Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force											**Date:** February 2018	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force I* BA 7: *Operational Systems Development*						**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*						
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	-	32.646	33.150	32.770	0.000	32.770	34.193	35.583	36.321	36.983	Continuing	Continuing
675066: *Anti-Tamper Technology Executive Agent*	-	32.646	33.150	32.770	0.000	32.770	34.193	35.583	36.321	36.983	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Program MDAP/MAIS Code:
Project MDAP/MAIS Code(s): N42

A. Mission Description and Budget Item Justification

The Anti-Tamper (AT) Technology Executive Agency budget funds activities related to two AT responsibilities required by DoDD 5200.47E Anti-Tamper. These responsibilities include areas unique to the DoD Executive Agent for Anti-Tamper (ATEA) and Air Force Component AT Office of Primary Responsibility (OPR). The ATEA is responsible for developing and implementing AT policy, coordinating and providing financial support for AT technology development and evaluations, hardware/software vulnerability assessments, laboratory infrastructure, establishing and maintaining a data bank/library of AT technologies, providing security mechanisms, providing outreach and education to the DoD AT community, and funding validation and evaluations of AT implementations across all DoD acquisition programs. This program element may include necessary civilian pay expenses required to manage, execute, and deliver AT weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, and 0605898F. The AF AT OPR, that is also funded by this PE and is responsible for the oversight and security of AT on all AF acquisition programs under the Program Protection Planning process and manages AF AT technology development.

The DoD ATEA coordinates technology development among the DoD Services/Agencies, National Laboratories, and Industry.

AT protects critical program information (CPI) in U.S. weapon systems that may be sold to foreign governments or that could possibly fall into enemy hands on the battlefield. AT protections permit the U.S. to preserve its technological advantage and the combat capabilities of critical weapons systems while supporting the warfighters' mission requirements. Furthermore, AT adds longevity to DoD weapon systems and critical technologies by deterring efforts to reverse engineer or develop weapon countermeasures against the system or system component.

All DoD acquisition programs, Foreign Military Sales, and Direct Commercial Sales with resident critical program information (RCPI) require a validated AT Plan. The AT program includes resources required for subject matter experts (SMEs) to review AT Plans and conduct AT validation on all DoD Weapon Systems, and perform AT assessments of both commercial off the shelf and government off the shelf products. As technology advances, AT continues to perform AT hardware/software assessment capabilities. These capabilities include the acquisition of specialized equipment, maintenance and/or renovations to support the integration of this equipment, and modifications to new and/or existing laboratory facilities to meet equipment and security requirements.

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Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force I* BA 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*

The DoD ATEA technology development strategy is to coordinate DoD AT technology development across the Services which fund development of new AT technology, as well as enhance existing AT technology efforts to increase the technology readiness level (TRL) and facilitate transition for programs to implement. The AT technology development and enhancement efforts include: advanced AT sensor hardware, secure processing, crypto-analysis, tamper penalties, and other AT enablers.

The Air Force AT OPR conducts Anti-Tamper technology development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems. Technology development priorities are given to those technologies that most benefit AF acquisition programs. These activities are coordinated through the ATEA as a part of the ATEA technology development roadmap and to coordinate with Navy and Army AT technology development efforts.

This program is in Budget Activity 07, Operational System Development, because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding.

This program is in Budget Activity 07, Operational System Development, because it includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding.

B. Program Change Summary ($ in Millions)

	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	31.952	33.150	33.017	0.000	33.017
Current President's Budget	32.646	33.150	32.770	0.000	32.770
Total Adjustments	0.694	0.000	-0.247	0.000	-0.247
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	1.697	0.000			
• SBIR/STTR Transfer	-1.003	0.000			
• Other Adjustments	0.000	0.000	-0.247	0.000	-0.247

C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: DoD Anti-Tamper Technology Executive Agent (DoDATEA)	24.724	23.828	22.870
Description: AT technology coordination and evaluations, hardware/software vulnerability assessments, laboratory infrastructure; provide outreach and education to the AT Community, conduct effective validation and evaluation of AT implementation as well as implementation of AT policy. ***FY 2018 Plans:*** - Conduct effective validation and evaluation of AT implementation on all DoD Acquisition programs; continue AT hardware/ software technical development, vulnerability assessments, and maintenance of AT laboratory infrastructure.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Air Force		Date: February 2018
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force I* BA 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
- Continue to train acquisition workforce on AT policy and technology, and implement AT policy within the AT Community. ***FY 2019 Plans:*** - Conduct effective validation and evaluation of AT implementation on all DoD Acquisition programs; continue AT hardware/ software technical development, vulnerability assessments, and maintenance of AT laboratory infrastructure. - Continue to train acquisition workforce on AT policy and technology, and implement AT policy within the AT Community. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decreased $0.711 million. Decrease driven by increase in Technology Development.			
Title: DoDATEA Program Management Support ***Description:*** Includes civilian pay, A&AS, outreach and education, travel, supplies, and AFLCMC/WWG support. ***FY 2018 Plans:*** Support program office efforts, including civilian pay, A&AS, outreach and education, travel, and supplies. ***FY 2019 Plans:*** Support program office efforts, including civilian pay, A&AS, outreach and education, travel, and supplies. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Decreased $0.022 million. No material change to program.	5.522	5.722	5.700
Title: Air Force Anti-Tamper Office Technology Development ***Description:*** The Air Force AT office conducts Anti-Tamper technology development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapon systems. The AT technology development and enhancement efforts include: advanced AT sensor hardware, secure processing, crypto-analysis, tamper penalties, and other AT enablers. The AF AT office will fund and manage new technology efforts to protect AF CPI. These new AT technology requirements will be obtained from AF programs and these new AT technologies will then transition to Air Force and DoD programs. ***FY 2018 Plans:*** The Air Force AT office conducts Anti-Tamper technology development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems.	2.400	3.600	4.200

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2019 Air Force		**Date:** February 2018
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force I* BA 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*

C. Accomplishments/Planned Programs ($ in Millions)	**FY 2017**	**FY 2018**	**FY 2019**
The AT technology development and enhancement efforts include: advanced AT sensor hardware, secure processing, crypto-analysis, tamper penalties, and other AT enablers. Technology development priorities will be given to those technologies that most benefit AF acquisition programs. *FY 2019 Plans:* The Air Force AT office conducts Anti-Tamper technology development to meet Air Force service needs to mature promising AT technologies to transition to Air Force weapons systems. The AT technology development and enhancement efforts include: advanced AT sensor hardware, secure processing, crypto-analysis, tamper penalties, and other AT enablers. Technology development priorities will be given to those technologies that most benefit AF acquisition programs. *FY 2018 to FY 2019 Increase/Decrease Statement:* Increased $0.600 million. Increase driven by additional requirements in FY17 and program ramp up.			
Accomplishments/Planned Programs Subtotals	32.646	33.150	32.770

D. Other Program Funding Summary ($ in Millions)
 N/A
Remarks

E. Acquisition Strategy
 The DoD ATEA acquisition strategy is to coordinate DoD AT technology developments across the Services which fund coordination and assessments of new AT technology, as well as enhance existing AT technology efforts by increasing TRL. The ATEA will coordinate the Technology Roadmap with major Prime vendors. Evaluating their AT CRADA projects is of major importance. The ATEA will also coordinate with the Service AT personnel to foster communication and understand what programs, Services are developing for their AT implementation. Emerging research areas such as materials, cryptography and electronic circuits have the potential to bring new AT capabilities with reduced power needs and smaller form factor. The goal of the research is to mature promising technologies to the point they can be transitioned to a program office or industry for implementation in our weapon systems. Priorities will be given to those technologies that most benefit the DoD AT community.

 The Air Force AT Office in 2017, will fund and manage new technology efforts to protect Air Force critical program information. These new AT technology requirements will be obtained from AF programs and these new AT technologies will then transition to Air Force programs.

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2019 Air Force	**Date:** February 2018
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, **RDT&E Project Cost Analysis:** PB 2019 Air Force													**Date:** February 2018		
Appropriation/Budget Activity 3600 *I* 7							**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*						**Project (Number/Name)** 675066 *I Anti-Tamper Technology Executive Agent*		

Product Development ($ in Millions)				**FY 2017**		**FY 2018**		**FY 2019 Base**		**FY 2019 OCO**		**FY 2019 Total**			
Cost Category Item	**Contract Method & Type**	**Performing Activity & Location**	**Prior Years**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Cost To Complete**	**Total Cost**	**Target Value of Contract**
Air Force Anti-Tamper Office Technology Development	Various	Not specified. : NV	-	2.400		3.600		4.200		-		4.200	Continuing	Continuing	-
Subtotal			-	2.400		3.600		4.200		-		4.200	Continuing	Continuing	N/A

<u>Remarks</u>
In the FY17 PB, the Air Force received funding specifically for Technology Development.

Support ($ in Millions)				**FY 2017**		**FY 2018**		**FY 2019 Base**		**FY 2019 OCO**		**FY 2019 Total**			
Cost Category Item	**Contract Method & Type**	**Performing Activity & Location**	**Prior Years**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Cost To Complete**	**Total Cost**	**Target Value of Contract**
DoD Anti-Tamper Technology Executive Agent (DoDATEA)	Various	Not specified. : NV	-	24.724		23.828		22.870		-		22.870	Continuing	Continuing	-
Subtotal			-	24.724		23.828		22.870		-		22.870	Continuing	Continuing	N/A

<u>Remarks</u>
This funding is to support DoD ATEA requirements. Funding was broken out starting in FY15 between DoD ATEA and Air Force requirements.

Management Services ($ in Millions)				**FY 2017**		**FY 2018**		**FY 2019 Base**		**FY 2019 OCO**		**FY 2019 Total**			
Cost Category Item	**Contract Method & Type**	**Performing Activity & Location**	**Prior Years**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Cost To Complete**	**Total Cost**	**Target Value of Contract**
DoDATEA Program Management Support	Various	Not specified. : NV	-	5.522		5.722		5.700		-		5.700	Continuing	Continuing	-
Subtotal			-	5.522		5.722		5.700		-		5.700	Continuing	Continuing	N/A

	Prior Years	**FY 2017**		**FY 2018**		**FY 2019 Base**		**FY 2019 OCO**		**FY 2019 Total**	**Cost To Complete**	**Total Cost**	**Target Value of Contract**
Project Cost Totals	-	32.646		33.150		32.770		-		32.770	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Air Force									**Date:** February 2018
Appropriation/Budget Activity 3600 *I* 7			**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*			**Project (Number/Name)** 675066 *I Anti-Tamper Technology Executive Agent*			
	Prior Years	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**Cost To Complete**	**Total Cost**	**Target Value of Contract**

Remarks
 Additional funding breakout and award dates are classified per the Anti-Tamper Security Classification Guide. Please contact the ATEA if additional information is required.

Exhibit R-4, **RDT&E Schedule Profile:** PB 2019 Air Force		**Date:** February 2018
Appropriation/Budget Activity 3600 *I* 7	**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*	**Project (Number/Name)** 675066 *I Anti-Tamper Technology Executive Agent*

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
ATEA																												
ATEA Program Office	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
AT RDT&E	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█

Exhibit R-4A, **RDT&E Schedule Details:** PB 2019 Air Force		**Date:** February 2018
Appropriation/Budget Activity 3600 *I* 7	**R-1 Program Element (Number/Name)** PE 0605024F *I Anti-Tamper Technology Executive Agency*	**Project (Number/Name)** 675066 *I Anti-Tamper Technology Executive Agent*

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ATEA				
ATEA Program Office	1	2017	4	2023
AT RDT&E	1	2017	4	2023