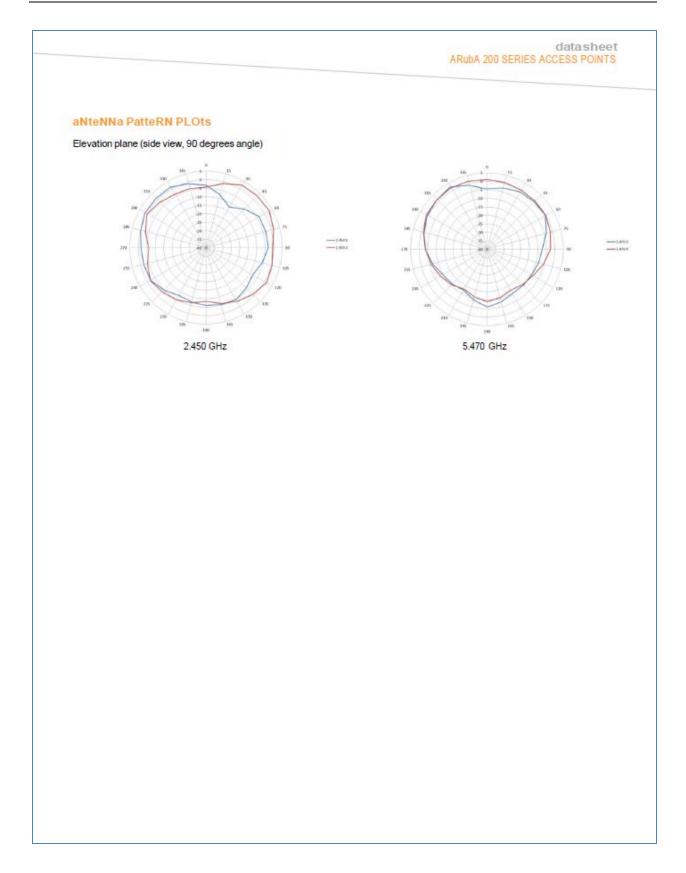
- ArubaOS™ 6.4.1.0
- Aruba InstantOS™ 4.1.1.0

RF PeRFORMaNCe taBLe

	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
2.4 Ghz		
802.11b		
1 Mbps	18.0	-95.0
11 Mbps	18.0	-88.0
802.11g		
6 Mbps	18.0	-92.0
54 Mbps	16.0	-74.0
802.11n ht20		
MCS0/8	18.0	-91.0
MCS7/15	16.0	-71.0
802.11n ht40		
MCS0/8	18.0	-88.0
MCS7/15	16.0	-68.0
5 Ghz		
802.11a		
6 Mbps	18.0	-93.0
54 Mbps	16.0	-75.0
802.11n ht20		
MCS0/8	18.0	-91.0
MCS7/15	15.0	-71.0
802.11n ht40		
MCS0/8	18.0	-88.0
MCS7/15	15.0	-68.0
802.11ac Vht20		
MCS0	18.0	-91.0
MCS9	12.0	-64.0
802.11ac Vht40		
MCS0	18.0	-88.0
MCS9	12.0	-61.0
802.11ac Vht80		
MCS0	18.0	-85.0
MCS9	12.0	-58.0

Maximum capability of the hardware provided. Maximum transmit power is limited by local regulatory settings.

datasheet
ARubA 200 SERIES ACCESS POINTS

aNteNNa PatteRN PLOts

Horizontal or azimuth plane (top view), 0 degrees downtilt

2.450 GHz

5.470 GHz

Horizontal or azimuth plane (top view), 30 degrees downtilt

2.450 GHz

5.470 GHz

Elevation plane (side view, 0 degrees angle)

2.450 GHz

5.470 GHz

datasheet
ARubA 200 SERIES ACCESS POINTS

aNteNNa PatteRN PLOts

Elevation plane (side view, 90 degrees angle)

2.450 GHz   5.470 GHz

ORdeRING INFORMatION

Part number	Description
200 series access points	
AP-204	Aruba AP-204 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, antenna connectors
IAP-204-RW	Aruba Instant IAP-204 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, antenna connectors – Restricted regulatory domain: Rest of World
IAP-204-uS	Aruba Instant IAP-204 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, antenna connectors – Restricted regulatory domain: united States
IAP-204-JP	Aruba Instant IAP-204 Wireless Access point, 802.11n/ac 2x2:2, dual radio, antenna connectors – Restricted regulatory domain: Japan
AP-205	Aruba AP-205 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, integrated antennas
IAP-205-RW	Aruba Instant IAP-205 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: Rest of World
IAP-205-uS	Aruba Instant IAP-205 Wireless Access Point, 802.11n/ac, 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: united States
IAP-205-JP	Aruba Instant IAP-205 Wireless Access point, 802.11n/ac 2x2:2, dual radio, integrated antennas – Restricted regulatory domain: Japan
aP-200 series access Points (FIPs/taa)	
AP-204-F1	Aruba AP-204 Wireless Access Point, 802.11ac, 2x2:2, dual radio, antenna connectors (FIPS/TAA)
AP-205-F1	Aruba AP-205 Wireless Access Point, 802.11ac, 2x2:2, dual radio, integrated antennas (FIPS/TAA)
Mounting spares	
AP-220-MNT-C1	Aruba Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for flat rails). Color: black. Spare.
Mounting accessories	
AP-220-MNT-C2	Aruba Access Point Mount Kit (ceiling grid). Contains 2x ceiling grid rail adapters (for Interlude and silhouette style rails). Color: black
AP-220-MNT-W1	Aruba Access Point Mount Kit (basic, flat surface). Contains 1x flat surface wall/ceiling mount bracket. Color: black
AP-200-MNT-W2	Aruba Access Point Mount Kit (secure, flat surface). Contains 1x flat surface wall/ceiling mount cradle. Color: white
Generic Indoor aP accessories	
AP-AC-uN	12V/18W Indoor Access Point AC power adapter. universal, ships with 8 country-specific plug inserts (uS, Eu, uK, Australia, China, Korea, Argentina, brazil), covering all Aruba core countries
AP-AC-12V18	12V/18W Indoor Access Point AC power adapter. Does not include country-specific power cord (order separately)
PD-3501G-AC	15.4W 802.3af PoE midspan injector, 10/100/1000bASE-T Ethernet

24. APPENDIX N: SLIN 0013 WIRELESS ACCESS POINT (NEMA)

aruba
NETWORKS

DATA SHEET

ARUBA 270 SERIES
OUTDOOR ACCESS POINTS

Setting a higher standard for 802.11ac

Innovative and aesthetically-designed 270 series outdoor wireless access points deliver gigabit Wi-Fi performance to 802.11ac mobile devices under any weather conditions. The 270 series is also the only outdoor AP that enables 802.11n clients to operate three-times faster at greater distances.

Purpose-built to survive in the harshest outdoor environments, 270 series APs withstand exposure to extreme high and low temperatures, persistent moisture and precipitation, and are fully sealed to keep out airborne contaminants. All electrical interfaces include industrial-strength surge protection.

With a maximum data rate of 1.3 Gbps in the 5-GHz band and 600 Mbps in the 2.4-GHz band, 270 series outdoor APs supports concurrent dual-radio operation at speeds that greatly exceed Fast Ethernet.

WI-FI CLIENT OPTIMIZATION

To eliminate sticky client behavior and ensure consistently high performance, every Aruba AP includes ClientMatch™ technology, which gathers session performance metrics that steer mobile devices to the best AP and radio on the WLAN in real time.

UNIQUE BENEFITS

- Innovative industrial design
  - Eliminates installation complexity
  - Inconspicuous design that improves aesthetics
  - Delivers IP66- and IP67-rated protection from the elements
- Best-in-class RF management
  - Integrated Adaptive Radio Management™ technology manages the 2.4-GHz and 5-GHz radio bands and ensures that APs stay clear of RF interference

- Reliable and predictable Wi-Fi performance
  - Patented ClientMatch™ technology ensures that roaming clients associate with the best AP to maximize performance
  - AppRF™ technology identifies and prioritizes applications on the network
- Spectrum analysis
  - Capable of part-time or dedicated spectrum analysis, which scans the 2.4-GHz and 5-GHz radio bands to identify sources of RF interference
- Limited lifetime warranty – an industry first for outdoors

CHOOSE YOUR OPERATING MODE

The 270 series of outdoor APs offers a choice of operating modes to meet your unique management and deployment requirements.

- Controller-managed AP or Remote AP (RAP) running ArubaOS™. When managed by Aruba Mobility Controllers, the 270 series offers centralized configuration, data encryption, policy enforcement and network services, as well as distributed and centralized traffic forwarding.
- Aruba Instant™ AP running InstantOS™. In Aruba Instant mode, one AP automatically distributes the network configuration to other APs. Just power-up one Instant AP, configure it over the air, and plug in the other APs – the entire process takes about five minutes.

In addition to operation mode, the APs can be optionally configured to perform the following functions:

- Spectrum analysis: Dedicated scan mode identifies sources of RF interference.
- Air monitoring: Dedicated scan mode provides wireless intrusion protection.
- Hybrid AP: Serves Wi-Fi clients and simultaneously provides wireless intrusion protection and spectrum analysis.

For large installations with multiple sites, the Aruba Activate™ service reduces deployment time by automating provisioning, firmware upgrades, and inventory management. With Aruba Activate, Instant APs are factory shipped to any site and configure themselves when powered up.

If WLAN and network requirements change, a built-in migration path allows 270 series Instant APs to become part of a WLAN that is centrally managed by a Mobility Controller.

ACCESS POINT MODELS
- AP-274 and IAP-274
  - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three external antenna connectors
- AP-275 and IAP-275
  - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three integrated omni-directional antennas
- AP-277 and IAP-277
  - 2.4-GHz and 5-GHz radios, each with 3x3 MIMO and three integrated 80° H x 80° V beamwidth directional antennas

WIRELESS RADIO SPECIFICATIONS
- AP type: Outdoor, dual radio, 5-GHz 802.11ac and 2.4-GHz 802.11n
  - In addition to 802.11n data rates, the 2.4-GHz radio supports 802.11ac 256-QAM modulation. This gives TurboQAM-enabled clients a 33% boost to deliver up to 600 Mbps.
- Supported frequency bands (country-specific restrictions apply):
  - 2.4000 GHz to 2.4835 GHz
  - 5.150 GHz to 5.250 GHz
  - 5.250 GHz to 5.350 GHz
  - 5.470 GHz to 5.725 GHz
  - 5.725 GHz to 5.875 GHz
- Available channels: Dependent upon configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum

- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n/ac: Orthogonal frequency-division multiplexing (OFDM)
  - 802.11n/ac: 3x3 MIMO with up to three spatial streams
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM (with TurboQAM clients)
  - 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum (aggregate, conducted total) transmit power (limited by local regulatory requirements):
  - 2.4-GHz band: +28 dBm (23 dBm per chain)
  - 5-GHz bands: +28 dBm (23 dBm per chain)
- Advanced cellular coexistence (ACC) feature to minimize interference from cellular systems
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity (CDD) for improved downlink RF performance
- Short guard interval for 20-MHz, 40-MHz and 80-MHz channels
- Space-time block coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Explicit transmit beam-forming (TxBF) for increased reliability in signal delivery
- Supported data rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: 6.5 to 450 (MCS0 to MCS23, 1 to 3 spatial streams)
  - 802.11ac: 6.5 to 1,300 (MCS0 to MCS9, 1 to 3 spatial streams)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11ac very high throughput (VHT) support: VHT 20/40/80
- 802.11n/ac packet aggregation: A-MPDU, A-MSDU Power
- Maximum power consumption: 23 watts
- Direct AC source: 100-240-Volt AC
- Power over Ethernet (PoE): 48 Vdc (nominal) 802.3at compliant

ANTENNAS

- AP-274: Six N-type female connectors for external antennas
- AP-275: Six integrated omni-directional antennas for 3x3 MIMO with maximum antenna gain of 5 dBi in 2.4 GHz and 5 dBi in 5 GHz. Built-in antennas are optimized for horizontal mounted orientation of AP-275.
- AP-277: Six integrated multipolarized directional antennas with 80° H x 80° V beamwidths for 3x3 MIMO with maximum antenna gain of 6.5 dBi in 2.4 GHz and 5 GHz.

OTHER INTERFACES

- One PoE+ PD port 10/100/1000BASE-T Ethernet network interface (RJ-45)
- One port 10/100/1000BASE-T Ethernet network interface (RJ-45)
- AC power interface, power cords sold separately
- Serial console interface (micro USB)
- Reset button
- Visual indicator (LED):
  - Power/system status; automatically disabled after initial operation period

MOUNTING

- Must be ordered separately
- Optional mounting kits:
  - AP-270-MNT-V1: Aruba 270 series AP long mount kit for pole/wall mounting. Reduces impact of obstruction by pole or extends away from corner.
  - AP-270-MNT-V2: Aruba 270 series AP short mount kit for pole/wall mounting
  - AP-270-MNT-H1: Aruba 270 series AP hanging bracket for horizontal/inclined surface/ pole mounting

MECHANICAL

AP-274

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 24 cm (D) x 19 cm (H) with aesthetic cover
  - 9.0" (W) x 9.4" (D) x 7.5" (H)
  - 2.7 kg/6 lbs
  - 23 cm (W) x 24 cm (D) x 14 cm (H) without aesthetic cover
  - 9.0" (W) x 9.4" (D) x 5.5" (H)
  - 2.4 kg/5.3 lbs

AP-275

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 24 cm (D) x 27 cm (H)
  - 9.0" (W) x 9.4" (D) x 10.6" (H)
  - 2.4 kg/5.3 lbs

AP-277

- Dimensions/weight (excluding mount):
  - 23 cm (W) x 22 cm (D) x 13 cm (H)
  - 2.1 kg/4.7 lbs

ENVIRONMENTAL

- Operating:
  - Temperature: -40° C to +65° C (-40° F to +150° F)
  - Humidity: 5% to 95% non-condensing
- Storage and transportation:
  - Temperature: -40° C to +70° C (-40° F to +158° F)
- Operating Altitude: 3000m
- Chassis Rating: IP66 and IP67
- Wind Survivability: Up to 165 mph
- Shock and Vibration: ETSI 300-19-2-4 spec T41.E 4M3

REGULATORY

- FCC/Industry of Canada
- CE Marked
- R&TTE Directive 1995/5/EC
- Low Voltage Directive 72/23/EEC
- EN 300 328
- EN 301 489
- EN 301 893
- UL/IEC/EN 60950
- EN 60601-1-1, EN60601-1-2

For more country-specific regulatory information and approvals, please see your Aruba representative.

REGULATORY MODEL NUMBERS

- AP-274 and IAP-274: APEX0101
- AP-275 and IAP-275: APEX0100

CERTIFICATIONS

- CB Scheme Safety, cTUVus
- UL2043 plenum rating
- Wi-Fi Alliance certified 802.11a/b/g/n/ac

WARRANTY

- Limited lifetime warranty

MINIMUM OPERATING SYSTEM SOFTWARE VERSIONS

- ArubaOS 6.4 (AP-274, AP-275), Aruba OS 6.4.3 (AP-277)
- Aruba Instant 4.1 (AP-274, AP-275), Aruba Instant 4.1.2 (AP-277)

RF PERFORMANCE TABLE		
	Maximum transmit power (dBm) per transmit chain	Receiver sensitivity (dBm) per receive chain
802.11b 2.4 GHz		
1 Mbps	23.0	-92.0
2 Mbps	23.0	-92.0
5.5 Mbps	23.0	-90.0
11 Mbps	23.0	-88.0
802.11g 2.4 GHz and 802.11a 5 GHz		
6 Mbps	23.0	-88.0
54 Mbps	18.0	-75.0
802.11n HT20 2.4 GHz and 5 GHz		
MCS0/8	23.0	-88.0
MCS7/15	17.0	-71.0
802.11n HT40 2.4 GHz and 5 GHz		
MCS0/8	23.0	-85.0
MCS7/15	17.0	-68.0
802.11ac VHT20 5 GHz		
MCS0	23.0	-88.0
MCS9	16.0	-65.0
802.11ac VHT40 5 GHz		
MCS0	23.0	-85.0
MCS9	16.0	-62.0
802.11ac VHT80 5 GHz		
MCS0	23.0	-82.0
MCS9	16.0	-59.0

DATA SHEET
ARUBA 270 SERIES OUTDOOR ACCESS POINTS

ORDERING INFORMATION

Part Number	Description
AP-270 Series Access Points	
AP-274	AP-274 Aruba AP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors
AP-274-F1	AP-274 Aruba AP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors (FIPS|TAA)
IAP-274-US	IAP-274-US Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: United States
IAP-274-JP	IAP-274-JP Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: Japan
IAP-274-RW	IAP-274 Aruba Instant IAP-274 Wireless Access Point, 802.11ac, 3x3:3, dual radio, antenna connectors – Restricted regulatory domain: rest of world
AP-275	AP-275 Aruba AP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas
AP-275-F1	AP-275 Aruba AP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas (FIPS|TAA)
IAP-275-US	IAP-275-US Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: United States
IAP-275-JP	IAP-275-JP Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: Japan
IAP-275-RW	IAP-275 Aruba Instant IAP-275 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated antennas – Restricted regulatory domain: rest of world
AP-277	Aruba AP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas
AP-277-F1	Aruba AP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas (FIPS|TAA)
IAP-277-US	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: United States
IAP-277-JP	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: Japan
IAP-277-RW	Aruba Instant IAP-277 Wireless Access Point, 802.11ac, 3x3:3, dual radio, integrated directional antennas - Restricted regulatory domain: rest of world

ORDERING INFORMATION

Part Number	Description
Accessories	
PD-9001GR-AC	PD-9001GR-AC 30W 802.3at Indoor PoE midspan injector, 10/100/1000BASE-T Ethernet
PD-9001GO-DC	PD-9001GO-DC 30W 802.3at Outdoor PoE midspan injector, 12-24V DC in, 10/100/1000BASE-T Ethernet, Surge Protected, North America Power Cable
PD-9001GO-NA	PD-9001GO-AC 30W 802.3at Outdoor PoE midspan injector, 10/100/1000BASE-T Ethernet, Surge Protected, North America Power Cable
PD-9001GO-INTL	PD-9001GO-AC 30W 802.3at Outdoor PoE midspan injector, 10/100/1000BASE-T Ethernet, Surge Protected, International Power Cable
AP-270-MNT-H1	AP-270-MNT-H1 Aruba 270 Series Outdoor AP Hanging Mount Kit. Mount for hanging or tilt install for AP-270
AP-270-MNT-H2	AP-270-MNT-H2 Aruba 270 Series Outdoor AP Flush Mount Kit
AP-270-MNT-V1	AP-270-MNT-V1 Aruba 270 Series Access Point Long Mount Kit. Pole/Wall Mount for AP-270 300 mm from vertical mounting asset
AP-270-MNT-V2	AP-270-MNT-V2 Aruba 270 Series Access Point Short Mount Kit. Pole/Wall Mount for AP-270 75-mm from vertical mounting asset

25.APPENDIX O: SLIN 0013 RF GATEWAY

aruba
a Hewlett Packard
Enterprise company

DATA SHEET

ARUBA 7200 SERIES MOBILITY CONTROLLERS

The Aruba 7200 series Mobility Controller is the next-generation networking platform, optimized for mobile application delivery to ensure the best mobility experience over Wi-Fi.

With a new central processor that employs up to eight cores with four threads each, it's like having a total of 32 virtual CPUs. As a result, the 7200 series supports up to 32,000 mobile devices and performs stateful firewall policy enforcement at 40 Gbps – plenty of capacity and speed for BYOD and 802.11ac devices.

New levels of visibility are provided by Aruba's unique AppRF technology, which runs on 7200 series Mobility Controllers. With AppRF, IT can see applications by user, including top web-based applications like Facebook and Box.

The 7200 series also manages authentication, encryption, VPN connections, IPv4 and IPv6 Layer 3 services, the Aruba Policy Enforcement Firewall, Aruba Adaptive Radio Management, and Aruba RFProtect spectrum analysis and wireless intrusion protection.

Clustering and centralized management enable the deployment of large networks with hundreds of Mobility Controllers with minimal staff. A master Mobility Controller can manage local Mobility Controllers, while Aruba AirWave network management provides enterprise-wide clarity and control through real-time monitoring, historical reporting and troubleshooting.

ARCHITECTED FOR HIGH AVAILABILITY

The 7200 series includes a number of features that make it ideal for deployment in customer locations that require maximum availability:

- Hot-swappable redundant power supplies: The 7210/7220/7240/7240XM supports dual, field-replaceable redundant power supplies to maintain uninterrupted network operations.
- Hot-swappable fan tray with multiple fans: The 7210/7220/7240/7240XM includes a field-replaceable fan tray with multiple fans, providing sufficient cooling and rapid time to repair.
- The 7210/7220/7240/7240XM support two dual-media ports: 1000BASE-X or 10/100/1000BASE-T connections for high availability.

Front: 7210/7220/7240

Back: 7210/7220/7240

Front: 7205

Back: 7205

PERFORMANCE AND CAPACITY

Features	7205	7210	7220	7240/7240XM
Maximum APs (licenses)	256	512	1,024	2,048
Maximum RAPs	256	512	1,024	2,048
Maximum concurrent devices	8,192	16,384	24,576	32,768
VLANs	2,048	4,094	4,094	4,094
Concurrent GRE Tunnels (System BSSIDs)	8,192	8,192	16,384	32,768
Concurrent Tunneled Ports	4,096	8,192	12,288	16,384
Concurrent IPsec sessions	4,096	16,384	24,576	32,768
Concurrent SSL fallback sessions	4,096	8,192	8,192	8,192
Active Firewall Sessions (Concurrent sessions)	1,000,000	2,015,291	2,015,291	2,015,291
Wired Throughput (large packets)	12 Gbps	20 Gbps	40 Gbps	40 Gbps

SPECIFICATIONS

Interfaces and indicators

- 7210/7220/7240/7240XM has four 10GBASE-X (SFP+) ports
- 7205 has two 10GBASE-X and four dual-media (1000BASE-X or 10/100/1000BASE-T) ports
- One USB 2.0
- Console (RS-232) RJ-45 or mini-USB
- LINK/ACT and status LEDs
- Management/status LEDs
- LCD panel and navigation buttons
- Expansion slot (reserved for future use)

Dimensions

- 7210, 7220, 7240, 7240XM:
  - (H) 4.4 cm x (W) 44.5 cm x (D) 44.5 cm (1.75" x 17.5" x 17.5")
  - Weight (with one AC power supply installed) 7.45 kg (16.43 lbs)
- 7205:
  - (H) 4.4 cm x (W) 33.4 cm x (D) 44.2 cm (1.75" x 13.13" x 17.38")
  - Weight: 4.95 kg (10.19 lbs)

Environmental

- Operating temperature range: 0° C to 40° C
- Operating humidity: 5% to 95% non-condensing
- Storage temperature range: -40° C to 70° C
- Storage humidity: 5% to 95%, non-condensing
- Operating altitude: 10,000 feet [3]
- Acoustic noise (with AC power supply):
  - 7210: 46.9 dBA
  - 7220: 46.9 dBA
  - 7240/7240XM: 54.7 dBA
  - 7205: 49.0 dBA

[3]Sound power per ETSI 300 753 in accordance with ISO 7779

Power Supply Specifications

- 350-watt AC power supply
- AC input voltage: 100 VAC to 240 VAC
- AC input current: 5-2.5A
- AC input frequency: 50-60 Hz
- Weight: 2.8 lbs (1.3 kg)
  - Maximum power consumption
- 7210: 110 watts
- 7220: 125 watts
- 7240/7240XM: 165 watts
- 7205: 75.2 watts

Regulatory and Safety Compliance

- FCC Part 15 Class A CE
- Industry Canada Class A
- VCCI Class A (Japan)
- EN 55022 Class A (CISPR 22 Class A), EN 61000-3,
- EN 61000-4-2, EN 61000-4-3, EN 61000-4-4,
- EN 61000-4-5, EN 61000-4- 6, EN 61000-4-8,
- EN 61000-4-11, EN 55024, AS/NZS 3548
- UL 60950, EN60950
- CAN/CSA 22.2 #60950
- CE mark, cTUVus, CB, C-tick, Anatel, NOM, MIC

Regulatory SKU Information

- 7210: ARCN0100
- 7220: ARCN0101
- 7240/7240XM: ARCN0102
- 7205: ARCN7205

Minimum ArubaOS Release

- 7210: 6.2.0.0
- 7220: 6.2.0.0
- 7240: 6.2.0.0
- 7240XM: 6.4.4.0
- 7205: 6.4.3.0

WARRANTY

- Hardware: 1 year parts/labor*
- Software: 90 days*

*Extended with support contract

26. APPENDIX P: SLIN 0015 APPLICATION DEVELOPMENT SOFTWARE

System Requirements

Develement Hardware

Configuration	Requirement
Computer Processor	Minimum – 1.4GHz Recommended – 2.8GHz
CPU Memory	Minimum - 512 MB RAM Recommended – 1 GB or greater
Hard Disk Space	Minimum – 600MB (includes MS .NET 1.1 or later) Recommended – 20GB or greater
Drive	CD-ROM or DVD
Video	1024x768 Medium Color 16-bit (to support accessibility requirments)
Keyboard and Mouse	Required
Network Interface	RJ-45 Ethernet Port

Deployment Server Hardware

Configuration	Requirement
Computer Processor	Minimum – 1.4GHz Recommended – 2.0GHz
CPU Memory	Minimum - 512 MB RAM Recommended – 2 GB or greater
Hard Disk Space	Minimum – 2GB with 1GB free space (Additional free hard disk space is required if installing over a network) Recommended – 30GB or greater
Drive	CD-ROM or DVD
Video	1024x768 Medium Color 16-bit (to support accessibility requirments)
Network Interface	RJ-45 Ethernet Port

Software Requirements

Development Environment	Server Environment
MS Vista, MS Windows 7, MS Windows 8, MS Windows 8.1, Windows 10	MS Windows Server 2012 or Greater
MS .NET Framework	MS .NET Framework
MS Web Services Enhancement	MS Internet Information Services
MS Data Access Components	MS Data Access Components
MS Visual Studio .NET	MS Web Services Enhancement
MS Internet Information Services	

27.APPENDIX Q: SLIN 0015 PRFID PRINTER SOFTWARE

System Requirements:

Configuration	Requirement
Operating System	Windows 10, 8.1, 8, 7, and Vista Windows Server 2016, Server 2012, Server 2012R2, Server 2008, and Server 2008R2
CPU Memory	Minimum – 1 GB RAM (32 bit) Minimum – 2 GB RAM (64 bit)
Hard Disk Space	Minimum – 2 GB free hard drive space (32 bit) Minimum – 3 GB free hard drive space (64 bit)
Drive	CD-ROM or DVD
Video	1024x768 Medium Color
Keyboard and Mouse	Required
Network Interface	RJ-45 Ethernet Port or Wifi

Additional Requirements
MS .NET Framework
*MS SQL Server Express or MS SQL Server 2005 (or Higher)
*-Indicates optional requirement to enable logging of print jobs and event messages

28. APPENDIX R: SLIN 0007 PRFID HAND HELD READERS (HHR-C & HHR-D)

Physical
- Size: 5.4" w x 8.48" l x 1.36" d (137 mm x 215 mm x 35 mm)
- Weight: 1.5-2 lbs (680-907 g)
- Durable, chemical- and shock-resistant design
- Easy-to-grip, impact-absorbing, overmolded bumpers
- Lightweight and ergonomic design

Battery
- Removable Li-Ion battery, 43.2 Whr
- Operates 8–10 hours on one charge
- Battery easily changeable in field
- Optimized for strong performance in cold temperatures
- Excellent lifecycle performance
- Optional built-in 21.6-Whr battery provides additional 4–5 hours runtime and hot-swap capability

Display
- Active viewing area: 7" (178 mm)
- Resolution: WXGA (1280 x 800)
- High-visibility backlit LCD for best-in-class sunlight view-ability
- Portrait or landscape orientation with automatic screen rotation

Touchscreen

- Projected capacitive multi-touch interface for use with gloves, small tip stylus, and in wet conditions
- Optically bonded for increased visibility and strength
- Chemically-strengthened Dragontrail™ High Ion-Exchange (HIE™) coverglass for excellent impact and scratch resistance

Keyboard

Windows/
Home Key

Four-Way
Directional Navpad

Enter Key

Power Key

- Three User-Programmable Function Keys (P1, P2 & P3)
- Adjustable LED Backlit Keys
- OEM Configurable/Cutomizable

Juniper Rugged™

- IP68 waterproof and dustproof
- Operating Temperature: -4 F to 122 F (-20 C to 50 C)
- Storage temperature: -22 F to 158 F (-30 C to 70 C)
- Shockproof: multiple drops from 4' (1.2–1.5 m) onto concrete
- Designed for MIL-STD-810G test procedures: Method 500.5 Low Pressure (Altitude); Method 501.5 High Temperature; Method 502.5 Low Temperature; Method 503.5 Temperature Shock; Method 506.5 Rain; Method 507.5 Humidity; Method 510.5 S and Dust; Method 512.5 Immersion; Method 514.6 Vibration; Method 516.6 Shock

Ports

Dual digital microphone input for improved clarity

Docking port connections (Pwr, USB 2.0, & HDMI)

Loud output speaker for noisy environments

12 VDC power input jack

3.5 mm audio jack

USB 3.0 x 1

Optional RS-232 9-Pin D-Sub connector with 5VDC power output

Processor

- Quad-core Intel® Atom™ Z3745

OS & Software

- Microsoft® Windows 10 Pro 64-bit or Android 5.1 (AOSP)
- Multiple languages supported (English, French, Spanish, German, Portuguese)

Memory & Data Storage

- 4 GB RAM (LPDDR3)
- 64 GB or 128 GB flash storage options
- User-accessible MicroSDXC card slot

4 GB
MEMORY

64 GB
FLASH STORAGE

128 GB
FLASH STORAGE

Wireless Connectivity Options

- Long-range Bluetooth® Smart Ready wireless technology, v4.0 +EDR, Class 1.5, BLE support
- Wi-Fi 802.11 a/b/g/n, 2.4 GHz and 5 GHz
- 4G LTE, GSM, Verizon

Camera (Geo Models)

- Rear: 8 MP with LED illumination
- Front: 2 MP
- Juniper Geotagging™: embed photo with date, time, and GNSS position

GPS/GNSS (Geo Models)

- 2 to 5 meter typical accuracy
- uBlox NEO-M8N GNSS receiver and integrated antenna
- Integrated real-time SBAS receiver (WAAS, EGNOS, etc.)
- 72 GNSS tracking channels
- Optional: uBlox NEO-M8T w/post-processing data output and external GNSS antenna pass-through connection for sub-meter accuracy

Mesa 2 Standard Configurations

	Wi-Fi® & Bluetooth®	GNSS	8 MP Rear Camera	2 MP Front Camera	4G LTE Modem	1D/2D Barcode Scanner
Standard Model:	●					
Geo Model:	●	●	●	●		
Geo Cell Model:	●	●	●	●	●	
Geo BC Model:	●	●	●	●		●
Geo Cell BC Model:	●	●	●	●	●	●

Optional Configurations

- Integrated UHF RFID*
- RS-232 9-Pin D-Sub*
- Built-in Battery + Hot-Swap (4-5 hrs additional hours runtime)
- 128 GB Storage

  *The following feature combinations are not compatible: Upgraded GNSS and Barcode Scanner, RS232 and Integrated RFID

Certifications & Standards

- FCC Class B
- CE Marking (applicable EMC, R&TTE, and LVD directives)
- Industry Canada
- EN60950 Safety
- RoHS 2 Compliant
- Optional Class 1, Div II (C1D2) Non-incendive
- Verizon

ᐛ ACCESSORIES

Standard Accessories Included with the Mesa 2

- Removable 43.2-Whr Lithium-Ion Battery
- AC Wall Charger with International Plug Kit
- Capacitive Small-tip Stylus & Tether
- Quick Start Guide
- Hand Strap
- Connector Port Dust Cover
- Shipping Box with Sleeve
- 2-Year Warranty

29. APPENDIX S: SMALL ARMS WELL TAG

RFID TAGS WITH INTEGRATED FASTNERS PREVENT TAMPERING WITH THE CONTENTS OF SEALED CONTAINERS

- **Security** – RFID tags integrated into visually tamper-evident container seals
- **Adaptability** – Small and flexible to serve a wide range of applications
- **Easy application** – Attach quickly with integrated cable tie or wire loop
- **Clear evidence** – Visual recognition of seal status, with option of RFID reader detection of seal security or breach

TECHNOLOGY HIGHLIGHTS:
- Integrated, secure fastening device
- HF 13.56 MHz version readable with ISO/IEC 15693 compatible devices incl. NFC
- Broadband RAIN UHF version for worldwide use at 860 to 960 MHz
- Fully interoperable, standards compliant
- Visually, electrically and digitally tamper evident options
- Custom encoding or laser engraving on housing

APPLICATION AREAS:
- Asset tracking and logistics
  - Industrial bags, sacks and containers
  - Merchandise distribution and retailing
  - Life safety equipment maintenance, e.g. Airplane life vests, fire extinguishers, automated external defibrillators (AED)
- Returnable transport items
  - Reusable shipping vessels, cartons, bags, and canisters
- Waste management
  - Hazardous waste receptacles

HID Global® Seal Tag transponders are ideal for sealing commercial containers – bags, bins or boxes – to prevent unauthorized access to contents while in storage or during distribution. Seal Tag units integrate powerful RFID chips with high durability components, and secure, tamper-evident fasteners. Access to a sealed container's contents requires severing a tag's cable tie or wire loop – or breaching of the container itself – providing clear evidence of tampering.

vTamper tags
Each uniquely encoded Seal Tag vTamper RFID unit attaches anywhere a cable tie can be used, providing visual evidence when that seal is broken. Being waterproof, they have high resistance to aggressive liquids, UV rays, and temperature extremes. Thermoplastic elastomer (TPE) housings tolerate repeated bending or torsion. Bright colors provide excellent contrast for optical identification when laser engraved or embossed with logos, barcodes or text. Highly rugged on-metal options exist as well.

eTamper tags
Each Seal Tag eTamper NFC transponder becomes operational when its wire loop is securely closed. If the wire loop is broken, the tag is permanently unreadable, leaving evidence detectable both visually and via RFID. The printable coin form factor features the same eTamper functionality: The antenna breaks when the coin is removed - ideal for "proof of presence" applications or payment schemes.

eTamper tags may also be used as an "intelligent" seal for life safety device cabinets, including fire extinguishers and automated external defibrillators (AED).

edTamper tags
Each Seal Tag edTamper are tamper evident passive contactless RAIN UHF transponders allowing detection of their seal status via RFID. Visualizing the tag is not necessary to identify broken seals. The edTamper tags-provide a digital notification if a sealed tag has been compromised to quickly scan large sets of sealed items for integrity.

30.APPENDIX T: ACRONYMS

Acronym	Description
AC	Alternating Current
AIT	Automatic Identification Technology
AMIS	Automated Movement and Identification Solutions
BRI	Basic Radio Interface
CAC	Common Access Card
CASE	Computer Aided Software Engineering
CD-ROM	Compact Disc – Read Only Memory
CONUS	Contiguous United States
COTS	Commercial Off-The-Shelf
CLIN	Contract Line Item Number
DC	Direct Current
DCN	Document Control Number
DRMO	Defense Reutilization and Marketing Office
DFARS	Defense Federal Acquisition Regulation Supplement
EDI	Electronic Data Interchange
EDM	Edge Device Manager
EMC	Edge Management Console
EPM	Edge Process Manager
ETSI	European Telecommunications Standards Institute
EWE	Event Workflow Editor
FCC	Federal Communications Commission
FFP	Firm Fixed Price
GB	Giga Byte
GPIO	General Purpose Input Output
GPS	Global Positioning Satellite
GUI	Graphical User Interface
HHR	Handheld Reader
HHT	Handheld Terminal
ID	Identification
IDIQ	Indefinite Delivery Indefinite Quantity
IDEF	Integration Definition
ISD	Instructional Systems Development
IT	Information Technology
LAN	Local Area Network

Acronym	Description
LLRP	Low Level Reader Protocol
NATO	North Atlantic Treaty Organization
NEMA	National Electronics Manufacturers Association
NI	Non-Incendive
OCONUS	Outside Contiguous United States
ODC	Other Direct Cost
OEM	Original Equipment Manufacturer
OS	Operating System
POC	Point of Contact
pRFID	passive Radio Frequency Identification
RF	Radio Frequency
RMA	Return Materiel Authorization
ROI	Return On Investment
SLIN	Sub Line Item Number
SDK	Software Development Kit
SW	Software
TES	Technical Engineering Services
UHF	Ultra-High Frequency
UID	Unique Identification
UPS	United Parcel Service
US	United States
USB	Universal Serial Bus
VA	Virginia
VDE	Virtual Device Emulator