AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350) — RATING: DO-A7 — PAGE 1 OF 35

2. CONTRACT (Proc. Inst. Ident.) NO.: H94003-06-C-0612

3. EFFECTIVE DATE: 27 Sep 2006

4. REQUISITION/PURCHASE REQUEST/PROJECT NO.: 6MC8F201

5. ISSUED BY — CODE H94003
DEFENSE MICROELECTRONICS ACTIVITY
CONTRACTING OFFICE
4234 54TH STREET
MCCLELLAN CA 95652-2100

6. ADMINISTERED BY (If other than Item 5) — CODE S0507A
DCMA SAN FRANCISCO
P.O. BOX 232, 700 EAST ROTH RD, BLDG 350
FRENCH CAMP CA 95231-0222

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)
ALIEN TECHNOLOGY CORP
MARK MCDONALD
18220 BUTTERFIELD BLVD
MORGAN HILL CA 95037

CODE 06NK4 — FACILITY CODE

8. DELIVERY: [ ] FOB ORIGIN [X] OTHER (See below)

9. DISCOUNT FOR PROMPT PAYMENT: Net 30

10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: 2 — ITEM: Block 12

11. SHIP TO/MARK FOR — CODE H94003
DEFENSE MICROELECTRONICS ACTIVITY
KURT MINARD
DMEA/MED
4234 54TH STREET
MCCLELLAN CA 95652-2100

12. PAYMENT WILL BE MADE BY — CODE HQ0339
DFAS-COLUMBUS CENTER
CO-AV WEST ENTITLEMENT OPS
PO BOX 182381
COLUMBUS OH 43218-2381

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )

14. ACCOUNTING AND APPROPRIATION DATA
See Schedule

15A. ITEM NO.	15B. SUPPLIES/SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT: $4,687,274.00

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE	
X	A	SOLICITATION/CONTRACT FORM	1
X	B	SUPPLIES OR SERVICES AND PRICES/COSTS	2
	C	DESCRIPTION/SPECS./WORK STATEMENT	
	D	PACKAGING AND MARKING	
X	E	INSPECTION AND ACCEPTANCE	3
X	F	DELIVERIES OR PERFORMANCE	3
X	G	CONTRACT ADMINISTRATION DATA	3
X	H	SPECIAL CONTRACT REQUIREMENTS	4
		PART II - CONTRACT CLAUSES	
X	I	CONTRACT CLAUSES	5
		PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS	
	J	LIST OF ATTACHMENTS	17
		PART IV - REPRESENTATIONS AND INSTRUCTIONS	
	K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
	L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. [X] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [ ] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number H94003-06-R-0007 including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print): David A. Aaron

20A. NAME AND TITLE OF CONTRACTING OFFICER: Judith A. Hilton
TEL: 916-231-1526 EMAIL: hilton@dmea.osd.mil

19B. NAME OF CONTRACTOR: Alien Technology Corporation
BY: David A. Aaron (Signature of person authorized to sign)
Vice President

19C. DATE SIGNED: 9/26/06

20B. UNITED STATES OF AMERICA
BY: Judith A. Hilton (Signature of Contracting Officer)

20C. DATE SIGNED: 9/27/2006

NSN 7540-01-152-8069 — 26-107 — STANDARD FORM 26 (REV. 4-85) Prescribed by GSA FAR (48 CFR) 53.214(a)

PREVIOUS EDITION UNUSABLE — GPO 1985 O - 469-794

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)

RATING: D0-A7

PAGE 1 OF PAGES 25

2. CONTRACT (Proc. Inst. Ident.) NO.: H94003-06-C-0612

3. EFFECTIVE DATE: 27 Sep 2006

4. REQUISITION/PURCHASE REQUEST/PROJECT NO.: 6MC6F201

5. ISSUED BY — CODE H94003
DEFENSE MICROELECTRONICS ACTIVITY
CONTRACTING OFFICE
4234 54TH STREET
MCCLELLAN CA 95652-2100

6. ADMINISTERED BY (If other than Item 5) — CODE S0507A
DCMA SAN FRANCISCO
P.O. BOX 232, 700 EAST ROTH RD, BLDG 330
FRENCH CAMP CA 95231-0232

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)
ALIEN TECHNOLOGY CORP
MARK MCDONALD
18220 BUTTERFIELD BLVD
MORGAN HILL CA 95037

CODE 06NK4 — FACILITY CODE

8. DELIVERY
[ ] FOB ORIGIN [X] OTHER (See below)

9. DISCOUNT FOR PROMPT PAYMENT
Net 30

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DEFENSE MICROELECTRONICS ACTIVITY
KURT MINARD
DMEA/MEDI
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MCCLELLAN CA 95652-2100

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13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )

14. ACCOUNTING AND APPROPRIATION DATA
See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT $4,687,274.00

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X	A	SOLICITATION/ CONTRACT FORM	1	X	I	CONTRACT CLAUSES	5-16
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2			**PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS**	
	C	DESCRIPTION/ SPECS./ WORK STATEMENT			J	LIST OF ATTACHMENTS	17
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
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17. [X] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 1 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [ ] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number H94003-06-R-0007 including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print)

20A. NAME AND TITLE OF CONTRACTING OFFICER
JUDITH A. HILTON / CONTRACTING OFFICER
TEL: (916)231-1526 EMAIL: hilton@dmea.osd.mil

19B. NAME OF CONTRACTOR
BY _____
(Signature of person authorized to sign)

19C. DATE SIGNED

20B. UNITED STATES OF AMERICA
BY Judith A. Hilton
(Signature of Contracting Officer)

20C. DATE SIGNED: 27-Sep-2006

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001			LO		
	Engineering Services COST In accordance with Statement of Work entitled Ruggedized Military RFID Tags Phase II dated 14 Sep 2006 (5 pages). FOB: Destination PURCHASE REQUEST NUMBER: 6MC6F201				
				ESTIMATED COST	$4,687,274.00
	ACRN AA CIN: 6MC6F2010001				$4,687,274.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002			LO		NSP
	Data COST In support of Line Item 0001 above as required by the SOW IAW the attached DD 1423.. FOB: Destination				
				ESTIMATED COST	$0.00

***Alien voluntarily agrees to cap the following rates in performance of this contract and understands the efforts may cost more than the amount awarded.

G&A: [redacted]% Engineering Overhead: [redacted]
Material and Subcontracting: [redacted]

The FEE amount on this contract is [redacted]

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001-0002	Destination	Government	Destination	Government

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 02-OCT-2006 TO 31-MAR-2008	1 LO	DEFENSE MICROELECTRONICS ACTIVITY WES TRUNNELL 4234 54TH STREET MCCLELLAN CA 95652-2100 916-231-1631 FOB: Destination	H94003
0002	IAW DD Form 1423		IAW DD Form 1423	

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 9760400 5149 090 794.98 25.27 (ME) Z3R6 ME6Z3R6MC6F201 033181
AMOUNT: $4,687,274.00
CIN 6MC6F2010001: $4,687,274.00

INVOICE REQUIREMENTS:

IAW 52.212-4, Paragraph (g), The Contractor shall submit an original invoices or electronic invoice through the DCMA office in Block 16 or the cognizant DCAA office. Copies of invoices and back-up information shall be forwarded to:

(1) Defense Microelectronics Activity
Contract Office (Gail Arnett)
4234 54th Street
McClellan, CA 95652-2100
Phone (916) 231-1527 or FAX at (916)231-2827 or email: arnett@dmea.osd.mil

(2) One (1) copy to:

Defense Microelectronics Activity
Attn: Wes Trunnell
4234 54th Street
McClellan, CA 95652-2100
Phone (916) 231-1631

Electronic copies of vouchers and back-up information are acceptable for DMEA copies

Additional information for Contractors on DCAA procedures and examples of vouchers may be found at www.dcaa.mil

Section H - Special Contract Requirements

H-932 EXPORT CONTROL

To the extent required under United States export regulations, access to technologies developed under this contract by Foreign Firms, Institutions, or Individuals shall be controlled by the contractor under the applicable export control laws.

The contractor shall be responsible to determine if the technologies developed under this contract are export controlled by the International Traffic in Arms Regulations (ITAR) or the Export Administration Regulations (EAR). If the contractor is not certain if the technologies are subject to the EAR or ITAR, the contractor shall ask the Bureau of Industry and Security (BIS) at the Department of Commerce for a determination.

The contractor shall include in their monthly reports a Section entitled "Export Control." Any import or export licenses applied for and/or secured, any changes or any additional information from the previous report shall be documented in this section. If there are no changes since the prior report, the Export Control Section shall be documented as "no changes to report."

The contractor shall include this clause, suitably modified, to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental, or research work.

Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	JUL 1995
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	SEP 2005
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.204-7	Central Contractor Registration	OCT 2003
52.204-9	Personal Identity Verification of Contractor Personnel	JAN 2006
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	JAN 2005
52.211-15	Defense Priority And Allocation Requirements	SEP 1990
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-11	Price Reduction for Defective Cost or Pricing Data--Modifications	OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997
52.215-13	Subcontractor Cost or Pricing Data--Modifications	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	OCT 2004
52.215-17	Waiver of Facilities Capital Cost of Money	OCT 1997
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005
52.215-19	Notification of Ownership Changes	OCT 1997
52.215-21	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data--Modifications	OCT 1997
52.216-7	Allowable Cost And Payment	DEC 2002
52.216-13	Allowable Cost and Payment--Facilities	FEB 2002
52.219-8	Utilization of Small Business Concerns	MAY 2004
52.222-3	Convict Labor	JUN 2003
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	APR 2002
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	DEC 2001
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, and Other Eligible Veterans	DEC 2001
52.222-39	Notification of Employee Rights Concerning Payment of Union Dues or Fees	DEC 2004
52.223-6	Drug-Free Workplace	MAY 2001
52.225-13	Restrictions on Certain Foreign Purchases	FEB 2006
52.227-3	Patent Indemnity	APR 1984
52.227-11	Patent Rights--Retention By The Contractor (Short Form)	JUN 1997

52.227-14	Rights in Data--General	JUN 1987
52.227-16	Additional Data Requirements	JUN 1987
52.228-7	Insurance--Liability To Third Persons	MAR 1996
52.232-20	Limitation Of Cost	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	OCT 2003
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1	Disputes	JUL 2002
52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.242-15	Stop-Work Order	AUG 1989
52.243-2	Changes--Cost-Reimbursement	AUG 1987
52.243-2 Alt I	Changes--Cost-Reimbursement (Aug 1987) - Alternate I	APR 1984
52.243-2 Alt II	Changes--Cost Reimbursement (Aug 1987) - Alternate II	APR 1984
52.244-2	Subcontracts	AUG 1998
52.244-5	Competition In Subcontracting	DEC 1996
52.246-5	Inspection Of Services Cost-Reimbursement	APR 1984
52.246-9	Inspection Of Research And Development (Short Form)	APR 1984
52.246-23	Limitation Of Liability	FEB 1997
52.247-34	F.O.B. Destination	NOV 1991
52.249-6	Termination (Cost Reimbursement)	MAY 2004
52.249-14	Excusable Delays	APR 1984
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2004
252.203-7002	Display Of DOD Hotline Poster	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration (52.204-7) Alternate A	NOV 2003
252.205-7000	Provision Of Information To Cooperative Agreement Holders	DEC 1991
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	MAR 1998
252.215-7000	Pricing Adjustments	DEC 1991
252.225-7001	Buy American Act And Balance Of Payments Program	JUN 2005
252.225-7002	Qualifying Country Sources As Subcontractors	APR 2003
252.225-7012	Preference For Certain Domestic Commodities	JUN 2004
252.225-7014	Preference For Domestic Specialty Metals	JUN 2005
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7000	Non-estoppel	OCT 1966
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7003	Electronic Submission of Payment Requests	MAY 2006
252.242-7004	Material Management And Accounting System	NOV 2005
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.246-7000	Material Inspection And Receiving Report	MAR 2003
252.247-7023	Transportation of Supplies by Sea	MAY 2002

CLAUSES INCORPORATED BY FULL TEXT

52.243-7 NOTIFICATION OF CHANGES (APR 1984)

(a) Definitions.

"Contracting Officer," as used in this clause, does not include any representative of the Contracting Officer.

"Specifically authorized representative (SAR)," as used in this clause, means any person the Contracting Officer has so designated by written notice (a copy of which shall be provided to the Contractor) which shall refer to this subparagraph and shall be issued to the designated representative before the SAR exercises such authority.

(b) Notice. The primary purpose of this clause is to obtain prompt reporting of Government conduct that the Contractor considers to constitute a change to this contract. Except for changes identified as such in writing and signed by the Contracting Officer, the Contractor shall notify the Administrative Contracting Officer in writing, within 10 calendar days from the date that the Contractor identifies any Government conduct (including actions, inactions, and written or oral communications) that the Contractor regards as a change to the contract terms and conditions. On the basis of the most accurate information available to the Contractor, the notice shall state--

(1) The date, nature, and circumstances of the conduct regarded as a change;

(2) The name, function, and activity of each Government individual and Contractor official or employee involved in or knowledgeable about such conduct;

(3) The identification of any documents and the substance of any oral communication involved in such conduct;

(4) In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;

(5) The particular elements of contract performance for which the Contractor may seek an equitable adjustment under this clause, including--

(i) What contract line items have been or may be affected by the alleged change;

(ii) What labor or materials or both have been or may be added, deleted, or wasted by the alleged change;

(iii) To the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performance have been or may be caused by the alleged change;

(iv) What adjustments to contract price, delivery schedule, and other provisions affected by the alleged change are estimated; and

(6) The Contractor's estimate of the time by which the Government must respond to the Contractor's notice to minimize cost, delay or disruption of performance.

(c) Continued performance. Following submission of the notice required by (b) above, the Contractor shall diligently continue performance of this contract to the maximum extent possible in accordance with its terms and conditions as construed by the Contractor, unless the notice reports a direction of the Contracting Officer or a communication from a SAR of the Contracting Officer, in either of which events the Contractor shall continue performance; provided, however, that if the Contractor regards the direction or communication as a change as described in (b) above, notice shall be given in the manner provided. All directions, communications, interpretations, orders and similar actions of the SAR shall be reduced to writing and copies furnished to the

Contractor and to the Contracting Officer. The Contracting Officer shall countermand any action which exceeds the authority of the SAR.

(d) Government response. The Contracting Officer shall promptly, within 15 calendar days after receipt of notice, respond to the notice in writing. In responding, the Contracting Officer shall either--

(1) Confirm that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance;

(2) Countermand any communication regarded as a change;

(3) Deny that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance; or

(4) In the event the Contractor's notice information is inadequate to make a decision under (1), (2), or (3) above, advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the Government will respond.

(e) Equitable adjustments.

(1) If the Contracting Officer confirms that Government conduct effected a change as alleged by the Contractor, and the conduct causes an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether changed or not changed by such conduct, an equitable adjustment shall be made--

(i) In the contract price or delivery schedule or both; and

(ii) In such other provisions of the contract as may be affected.

(2) The contract shall be modified in writing accordingly. In the case of drawings, designs or specifications which are defective and for which the Government is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or reasonably should have identified, such defect. When the cost of property made obsolete or excess as a result of a change confirmed by the Contracting Officer under this clause is included in the equitable adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of the property. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided, respectively, in (b) and (c) above.

Note: The phrases "contract price" and "cost" wherever they appear in the clause, may be appropriately modified to apply to cost-reimbursement or incentive contracts, or to combinations thereof.

(End of clause)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

http://farsite.hill.af.mil
http://www.arnet.gov

(End of clause)

252.227-7013 RIGHTS IN TECHNICAL DATA--NONCOMMERCIAL ITEMS. (NOV 1995)

(a) Definitions. As used in this clause:

(1) Computer data base means a collection of data recorded in a form capable of being processed by a computer. The term does not include computer software.

(2) Computer program means a set of instructions, rules, or routines recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

(3) Computer software means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer data bases or computer software documentation.

(4) Computer software documentation means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

(5) Detailed manufacturing or process data means technical data that describe the steps, sequences, and conditions of manufacturing, processing or assembly used by the manufacturer to produce an item or component or to perform a process.

(6) Developed means that an item, component, or process exists and is workable. Thus, the item or component must have been constructed or the process practiced. Workability is generally established when the item, component, or process has been analyzed or tested sufficiently to demonstrate to reasonable people skilled in the applicable art that there is a high probability that it will operate as intended. Whether, how much, and what type of analysis or testing is required to establish workability depends on the nature of the item, component, or process, and the state of the art. To be considered "developed," the item, component, or process need not be at the stage where it could be offered for sale or sold on the commercial market, nor must the item, component, or process be actually reduced to practice within the meaning of Title 35 of the United States Code.

(7) Developed exclusively at private expense means development was accomplished entirely with costs charged to indirect cost pools, costs not allocated to a government contract, or any combination thereof.

(i) Private expense determinations should be made at the lowest practicable level.

(ii) Under fixed-price contracts, when total costs are greater than the firm-fixed-price or ceiling price of the contract, the additional development costs necessary to complete development shall not be considered when determining whether development was at government, private, or mixed expense.

(8) Developed exclusively with government funds means development was not accomplished exclusively or partially at private expense.

(9) Developed with mixed funding means development was accomplished partially with costs charged to indirect cost pools and/or costs not allocated to a government contract, and partially with costs charged directly to a government contract.

(10) Form, fit, and function data means technical data that describes the required overall physical, functional, and performance characteristics (along with the qualification requirements, if applicable) of an item, component, or process to the extent necessary to permit identification of physically and functionally interchangeable items.

(11) Government purpose means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so.

(12) Government purpose rights means the rights to--

(i) Use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restriction; and

(ii) Release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States government purposes.

(13) Limited rights means the rights to use, modify, reproduce, release, perform, display, or disclose technical data, in whole or in part, within the Government. The Government may not, without the written permission of the party asserting limited rights, release or disclose the technical data outside the Government, use the technical data for manufacture, or authorize the technical data to be used by another party, except that the Government may reproduce, release or disclose such data or authorize the use or reproduction of the data by persons outside the Government if reproduction, release, disclosure, or use is--

(i) Necessary for emergency repair and overhaul; or

(ii) A release or disclosure of technical data (other than detailed manufacturing or process data) to, or use of such data by, a foreign government that is in the interest of the Government and is required for evaluational or informational purposes;

(iii) Subject to a prohibition on the further reproduction, release, disclosure, or use of the technical data; and

(iv) The contractor or subcontractor asserting the restriction is notified of such reproduction, release, disclosure, or use.

(14) Technical data means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or data incidental to contract administration, such as financial and/or management information.

(15) Unlimited rights means rights to use, modify, reproduce, perform, display, release, or disclose technical data in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so.

(b) Rights in technical data. The Contractor grants or shall obtain for the Government the following royalty free, world-wide, nonexclusive, irrevocable license rights in technical data other than computer software documentation (see the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause of this contract for rights in computer software documentation):

(1) Unlimited rights.

The Government shall have unlimited rights in technical data that are--

(i) Data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds;

(ii) Studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance;

(iii) Created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes;

(iv) Form, fit, and function data;

(v) Necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data);

(vi) Corrections or changes to technical data furnished to the Contractor by the Government;

(vii) Otherwise publicly available or have been released or disclosed by the Contractor or subcontractor without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party;

(viii) Data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or

(ix) Data furnished to the Government, under this or any other Government contract or subcontract thereunder, with--

(A) Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or

(B) Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired.

(2) Government purpose rights.

(i) The Government shall have government purpose rights for a five-year period, or such other period as may be negotiated, in technical data--

(A) That pertain to items, components, or processes developed with mixed funding except when the Government is entitled to unlimited rights in such data as provided in paragraphs (b)(ii) and (b)(iv) through (b)(ix) of this clause; or

(B) Created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The five-year period, or such other period as may have been negotiated, shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that required development of the items, components, or processes or creation of the data described in paragraph (b)(2)(i)(B) of this clause. Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the technical data.

(iii) The Government shall not release or disclose technical data in which it has government purpose rights unless-

(A) Prior to release or disclosure, the intended recipient is subject to the non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS); or

(B) The recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends.

(iv) The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed in paragraph (f)(2) of this clause.

(3) Limited rights.

(i) Except as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause, the Government shall have limited rights in technical data--

(A) Pertaining to items, components, or processes developed exclusively at private expense and marked with the limited rights legend prescribed in paragraph (f) of this clause; or

(B) Created exclusively at private expense in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The Government shall require a recipient of limited rights data for emergency repair or overhaul to destroy the data and all copies in its possession promptly following completion of the emergency repair/overhaul and to notify the Contractor that the data have been destroyed.

(iii) The Contractor, its subcontractors, and suppliers are not required to provide the Government additional rights to use, modify, reproduce, release, perform, display, or disclose technical data furnished to the Government with limited rights. However, if the Government desires to obtain additional rights in technical data in which it has limited rights, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All technical data in which the Contractor has granted the Government additional rights shall be listed or described in a license agreement made part of the contract. The license shall enumerate the additional rights granted the Government in such data.

(4) Specifically negotiated license rights.

The standard license rights granted to the Government under paragraphs (b)(1) through (b)(3) of this clause, including the period during which the Government shall have government purpose rights in technical data, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights than are enumerated in paragraph (a)(13) of this clause. Any rights so negotiated shall be identified in a license agreement made part of this contract.

(5) Prior government rights.

Technical data that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless--

(i) The parties have agreed otherwise; or

(ii) Any restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose the data have expired or no longer apply.

(6) Release from liability.

The Contractor agrees to release the Government from liability for any release or disclosure of technical data made in accordance with paragraph (a)(13) or (b)(2)(iii) of this clause, in accordance with the terms of a license

negotiated under paragraph (b)(4) of this clause, or by others to whom the recipient has released or disclosed the data and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data marked with restrictive legends.

(c) Contractor rights in technical data. All rights not granted to the Government are retained by the Contractor.

(d) Third party copyrighted data. The Contractor shall not, without the written approval of the Contracting Officer, incorporate any copyrighted data in the technical data to be delivered under this contract unless the Contractor is the copyright owner or has obtained for the Government the license rights necessary to perfect a license or licenses in the deliverable data of the appropriate scope set forth in paragraph (b) of this clause, and has affixed a statement of the license or licenses obtained on behalf of the Government and other persons to the data transmittal document.

(e) Identification and delivery of data to be furnished with restrictions on use, release, or disclosure. (1) This paragraph does not apply to restrictions based solely on copyright.

(2) Except as provided in paragraph (e)(3) of this clause, technical data that the Contractor asserts should be furnished to the Government with restrictions on use, release, or disclosure are identified in an attachment to this contract (the Attachment). The Contractor shall not deliver any data with restrictive markings unless the data are listed on the Attachment.

(3) In addition to the assertions made in the Attachment, other assertions may be identified after award when based on new information or inadvertent omissions unless the inadvertent omissions would have materially affected the source selection decision. Such identification and assertion shall be submitted to the Contracting Officer as soon as practicable prior to the scheduled date for delivery of the data, in the following format, and signed by an official authorized to contractually obligate the Contractor: Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data.

The Contractor asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data should be restricted--

Technical data to be Furnished With Restrictions \1/	Basis for Assertion \2/	Asserted Rights Category \3/	Name of Person Asserting Restrictions \4/

See Identification and Assertion of Restrictions attached

\1/ If the assertion is applicable to items, components or processes developed at private expense, identify both the data and each such items, component, or process.

\2/ Generally, the development of an item, component, or process at private expense, either exclusively or partially, is the only basis for asserting restrictions on the Government's rights to use, release, or disclose technical data pertaining to such items, components, or processes. Indicate whether development was exclusively or partially at private expense. If development was not at private expense, enter the specific reason for asserting that the Government's rights should be restricted.

\3/ Enter asserted rights category (e.g., government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited or government purpose rights under this or a prior contract, or specifically negotiated licenses).

See Identification and Assertion of Restrictions attached

\4/ Corporation, individual, or other person, as appropriate.
Date _____

Printed Name and Title _____

_____

Signature _____

(End of identification and assertion)

(4) When requested by the Contracting Officer, the Contractor shall provide sufficient information to enable the Contracting Officer to evaluate the Contractor's assertions. The Contracting Officer reserves the right to add the Contractor's assertions to the Attachment and validate any listed assertion, at a later date, in accordance with the procedures of the Validation of Restrictive Markings on Technical Data clause of this contract.

(f) Marking requirements. The Contractor, and its subcontractors or suppliers, may only assert restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data to be delivered under this contract by marking the deliverable data subject to restriction. Except as provided in paragraph (f)(5) of this clause, only the following legends are authorized under this contract: the government purpose rights legend at paragraph (f)(2) of this clause; the limited rights legend at paragraph (f)(3) of this clause; or the special license rights legend at paragraph (f)(4) of this clause; and/or a notice of copyright as prescribed under 17 U.S.C. 401 or 402.

(1) General marking instructions. The Contractor, or its subcontractors or suppliers, shall conspicuously and legibly mark the appropriate legend on all technical data that qualify for such markings. The authorized legends shall be placed on the transmittal document or storage container and, for printed material, each page of the printed material containing technical data for which restrictions are asserted. When only portions of a page of printed material are subject to the asserted restrictions, such portions shall be identified by circling, underscoring, with a note, or other appropriate identifier. Technical data transmitted directly from one computer or computer terminal to another shall contain a notice of asserted restrictions. Reproductions of technical data or any portions thereof subject to asserted restrictions shall also reproduce the asserted restrictions.

(2) Government purpose rights markings. Data delivered or otherwise furnished to the Government purpose rights shall be marked as follows:

Government Purpose Rights

Contract No. **H94003-06-C-0612**

Contractor Name **Alien Technology Corp**
Contractor Address **18220 Butterfield Blvd**
Morgan Hill, CA 95037

Expiration Date None

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(2) of the Rights in Technical Data--Noncommercial Items clause contained in the above identified contract. No restrictions apply after the expiration date shown above. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(3) Limited rights markings. Data delivered or otherwise furnished to the Government with limited rights shall be marked with the following legend:

Limited Rights

Contract No. **H94003-06-C-0612**
Contractor Name **Alien Technology Corp**
Contractor Address **18220 Butterfield Blvd**
Morgan Hill, CA 95037

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(3) of the Rights in Technical Data--Noncommercial Items clause contained in the above identified contract. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such data must promptly notify the above named Contractor.

(End of legend)

(4) Special license rights markings. (i) Data in which the Government's rights stem from a specifically negotiated license shall be marked with the following legend:

Special License Rights

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these data are restricted by Contract No. _____ (Insert contract number) _____, License No. _____ (Insert license identifier) _____. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(ii) For purposes of this clause, special licenses do not include government purpose license rights acquired under a prior contract (see paragraph (b)(5) of this clause).

(5) Pre-existing data markings. If the terms of a prior contract or license permitted the Contractor to restrict the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data deliverable under this contract, and those restrictions are still applicable, the Contractor may mark such data with the appropriate restrictive legend for which the data qualified under the prior contract or license. The marking procedures in paragraph (f)(1) of this clause shall be followed.

(g) Contractor procedures and records. Throughout performance of this contract, the Contractor and its subcontractors or suppliersthat will deliver technical data with other than unlimited rights, shall--

(1) Have, maintain, and follow written procedures sufficient to assure that restrictive markings are used only when authorized by the terms of this clause; and

(2) Maintain records sufficient to justify the validity of any restrictive markings on technical data delivered under this contract.

(h) Removal of unjustified and nonconforming markings. (1) Unjustified technical data markings. The rights and obligations of the parties regarding the validation of restrictive markings on technical data furnished or to be furnished under this contract are contained in the Validation of Restrictive Markings on Technical Data clause of this contract. Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may ignore or, at the Contractor's expense, correct or strike a marking if, in accordance with the procedures in the Validation of Restrictive Markings on Technical Data clause of this contract, a restrictive marking is determined to be unjustified.

(2) Nonconforming technical data markings. A nonconforming marking is a marking placed on technical data delivered or otherwise furnished to the Government under this contract that is not in the format authorized by this contract. Correction of nonconforming markings is not subject to the validation of Restrictive Markings on Technical Data clause of this contract. If the Contracting Officer notifies the Contractor of a nonconforming marking and the Contractor fails to remove or correct such marking within sixty (60) days, the Government may ignore or, at the Contractor's expense, remove or correct any nonconforming marking.

(i) Relation to patents. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(j) Limitation on charges for rights in technical data. (1) The Contractor shall not charge to this contract any cost, including, but not limited to, license fees, royalties, or similar charges, for rights in technical data to be delivered under this contract when--

(i) The Government has acquired, by any means, the same or greater rights in the data; or

(ii) The data are available to the public without restrictions.

(2) The limitation in paragraph (j)(1) of this clause--

(i) Includes costs charged by a subcontractor or supplier, at any tier, or costs incurred by the Contractor to acquire rights in subcontractor or supplier technical data, if the subcontractor or supplier has been paid for such rights under any other Government contract or under a license conveying the rights to the Government; and

(ii) Does not include the reasonable costs of reproducing, handling, or mailing the documents or other media in which the technical data will be delivered.

(k) Applicability to subcontractors or suppliers. (1) The Contractor shall ensure that the rights afforded its subcontractors and suppliers under 10 U.S.C. 2320, 10 U.S.C. 2321, and the identification, assertion, and delivery processes of paragraph (e) of this clause are recognized and protected.

(2) Whenever any technical data for noncommercial items is to be obtained from a subcontractor or supplier for delivery to the Government under this contract, the Contractor shall use this same clause in the subcontract or other contractual instrument, and require its subcontractors or suppliers to do so, without alteration, except to identify the parties. No other clause shall be used to enlarge or diminish the Government's, the Contractor's, or a higher-tier subcontractor's or supplier's rights in a subcontractor's or supplier's technical data.

(3) Technical data required to be delivered by a subcontractor or supplier shall normally be delivered to the next higher-tier contractor, subcontractor, or supplier. However, when there is a requirement in the prime contract for data which may be submitted with other than unlimited rights by a subcontractor or supplier, then said subcontractor or supplier may fulfill its requirement by submitting such data directly to the Government, rather than through a higher-tier contractor, subcontractor, or supplier.

(4) The Contractor and higher-tier subcontractors or suppliers shall not use their power to award contracts as economic leverage to obtain rights in technical data from their subcontractors or suppliers. (5) In no event shall the Contractor use its obligation to recognize and protect subcontractor or supplier rights in technical data as an excuse for failing to satisfy its contractual obligations to the Government.

(End of clause)

Section J - List of Documents, Exhibits and Other Attachments

SECTION J

LIST OF ATTACHMENTS

(All listed attachments are at the end of this document)

FORM NR	TITLE	DATE	NR OF PAGES
N/A	Statement of Work entitled "Ruggedized Military RFID Tags Phase II	14 Sep 2006	5
N/A	Identification and Assertion of Restrictions on the Use, Release, or Disclosure of Technical Data	Undated	2
DD 1423	Contract Data Requirements List	19 Sep 2006	1

Statement of Work
SOW # 06-6C1
14 September 06

1. Scope

1.1 Title: Ruggedized Military RFID Tags Phase II

1.2. Background

The United States Department of Defense has identified radio frequency identification (RFID) as an important component in improving logistic activities into the future. According to the U.S. Acting Under Secretary of Defense, Michael W. Wynne, "This (RFID) effort is critical to logistics transformation, and my plan is to make RFID application at the lowest possible piece part/case/pallet level a mandatory requirement for all suppliers no later than January 2005." The Under Secretary has also written that "employment of RFID allows us to re-apportion critical manpower resources to war fighting functions and to streamline our business processes, in partnership with industry that will benefit both of our enterprises."

For the DoD to fulfill its mission in implementing RFID technologies, these systems must work not only in peacetime and in warehouses, but also in battlefield scenarios. The DoD rightly expects strong synergies with RFID technology being developed in the commercial sector, but must be prepared to extend the technology for its most demanding purposes. It is important to note that DoD has special needs that will not be met with commercial technology:
DoD will need to operate RFID hardware in harsh conditions. The devices must be rugged, work in extremes in temperature, in the presence of water and metal, and in noisy and hostile RF environments. As RFID implementation by the DoD progresses, RFID technology will move into mission-critical roles in many situations. It is imperative that the RFID hardware work with 100% reliability to sustain these missions. DoD will benefit from compatibility with commercial RFID technology, but also need higher-performance hardware not currently available in the commercial sector.

For these reasons, to meet this critical need for the U.S. military it is imperative to explore concepts and identify potential pathways for the development of ruggedized military RFID technology that meet the requirements of the DoD.

During Ruggedized Military RFID Tags Phase I, Alien Technology undertook research and development activities that explored pathways towards novel designs for RFID integrated circuits, roll-compatible assembly processes for ruggedized and high performance RFID tags, and advanced subsystems for high performance RFID readers. Significant progress was made in each of these areas during Phase I. Regarding device manufacturing, a report was prepared describing assembly processes for sapphire IC's, as well as reliability of interconnects within the RFID tag. Regarding readers, a report was prepared on the performance of several subsystems necessary for an ultra-sensitive reader.

1.3 Purpose.

The purpose of this task is to develop an approach for ruggedization and improved performance of RFID tags and readers so that they can be used broadly in military environments.

2.0 Referenced Documents: None

2.1 Government Documents: None

2.2 Other Documents: None

2.3 Government Furnished Equipment/Information (GFE/GFI): All material, documentation and processes developed or purchased for Ruggedized Military RFID Tags Phase I will be transitioned "in place" to Phase II. The transition shall be accomplished via DD Form 1149 at the completion of Phase I.
3.0 Scope of Work

3.1 General

3.1.1 Programmatic Management Support: The contractor shall perform administrative, technical, and financial management function during the course of this effort and shall maintain a status of their effort towards achieving the objectives, including all technical activities and efforts, problems/deficiencies, impacts, and recommended solutions. A monthly report shall be submitted to DMEA that describes the work accomplished versus the plan. The report shall include a financial status of the program against the plan. (X001)

3.1.2 Technical Interchange Meetings: The Contractor shall hold periodic status reviews with the Government. As a minimum, one design review shall be conducted at the Contractor's facility, and a kickoff meeting at DMEA. The contractor shall include meeting minutes in the following monthly report. (X001)

3.1.3 Travel: Travel may be required during the conduct of this task. Negotiated travel shall be approved upon task award.

3.1.4 Limited Rights: The contractor shall identify and receive written Government approval from the PCO, prior to committing to the use of, any privately developed items, intellectual property, processes, computer software and/or technical data which they:

(i) Intend to deliver with Limited Rights;
(ii) Intend to deliver with Government Purpose License Rights;
(iii) Intend to deliver with Restricted Rights;
(iv) Have not yet determined if such rights should apply.

3.2 Major Milestones: The contractor shall maintain a schedule for completion of all assigned tasks and deliverables. The completed work shall be tracked against the schedule and reported monthly.

3.3 Engineering Required:
The contractor shall research and develop design and assembly processes for ruggedized and high performance RFID tags, and advanced subsystems for high performance RFID readers. This is a continuation of the research started in Phase I.

3.3.1 Development of Approach: The contractor shall develop devices and test structures applicable to ruggedized, extended range RFID tags that are compliant with DoD policy regarding passive Class 1 RFID. The contractor shall investigate integrated circuit designs comprising ultra thin silicon on sapphire and/or bulk silicon integrated circuits to take advantage of the best properties of each substrate material. The contractor shall document the approach as an appendix to the final report. (X002)

3.3.1.1 Advanced memories: The contractor shall fabricate the Giant Magnetoresistive MRAM memory design developed in Phase I . The contractor shall test and characterize these devices. The contractor shall look at additional approaches for memory technology in low power ruggedized RFID applications. The contractor shall document the test results in an appendix to the final report. (X002)

3.3.1.2 Transponder chips: The contractor shall test and evaluate the devices developed in Phase I that provides a means for evaluation of UtSi chips' characteristics. The contractor shall also develop test circuits and approaches leading toward transponder devices on UtSi and/or 0.13 micron bulk Si. The contractor shall document the results as an appendix to the final report. (X002)

3.3.2 Fabrication processes: The contractor shall investigate roll-to-roll compatible processes for the fabrication of low-cost, ruggedized RFID tags. The contractor shall pay particular attention to the durability of electrical interconnects in the tag assembly, and to novel low-cost antenna materials, designs, and fabrication methods, providing compatibility with high performance and ruggedized RFID ICs and memory structures. The contractor shall document the results as an appendix to the final report. (X002)

3.3.2.1 The contractor shall investigate the ruggedness and long-term reliability of interconnection and bonding of tag components, with a goal of developing a more reliable device. Areas of investigation can include tag metal interconnects, bonding of the strap to the antenna, laminates useful after the fluidic self assembly process. Research will include materials testing of new conducting inks for reliable and low-cost printed interconnects and wires.

3.3.2.2 The contractor shall investigate novel approaches towards low cost, roll-compatible antenna materials, and on the design, fabrication and characterization of such antennas.

3.3.3. Ultrasensitive reader: Using the design selected in Phase I, the contractor shall prototype RFID transceiver architectures that are resilient to high levels of interference while simultaneously providing a large signal dynamic range to accommodate longer distance EPC Class I Generation 2 decoding. The contractor shall document the results as an appendix to the final report. (X002)

3.3.3.1 Reader hardware subsystems: Contractor shall test the viability of FPGA logic elements developed in Phase I to provide both high dynamic range and high channel selectivity, as well as bit-recovery algorithms that can detect and decode tags in high noise environments.

3.3.3.2 Distributed Reader Networking: The contractor shall investigate reader operating systems appropriate for device management and reader-to-reader communications link for the purposes of collaborative device management and self-orchestration in high density and ad-hoc mobile environments characteristic of military deployments. Contractor shall develop a reader-to-reader communications link to allow RFID Tag information and reader system fault information to be shared among readers. The contractor shall investigate algorithms for collaborative fault-management among readers.

3.4 Ruggedized Military RFID Tags Program Demonstration. The contractor shall demonstrate the work accomplished during Phase II. The contractor shall demonstrate both tags and readers in concert. The

demonstration scenarios shall be mutually agreed upon at a TIM (not less than 180 prior to the end of the period of performance). The contractor shall include a description of the demonstration scenarios in the earliest possible Monthly Status Report. The contractor shall include the demonstration results as an appendix to the Final Report. (X001, X002)

3.5 Environmental Testing. The contractor shall develop a plan and procedures to test the RFID tags and readers for ruggedness. The environmental testing to be performed shall be mutually agreed upon at a TIM (not less than 180 prior to the end of the period of performance). The contractor shall include the agreed upon tests in the earliest possible Monthly Report. The contractor shall include the plans, procedures and test results as an appendix to the Final Report. The contactors' plan shall consider the following:

1. Tag flexibility, the tag shall be bending to a minimum diameter of 2" (both directions and orientations) without failure of the antenna interface.
2. Temperature, the tags shall be read after temperature soaking a minimum 15 minutes at -40° and 160°F. The tag flexibility shall be tested at both temperature extremes. The tag shall be tested for delaminating at 160°F.
3. Chemical Coat, the tag shall be protected from direct chemical contact (such as enclosure in a standard 4" by 6" label). The tag shall be sprayed with a rust preventative such as Cosmoline™ or equivalent. The tag read success rate under various distance and orientations shall be taken.
4. Ultraviolet Light. The tag contents shall be read and compared to the stored data after 1000hrs of exposure to UV light at a minimum intensity of 8000μW/cm2.
5. Electrostatic Discharge (ESD), the tag shall demonstrate ESD resistance in the following situations: Antenna to die, laser and thermal printer static buildup, rubber conveyor belt static buildup, and ESD protection of ordinance (Ref Mil-Std-464A A5.7.3)
6. Commercial product comparison, the tags shall be comparison tested to the contractors standard product line and results compared.
7. Tag self interference testing, the contractor shall test read success rates for arrays of tags. The individual tags in the array shall not be separated by more than 5" center to center in a two dimensional plane. The contactor shall develop self interference tests for tags in both RF absorbing and reflecting environments. (X001, X002)

3.6 Final Report. The Contractor shall summarize all work accomplished under this SOW, including significant technical accomplishments, problems encountered, solutions implemented, and recommendations for improvement. At the conclusion of the contract, the Contractor shall prepare a presentation that presents the results of these studies. This presentation will be of such a quality that the Contractor can brief various departments and programs within the U.S. Department of Defense on the results. The presentation shall be in PowerPoint format. The presentation shall be delivered as an attachment to the Final Report. (X002)

4.0 Data Items: All delivered data shall be marked: "Distribution Statement E. Distribution authorized to DOD Components only. Other requests for this document shall be referred to DMEA/ME."

4.1 Data Distribution List: The contractor shall deliver electronic format using Microsoft Office products or Adobe PDF via electronic mail to individuals identified in the following distribution list defining "electronic" copies.

Code	Copies (regular/reproducible/electronic)	Address
DMEA/MEAC	All Deliverables 0/0/1 The contractor shall deliver electronic copies via e-mail in Microsoft Office Products or in Adobe PDF format to the address indicated. The subject block shall contain the SOW number, CDRL Title, and Date.	DMEA/MEAC Attn: Wesley Trunnell 4235 54th Street McClellan, CA 95652-2100 trunnell@dmea.osd.mil
DMEA/MED: (ATSP Office)	Monthly Status Reports 0/0/1 Cover Letters all CDRLs 0/0/1	DMEA/MED ATSP Program Office Attn: Gene Graham 4234 54th Street McClellan, CA 95652-2100 graham@dmea.osd.mil
DMEA/MEE (PCO)	Monthly Status Reports, 0/0/1 Meeting Minutes: 0/0/1 Cover letters for all CDRL items: 0/0/1	DMEA/MEE Contracting Attn: Judy Hilton 4234 54th Street McClellan, CA 95652-2100 mailto:hilton@dmea.osd.mil
DCMA/TBD	All Deliverables 0/0/1	DCMA/TBD

Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data.

Alien Technology Corporation ("Alien") asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data should be restricted—

Technical Data to be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
		limited rights	Alien Technology
		limited rights	Alien Technology
		limited rights	Alien Technology
		limited rights	Alien Technology
		Government purpose rights	Alien Technology
		Government purpose rights	Alien Technology
		Government purpose rights	Alien Technology
		Government purpose rights	Alien Technology
		limited rights	Alien Technology
		Government purpose rights	Alien Technology
		limited rights	Alien Technology
		Government purpose rights	Alien Technology

Technical Data to be Furnished With Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
		limited rights	Alien Technology

In addition to the assertions made in herein, other assertions may be identified after award when based on new information or inadvertent omissions unless the inadvertent omissions would have materially affected the source selection decision.

Date 9/14/06

Printed Name and Title David A. Aaron, Vice President, General Counsel + Secretary

Signature

CONTRACT DATA REQUIREMENTS LIST
(2 Data Items)

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 220 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to the above address. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO.

B. EXHIBIT

C. CATEGORY: TDP ____ TIM ____ OTHER ____

D. SYSTEM/ITEM: Ruggedized Military RFID Tags Phase II

E. CONTRACT/PR NO.: PR 6MC6C101

F. CONTRACTOR: Alien Technology Corp.

Data Item 1

1. DATA ITEM NO.: X001
2. TITLE OF DATA ITEM: Status Report
3. SUBTITLE: Monthly Status Report
4. AUTHORITY (Data Acquisition Document No.): DI-MGMT-80368/T
5. CONTRACT REFERENCE: See Blk 16
6. REQUIRING OFFICE: DMEA/MEAC
7. DD 250 REQ: LT
8. APP CODE: N/A
9. DIST STATEMENT REQUIRED: See Blk 16
10. FREQUENCY: Monthly
11. AS OF DATE: End of month
12. DATE OF FIRST SUBMISSION: See Blk 16
13. DATE OF SUBSEQUENT SUBMISSION: See Blk 16
14. DISTRIBUTION

a. ADDRESSEE	b. COPIES Draft	Final Reg	Final Repro
See SOW			
Paragraph 4			
Distribution List			
15. TOTAL →			

16. REMARKS

Contractor format acceptable. Monthly reports shall be in pdf or a format compatible with Microsoft Office.

BLK 5: SOW Para 3.1.1, 3.1.2, 3.4, 3.5

BLK 9: Distribution Statement required, Statement E: Distribution authorized to U.S. Government agencies, due to proprietary technology. Other requests shall be referred to DMEA/MEDR.

BLK 12: Due NLT 15th of first full calendar month ARO.

BLK 13: Subsequent submittals due by 15th of each calendar month.

BLK 14: Electronic delivery preferred

17. PRICE GROUP

18. ESTIMATED TOTAL PRICE

Data Item 2

1. DATA ITEM NO.: X002
2. TITLE OF DATA ITEM: Technical Report - Study/Services
3. SUBTITLE: Miniature Tunable RF Front End - Final Report
4. AUTHORITY (Data Acquisition Document No.): DI-MISC-80508/T
5. CONTRACT REFERENCE: See Blk 16
6. REQUIRING OFFICE: DMEA/MEAC
7. DID 250 REQ: DD
8. APP CODE: N/A
9. DIST STATEMENT REQUIRED: See Blk 16
10. FREQUENCY: OTIME
11. AS OF DATE: N/A
12. DATE OF FIRST SUBMISSION: See Blk 16
13. DATE OF SUBSEQUENT SUBMISSION: N/A
14. DISTRIBUTION

a. ADDRESSEE	b. COPIES Draft	Final Reg	Final Repro
See SOW			
Paragraph 4			
Distribution List			
15. TOTAL →			

16. REMARKS

Contractor format acceptable. Final report shall be in Word format. The briefing/ presenttion shall be in PowerPoint Format.

BLK 5: SOW Para 3.3.1, 3.3.2, 3.3.3, 3.4, 3.5, 3.6

BLK 9: Distribution Statement required, Statement E: Distribution authorized to U.S. Government agencies, due to proprietary technology. Other requests shall be referred to DMEA/MEDR.

BLK 12: 10 days prior to the end of the Period of Performance indicated in Section B of the Delivery Order

BLK 14: Electronic delivery preferred

17. PRICE GROUP

18. ESTIMATED TOTAL PRICE

G. PREPARED BY: Wesley Trumbell

H. DATE: 19Sept06

I. APPROVED BY: Wesley Trumbell

J. DATE: 19Sept06