Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force											Date: February 2019	
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 2018**	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**Cost To Complete**	**Total Cost**
Total Program Element	-	37.304	32.770	47.193	0.000	47.193	50.583	52.321	49.983	53.723	Continuing	Continuing
675066: *Anti-Tamper Technology Executive Agent*	-	37.304	32.770	47.193	0.000	47.193	50.583	52.321	49.983	53.723	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 nine 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, providing intel support, and funding validation and evaluations of AT implementations across all DoD acquisition programs. This program element may include necessary civilian pay expenses required to develop new AT capabilities and evaluate AT implementations on weapon systems. 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, 0605898F, and 0605833F. 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 critical program information (CPI) 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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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.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is $14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)

	FY 2018	**FY 2019**	**FY 2020 Base**	**FY 2020 OCO**	**FY 2020 Total**
Previous President's Budget	33.150	32.770	34.193	0.000	34.193
Current President's Budget	37.304	32.770	47.193	0.000	47.193
Total Adjustments	4.154	0.000	13.000	0.000	13.000
• 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	5.100	0.000			
• SBIR/STTR Transfer	-0.946	0.000			
• Other Adjustments	0.000	0.000	13.000	0.000	13.000

Change Summary Explanation

FY 2018 funds include $0.019 million pending transfer to the Rapid Prototyping Fund in accordance with PL 114-92; section 828, Penalty for Cost Overruns, as amended by PL 115-91 section 825(a).

C. Accomplishments/Planned Programs ($ in Millions)

	FY 2018	**FY 2019**	**FY 2020**
Title: DoD Anti-Tamper Technology Executive Agent (DoDATEA)	28.453	22.584	36.011

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2020 Air Force		**Date:** February 2019
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020
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 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 2020 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 2019 to FY 2020 Increase/Decrease Statement:* Funding increased due to a $13 million POM plus up in FY 2020 and an inflation increase.			
Title: DoDATEA Program Management Support *Description:* Includes civilian pay, A&AS, outreach and education, travel, supplies, and AFLCMC/WWG support. *FY 2019 Plans:* Support program office efforts, including civilian pay, A&AS, outreach and education, travel, and supplies. *FY 2020 Plans:* Support program office efforts, including civilian pay, A&AS, outreach and education, travel, and supplies. *FY 2019 to FY 2020 Increase/Decrease Statement:* Funding increased due to inflation.	5.251	5.986	6.082
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.	3.600	4.200	5.100

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020
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 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 2020 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 2019 to FY 2020 Increase/Decrease Statement:*** Funding increased due to program ramp-up.			
Accomplishments/Planned Programs Subtotals	37.304	32.770	47.193

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 development 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 increased processing power, reduced power draw, 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.

Exhibit R-2, **RDT&E Budget Item Justification:** PB 2020 Air Force	**Date:** February 2019
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The Air Force AT Office 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.

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 2020 Air Force				Date: February 2019
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Force Anti-Tamper Office Technology Development	Various	Not specified. : NV	-	3.600		4.200		5.100		-		5.100	Continuing	Continuing	-
Subtotal			-	3.600		4.200		5.100		-		5.100	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DoD Anti-Tamper Technology Executive Agent (DoDATEA)	Various	Not specified. : NV	-	28.453		22.584		36.011		-		36.011	Continuing	Continuing	-
Subtotal			-	28.453		22.584		36.011		-		36.011	Continuing	Continuing	N/A

Remarks
 This funding is to support DoD ATEA requirements. However, funding is broken out between DoD ATEA and Air Force AT requirements.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2018 Cost	FY 2018 Award Date	FY 2019 Cost	FY 2019 Award Date	FY 2020 Base Cost	FY 2020 Base Award Date	FY 2020 OCO Cost	FY 2020 OCO Award Date	FY 2020 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DoDATEA Program Management Support	Various	Not specified. : NV	-	5.251		5.986		6.082		-		6.082	Continuing	Continuing	-
Subtotal			-	5.251		5.986		6.082		-		6.082	Continuing	Continuing	N/A
Project Cost Totals			-	37.304		32.770		47.193		-		47.193	Continuing	Continuing	N/A

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 2020 Air Force		**Date:** February 2019
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 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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 2020 Air Force		**Date:** February 2019	
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	2018	4	2024
AT RDT&E	1	2018	4	2024

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