Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force											Date: May 2021	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 2: *Applied Research*					R-1 Program Element (Number/Name) PE 0602605F / *Directed Energy Technology*							
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
Total Program Element	-	114.297	130.375	121.869	0.000	121.869	-	-	-	-	-	-
624866: *Lasers & Imaging Technology*	-	82.277	96.588	0.000	0.000	0.000	-	-	-	-	-	-
624867: *Advanced Weapons & Survivability Technology*	-	32.020	33.787	51.185	0.000	51.185	-	-	-	-	-	-
625173: *Laser Technology*	-	0.000	0.000	70.684	0.000	70.684	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This program covers research in Directed Energy (DE) technologies, primarily High Energy Lasers (HEL); including devices, subcomponents, and novel materials; optical beam control; laser system integration; target laser lethality/vulnerability assessments; ground-based optical Space Domain Awareness (SDA); and high power microwaves (HPM). Laser research includes moderate to high power laser devices that are applicable to a wide range of applications, optical technologies to propagate laser beams through the atmosphere, and integration of these technologies into demonstration packages. Space Domain Awareness research uses the Starfire Optical Range (SOR) and the Maui Space Surveillance System (MSSS) to develop and implement technologies that identify visual characteristics such as status and health of orbiting space objects. High power microwaves research examines technologies for applications such as counter-electronics and non-lethal weapons. This program conducts research into other novel Directed Energy applications; conducts Directed Energy vulnerability/lethality assessments; develops protection technologies versus Directed Energy; conducts research into other advanced non-conventional/innovative weapons; develops and uses tools to compare solutions to determine the most effective and efficient Directed Energy technologies to meet Air Force needs; coordinates efforts through the Department of Defense Science and Technology Executive Committee process to harmonize efforts and eliminate duplication.

In FY 2022, a portion of PE 0602605F, the optical space domain awareness and satellite vulnerability efforts of PE 0602605F, Directed Energy Technology, Project 624866, Lasers & Imaging Technology, was transferred to Appropriation 3620, Research, Development, Test & Evaluation, Space Force, PE 1206601SF, Space Technology, Project 624866, Lasers & Imaging Technology from Appropriation 3600, Budget Activity 2 due to the creation of a new Appropriation for Space Force. In addition, the funds associated with High Energy Laser Technologies and Directed Energy Assessments were moved from PE 0602605F, Project 624866, to PE 0602605F, Project 625173.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver science & technology capabilities. The use of program funds in this PE would be in addition to the civilian pay expenses budgeted in program elements 0601102F, 0602102F, 0602201F, 0602202F, 0602203F, 0602204F, 0602602F, 0602788F, 1206601SF, and 0602298F.

Funds in this PE may be used to investigate specified technology advancements in air, space and/or cyber domains.

Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Air Force	Date: May 2021
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 2: *Applied Research*	**R-1 Program Element (Number/Name)** PE 0602605F / *Directed Energy Technology*

This program is in Budget Activity 2, Applied Research because this budget activity includes studies, investigations, and non-system specific technology efforts directed toward general military needs with a view toward developing and evaluating the feasibility and practicality of proposed solutions and determining their parameters.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	124.379	128.113	129.514	0.000	129.514
Current President's Budget	114.297	130.375	121.869	0.000	121.869
Total Adjustments	-10.082	2.262	-7.645	0.000	-7.645
• Congressional General Reductions	0.000	-0.238			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	2.500			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.243	0.000			
• SBIR/STTR Transfer	-2.322	0.000			
• Other Adjustments	-8.003	0.000	-7.645	0.000	-7.645

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2020	FY 2021
Project: 624866: *Lasers & Imaging Technology*		
Congressional Add: *DE Center of Excellence*	0.000	2.500
Congressional Add Subtotals for Project: 624866	0.000	2.500
Congressional Add Totals for all Projects	0.000	2.500

Change Summary Explanation

Air Force activities supporting Directed Energy Science and Technology FY 2022 decreased compared to FY 2021 by 8.506 Million. The overall decrease is due to: 1) increased emphasis in Laser and Imaging Technology and 2) planned activities transferred to the United States Space Force Program Element 1206601SF.

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force									Date: May 2021			
Appropriation/Budget Activity 3600 / 2					R-1 Program Element (Number/Name) PE 0602605F / *Directed Energy Technology*				Project (Number/Name) 624866 / *Lasers & Imaging Technology*			
COST ($ in Millions)	**Prior Years**	**FY 2020**	**FY 2021**	**FY 2022 Base**	**FY 2022 OCO**	**FY 2022 Total**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Cost To Complete**	**Total Cost**
624866: *Lasers & Imaging Technology*	-	82.277	96.588	0.000	0.000	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project explores the technical feasibility of moderate to high power lasers, including beam control, for applications such as aircraft protection, force protection, and precision engagement from the Department of the Air Force platforms. This project investigates the effects of laser weapons on a wide range of systems and components as well as producing, modifying, validating and applying Directed Energy and non-Directed Energy concept development and assessment tools to determine which technology solutions to pursue. Additionally, this project conducts research supporting ground-based optical space situational awareness.

In FY 2022, A portion of PE 0602605F, the optical space domain awareness and satellite vulnerability efforts of PE 0602605F, Directed Energy Technology, Project 624866, Lasers & Imaging Technology, was transferred to Appropriation 3620, Research, Development, Test & Evaluation, Space Force, PE 1206601SF, Space Technology, Project 624866, Lasers & Imaging Technology from Appropriation 3600, Budget Activity 2 due to the creation of a new Appropriation for Space Force. In addition the funds associated with High Energy Laser Technologies and Directed Energy Assessments were moved to PE 0602605F, Project 625173.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: High Energy Laser Technologies and Directed Energy Assessments	56.624	67.447	0.000
Description: This effort explores the technical feasibility of moderate to high power lasers, including beam control, for applications such as aircraft protection, force protection, and precision engagement from the Department of the Air Force platforms. This project investigates the effects of laser weapons on a wide range of systems and components as well as producing, modifying, validating and applying Directed Energy and non-Directed Energy concept development and assessment tools to determine which technology solutions to pursue. ***FY 2021 Plans:*** Continue to develop beam control technologies including aero-effects mitigation techniques based on transonic and supersonic data from laboratory and flight tests. Continue to power scale monolithic fiber amplifiers using advanced fibers. Continue with laser effects testing to establish system requirements and validate models. Complete System Requirements Review/Concept Design Review (SRR/CoDR) for 150 kW compact laser system. Continue to transition the functionality of the Integrated Weapons Environment for Analysis engagement level model into the Advanced Framework for Simulation model for engagement and mission level analysis for internal and external users. Transition the models to the Department of Defense and Industry Modeling, Simulation and Analysis community. Utilize the Advanced Framework for Simulation model as the weapons server in an advanced framework to support the Department of the Air Force-wide modeling, simulation, and analysis. Continue to assess directed energy weapon and/or synergistic directed energy weapon/kinetic energy weapon capabilities to help users plan weapon			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 2	**R-1 Program Element (Number/Name)** PE 0602605F / *Directed Energy Technology*	**Project (Number/Name)** 624866 / *Lasers & Imaging Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
investments. Continue to model and characterize foreign high energy laser threats, and provide information to develop mitigation techniques to protect blue assets. ***FY 2022 Plans:*** For FY 2022, this effort moved to BA2, Program 060205F, Directed Energy Technology, Project 625173, Laser Technology. Funds moved as a result of the creation of the Space Force. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** FY 2021 decreased from $67.447M to zero in FY 2022. Funding decreased due to moving funds to BA2, Program 060205F, Directed Energy Technology, Project 625173, Laser Technology. Funds moved as a result of the creation of the Space Force.			
Title: Optical Space Situational Awareness and Satellite Vulnerability ***Description:*** Develop advanced, long-range, electro-optical technologies that enable ground-based optical Space Domain Awareness (SDA) and quantum-based optical communications. Develop and use technologies to understand the vulnerability of blue satellite systems and components to lasers. Operate the Starfire Optical Range (SOR) to conduct research meeting internal and customer requirements. ***FY 2021 Plans:*** Continue fielding the dynamic telescope subsystem that searches the geosynchronous satellite belt visible from the mid-Pacific multiple-times per night, enabling a periodic comprehensive census of dim objects in the geobelt. Continue to mature daylight detection of geosynchronous satellites thus allowing custody through daytime hours when satellites cannot normally be detected by our ground-based optical systems. Continue to mature component technologies for 24/7 real-time optical imaging of near-earth and geosynchronous objects enabling characterization on tactical timelines. Continue investigation through modeling and simulation the susceptibility of satellite components to laser threats to inform practical designs for protection equipment and for tactically rapid course-of-action decision-making enabling protection methods. Continue development of laser-enabled space situational awareness (SSA) research focused on full-dark imaging using laser illumination. Investigate laser-enabled options for both ranging to and imaging of geosynchronous satellites from apertures smaller than 3 meters. Continue development of long-range secure optical communications technologies leveraging quantum science for free space lasercom channels. Continue project to apply machine-learning to automatically identify geosynchronous-orbit objects more accurately and rapidly than current "hard-wired" algorithms can. Continue to maintain the Starfire Optical Range (SOR) and Maui Space Surveillance Site (MSSS) facilities and experimental equipment in a mission-ready state. Continue research on laser-ranging to objects in geosynchronous orbit using active sensing techniques. Starting in FY 2021, work in Program Element 0603605F, Project 633151, High Power Solid State Laser Technology, Optical Space Situational Awareness and Satellite Vulnerability efforts will be performed under in Program Element 0602605F, Directed Energy Technology, Project 624866, Lasers & Imaging Technology,	25.653	26.641	0.000

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 2	**R-1 Program Element (Number/Name)** PE 0602605F / *Directed Energy Technology*	**Project (Number/Name)** 624866 / *Lasers & Imaging Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Optical Space Situational Awareness and Satellite Vulnerability effort to consolidate Optical Space Situational Awareness and Satellite Vulnerability research efforts. ***FY 2022 Plans:*** This research activity is transferring to United States Space Force Program Element C6601SF. Continue to mature daylight detection of satellites allowing custody through daytime hours when satellites cannot normally be detected by ground-based optical systems. Continue to mature component technologies for 24/7 real-time optical imaging of near-earth and geosynchronous objects enabling characterization on tactical timelines. Continue investigation through modeling and simulation the susceptibility of satellite components to laser threats to inform practical designs for protection equipment and for tactically-rapid course-of-action decision-making enabling protection methods. Continue research & development of laser-enabled space domain awareness (SDA) focused on full-dark imaging using laser illumination. Continue development of laser-enabled options for both ranging to and imaging of geosynchronous satellites from apertures smaller than 3 meters. Continue development of long-range secure optical communications technologies leveraging quantum science for free space lasercom channels. Continue project to apply machine-learning to automatically identify geosynchronous-orbit objects more accurately and rapidly than current "hard-wired" algorithms can. Continue to maintain the Starfire Optical Range (SOR) facilities and experimental equipment in a mission-ready state. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** FY 2022 decreased compared to FY 2021 by $26.641M. Funding decreased due to transfer of activity to BA2 Program 01206601SF Space Technology, Project 628809, Spacecraft Vehicles Technology and BA2 Program 1206601SF Space Technology, Project 624866, Lasers & Imaging Technology, and BA2 Program 060205F Directed Energy Technology, Project 625173, Laser Technology. All moves resulting from creation of the Space Force.			
Accomplishments/Planned Programs Subtotals	82.277	94.088	0.000

	FY 2020	FY 2021
Congressional Add: DE Center of Excellence	0.000	2.500
FY 2020 Accomplishments: Non Applicable		
FY 2021 Plans: Perform directed work under congressional add		
Congressional Adds Subtotals	0.000	2.500

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 2	**R-1 Program Element (Number/Name)** PE 0602605F / *Directed Energy Technology*	**Project (Number/Name)** 624866 / *Lasers & Imaging Technology*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force			Date: May 2021
Appropriation/Budget Activity 3600 / 2	R-1 Program Element (Number/Name) PE 0602605F / *Directed Energy Technology*	Project (Number/Name) 624867 / *Advanced Weapons & Survivability Technology*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
624867: *Advanced Weapons & Survivability Technology*	-	32.020	33.787	51.185	0.000	51.185	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project explores the use of High Power Microwave and other unconventional/innovative weapon concepts to support applications such as non-lethal counter-personnel and electronic warfare including disruption, degradation, and damage of electronic infrastructure on the Department of the Air Force platforms. This research includes weapon technology that can provide covert effects and/or no collateral or human damage. The project also investigates the effects of potential adversary High Power Microwave weapons and how to mitigate those effects on US assets, as well as producing and applying Directed Energy and non-Directed Energy concept development and assessment tools to determine which technology solutions to pursue. This project includes but is not limited to high power microwaves, plasmas, particle beams, and millimeter waves.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: High Power Microwave and Unconventional Weapon Technologies	14.974	13.750	19.641
Description: Investigate technologies for High Power Microwave and unconventional weapon components. Investigate High Power Microwave and other unconventional weapon concepts using innovative technologies. Investigate advanced technologies that support force protection tactical applications, including non-kinetic/non-lethal counter-electronics applications.			
FY 2021 Plans: Define measures of effectiveness and performance of an ultra-short pulsed laser system. Continue effects testing on electronic target classes for the joint high power microwave program with the Navy. Continue to develop and test high power microwave components for ground and aerial high power microwave demonstrators. Continue to develop and test smaller, higher power, source technology for the next generation Department of the Air Force high power microwave demonstration. Continue to support the modeling, simulation, and analysis (MS&A) tools that have been transitioned to the broader modeling, simulation, and analysis community.			
FY 2022 Plans: Continue to develop an ultra-short pulsed laser system. Initiate research and development to integrate High Power Microwave technology into an airborne platform for the next generation Department of the Air Force airborne High Power Microwave technology demonstration. Continue to develop and test high power microwave components for ground and aerial high power microwave demonstrators. Continue to develop and test smaller, higher power, source technology for the next generation Department of the Air Force high power microwave demonstration. Continue to support the modeling, simulation, and analysis (MS&A) tools that have been transitioned to the broader modeling, simulation, and analysis community.			
FY 2021 to FY 2022 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 2	**R-1 Program Element (Number/Name)** PE 0602605F / *Directed Energy Technology*	**Project (Number/Name)** 624867 / *Advanced Weapons & Survivability Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
FY 2022 increased compared to FY 2021 by $5.891 million. Funding increased due to planned efforts and facilities use.			
Title: High Power Microwave Effects and Mitigation Research ***Description:*** Assess the effects/lethality of High Power Microwave technologies. Develop and apply sophisticated models to enhance the development of High Power Microwave and related technology. Develop tools and perform assessments which allow comparisons among Directed Energy concepts and tradeoffs between Directed Energy and non-Directed Energy solutions. Investigate technologies to counter the effects of High Power Microwaves. ***FY 2021 Plans:*** Validate and update software applications that are hosted in the directed energy High Performance Computing Software Applications Institute for a broad spectrum directed energy sources. Develop a data base of high power sources. Assess military utility of high power microwave weapon technology that is integrated into various platforms for multiple target engagements using end-to-end modeling. Assess synergistic weapon concepts that merge kinetic energy and non-kinetic weapon capabilities into one weapon system. Validate and update the modeling, simulation, and analysis tools that have been transitioned to the broader modeling, simulation, and analysis community. ***FY 2022 Plans:*** Complete validation of software applications that are hosted in the directed energy High Performance Computing Software Applications Institute for a broad spectrum directed energy sources. Continue to populate data base of high power sources. Continue to assess military utility of high power microwave weapon technology that is integrated into various platforms for multiple target engagements using end-to-end modeling. Continue to assess synergistic weapon concepts that merge kinetic energy and non-kinetic weapon capabilities into one weapon system. Complete validation of the modeling, simulation, and analysis tools that have been transitioned to the broader modeling, simulation, and analysis community. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** FY 2022 increased compared to FY 2021 by $11.507 million. Funding increased due to planned efforts associated with effects testing and system-level modelling.	17.046	20.037	31.544
Accomplishments/Planned Programs Subtotals	32.020	33.787	51.185

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Not Applicable

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force			Date: May 2021
Appropriation/Budget Activity 3600 / 2	R-1 Program Element (Number/Name) PE 0602605F / *Directed Energy Technology*	Project (Number/Name) 625173 / *Laser Technology*	

COST ($ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
625173: *Laser Technology*	-	0.000	0.000	70.684	0.000	70.684	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

This project explores the technical feasibility of moderate to high power lasers, including beam control, for applications such as aircraft protection, force protection, and precision engagement from the Department of the Air Force platforms. This project investigates the effects of laser weapons on a wide range of systems and components as well as producing, modifying, validating and applying Directed Energy and non-Directed Energy concept development and assessment tools to determine which technology solutions to pursue. Additionally, this project conducts research supporting ground-based optical space situational awareness.

In FY 2022, a portion of PE 0602605F, Directed Energy Technology, the optical space domain awareness and satellite vulnerability efforts of PE 0602605F, Directed Energy Technology, Project 624866, Laser Technology, was transferred to Appropriation 3620, Research, Development, Test & Evaluation, Space Force, PE 1206601SF, Space Technology, Project 624866, Lasers & Imaging Technology from Appropriation 3600, Budget Activity 2 due to the creation of a new Appropriation for Space Force. In addition, the funds associated with High Energy Laser Technologies and Directed Energy Assessments were moved to PE 0602605F, Directed Energy Technology, Project 625173, Laser Technology.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Laser Technology	0.000	0.000	70.684
Description: Develop and demonstrate High Energy Laser device technologies for the Department of the Air Force applications. Develop and demonstrate laser beam control technologies including atmospheric propagation and pointing and tracking. Perform laser system level modeling and simulation validated by laser effects and vulnerability testing. Develop tools and perform assessments which allow comparisons among concepts and tradeoffs between Directed Energy and non-Directed Energy solutions. Integrate optical beam control technologies with laser device technologies and demonstrate the combined technologies. Develop and use modeling, testing and diagnostic technologies to better understand the vulnerability of adversary weapon systems to High Energy Lasers.			
FY 2021 Plans: Continue to develop beam control technologies including aero-effects mitigation techniques based on transonic and supersonic data from laboratory and flight tests. Continue to power scale monolithic fiber amplifiers using advanced fibers. Continue with laser effects testing to establish system requirements and validate models. Complete System Requirements Review/Concept Design Review (SRR/CoDR) for 150 kW compact laser system. Continue to transition the functionality of the Integrated Weapons Environment for Analysis engagement level model into the Advanced Framework for Simulation model for engagement and mission level analysis for internal and external users. Transition the models to the Department of Defense and Industry Modeling, Simulation and Analysis community. Utilize the Advanced Framework for Simulation model as the weapons server in an advanced framework to support the Department of the Air Force-wide modeling, simulation, and analysis. Continue to assess directed energy weapon and/or synergistic directed energy weapon/kinetic energy weapon capabilities to help users plan weapon			

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 2	**R-1 Program Element (Number/Name)** PE 0602605F / *Directed Energy Technology*	**Project (Number/Name)** 625173 / *Laser Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
investments. Continue to model and characterize foreign high energy laser threats, and provide information to develop mitigation techniques to protect blue assets. ***FY 2022 Plans:*** Continue to incorporate physics-based modeling tools to establish a predictive physics-based End-to-End model that covers all elements of laser weapon systems (LWS)—photon "birth to death". In FY22, the End-to-End model will incorporate a high fidelity surrogate model for laser systems & damage effects. In FY22, continue to develop novel high energy laser technologies including power scaling of monolithic fiber amplifiers. Demonstrate a 5 kilowatt at 10 gigahertz Fiber Amplifier with Bend Insensitive Fiber and demonstrate Multi-kilowatt Class 2 micrometer Fiber Amplifier. Additionally, develop fiber optic amplifiers more resistant to nonlinear effects than currently available fibers. This effort requires advanced modeling to evaluate fiber designs, manufacturing maturity efforts for microstructure and nano-doped glass fibers. Specifically, in FY22, deliver 4 kilowatt nanoparticle fiber. Continue to develop laser vulnerability models for high-priority emerging threat systems. Test external customer beam control components in the Aero Effects and Beam Control (AEBC) Comprehensive Aero-optics Turbulence Simulator (CATS). Demonstrate a 10 Watt average power diode pump array. Approximately 5 watts of average power from a Middle Wavelength Infrared pump source which can be used to further scale the power of direct semiconductor pumped Ferrum doped zinc selenide lasers. Continue to transition the functionality of the Integrated Weapons Environment for Analysis engagement level model into the Advanced Framework for Simulation model for engagement and mission level analysis for internal and external users. Continue to transition the models to the Department of Defense and Industry Modeling, Simulation and Analysis community. Utilize the Advanced Framework for Simulation model as the weapons server in an advanced framework to support the Department of the Air Force-wide modeling, simulation, and analysis. Continue to assess directed energy weapon and/or synergistic directed energy weapon/kinetic energy weapon capabilities for air base defense, and high value airborne asset protection to help users plan weapon investments. Continue to model and characterize foreign high energy laser threats, and provide information to develop mitigation techniques to protect blue assets. Conduct table top exercises and focused wargames to develop concepts of employment for directed energy weapons in representative scenarios and vignettes. ***FY 2021 to FY 2022 Increase/Decrease Statement:*** FY 2022 increased compared to FY 2021 by 70.684 million. Funding is increased due to movement from BA2, Program 060205F, Directed Energy Technology, Project 624866, Lasers & Imaging Technology. Funds moved as a result of the creation of the Space Force.			
Accomplishments/Planned Programs Subtotals	0.000	0.000	70.684

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 2	**R-1 Program Element (Number/Name)** PE 0602605F / *Directed Energy Technology*	**Project (Number/Name)** 625173 / *Laser Technology*

D. Acquisition Strategy

Non Applicable