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 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 1206438F / *Space Control 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	-	56.270	0.000	0.000	0.000	0.000	-	-	-	-	-	-
642611: *Technology Insertion Planning and Analysis*	-	56.270	0.000	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In FY2021, PE 1206438F, Space Control Technology efforts were transferred to Appropriation 3620, Research, Development, Test & Evaluation, Space Force, PE 1206438SF Space Control Technology from Appropriation 3600, Budget Activity 04 due to the creation of a new Appropriation for Space Force.

This project supports a range of activities including systems engineering, technology planning, development, demonstrations and prototyping, and testing, as well as modeling, simulations and exercises to support development and maturation of tactics and procedures for a responsive and resilient Space Control mission area. This includes technology development and prototyping for Defensive Counterspace (DCS) and Offensive Counterspace (OCS) and the necessary systems engineering for the warfighter to effectively employ such systems.

Specifically supported are DCS and Space Situational Awareness (SSA) activities which include developing threat warning payloads for monitoring, detecting, identifying, tracking, assessing, verifying, categorizing, and characterizing objects and events in space. Additionally, this activity supports the development of payload prototypes and space defense force packages for protecting U.S. space systems, resources, and operations from enemy attempts to negate, interfere, or destroy them.

Specific OCS activities include disruption, denial, or degradation (and associated Electronic Support) of adversary space systems which may be used for purposes hostile to U.S. national security interests. Rapid Reaction Capabilities in response to immediate warfighter needs in the Space Control mission area are developed within this program.

Space acquisition must respond with speed and agility to emerging adversary threats. Space & Missile Systems Center (SMC) is transforming the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships, and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SMC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver Space Control Technology (SCT) weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392F and 1206398F.

Funding for this exhibit is contained in PE 1206438F.

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 1206438F / *Space Control Technology*

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	58.231	0.000	0.000	0.000	0.000
Current President's Budget	56.270	0.000	0.000	0.000	0.000
Total Adjustments	-1.961	0.000	0.000	0.000	0.000
• 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	0.000	0.000			
• SBIR/STTR Transfer	-1.961	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
Title: Rapid Reaction Branch	16.797	0.000	0.000
Description: Develops advanced capabilities for rapid prototyping and integration into space control programs of record and, if requested, to warfighter Urgent Operational Needs (UONs) and Joint Urgent Operational Needs (JUONs). Conducts prototype capability development, testing, training and rapid transition of technology and techniques to space control systems. Sustains deployed quick reaction capabilities until transition to program of record or mission completion. ***FY 2021 Plans:*** N/A ***FY 2022 Plans:*** N/A			
Title: Experimentation Platforms & Defense Force Packaging	39.473	0.000	0.000
Description: This effort will acquire, outfit and operate microsat busses with the primary purpose of demonstrating new technologies, flight testing payloads or subsystems, and validating Tactics, Techniques, and Procedures (TTPs) to ensure the delivery of critical space effects throughout all phases of a future space conflict against an adaptive and thinking adversary. It also supports a range of activities developing, prototyping, and fielding a family of on-board and near-board, modular resilience payloads supporting threat warning and protection options for National Security Space High-Value satellites. These			

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 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 1206438F / *Space Control Technology*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2020	FY 2021	FY 2022
payloads will be integrated with enterprise command and control capabilities for tasking, reporting, and response. On-orbit prototype demonstrations will be performed to demonstrate sensor/payload capabilities for high-value satellite force packaging requirements. Systems Engineering will enable the integration, interoperability and compatibility of new space control technology systems and capabilities amongst each other and amongst these new systems and the existing space control enterprise. ***FY 2021 Plans:*** N/A ***FY 2022 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	56.270	0.000	0.000

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force			Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 1206438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SCT Counterspace Technology Prototyping/ Rapid Reaction Development	Various	Various : Various	-	15.277	Jan 2020	-		-		-		-	-	-	-
SCT Foundational Architecture	C/FFP	TBD : El Segundo, CA	-	12.410	Jan 2020	-		-		-		-	-	-	-
SCT Modeling & Sim; Payload Analysis and Alternatives	C/Various	Various : Various, CA	-	6.500	Dec 2019	-		-		-		-	-	-	-
SCT Sensor Prototype Development	C/Various	Various : Various, CA	-	17.063	Jan 2020	-		-		-		-	-	-	-
SCT Ground Infrastructure	Various	Various : Various, CA	-	2.500	Oct 2019	-		-		-		-	-	-	-
SCT High-Value Satellite Bus Requirements	Various	Various : Various, CA	-	1.000	Oct 2019	-		-		-		-	-	-	-
		Subtotal	-	54.750		-		-		-		-	-	-	N/A

Remarks

N/A

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2020 Cost	FY 2020 Award Date	FY 2021 Cost	FY 2021 Award Date	FY 2022 Base Cost	FY 2022 Base Award Date	FY 2022 OCO Cost	FY 2022 OCO Award Date	FY 2022 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A&AS	Various	Various : Various, CA	-	1.520	Jan 2020	-		-		-		-	-	-	-
		Subtotal	-	1.520		-		-		-		-	-	-	N/A

	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	56.270		0.000		-		-		-	-	-	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Air Force			Date: May 2021
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 1206438F / *Space Control Technology*	Project (Number/Name) 642611 / *Technology Insertion Planning and Analysis*	

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 1206438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*

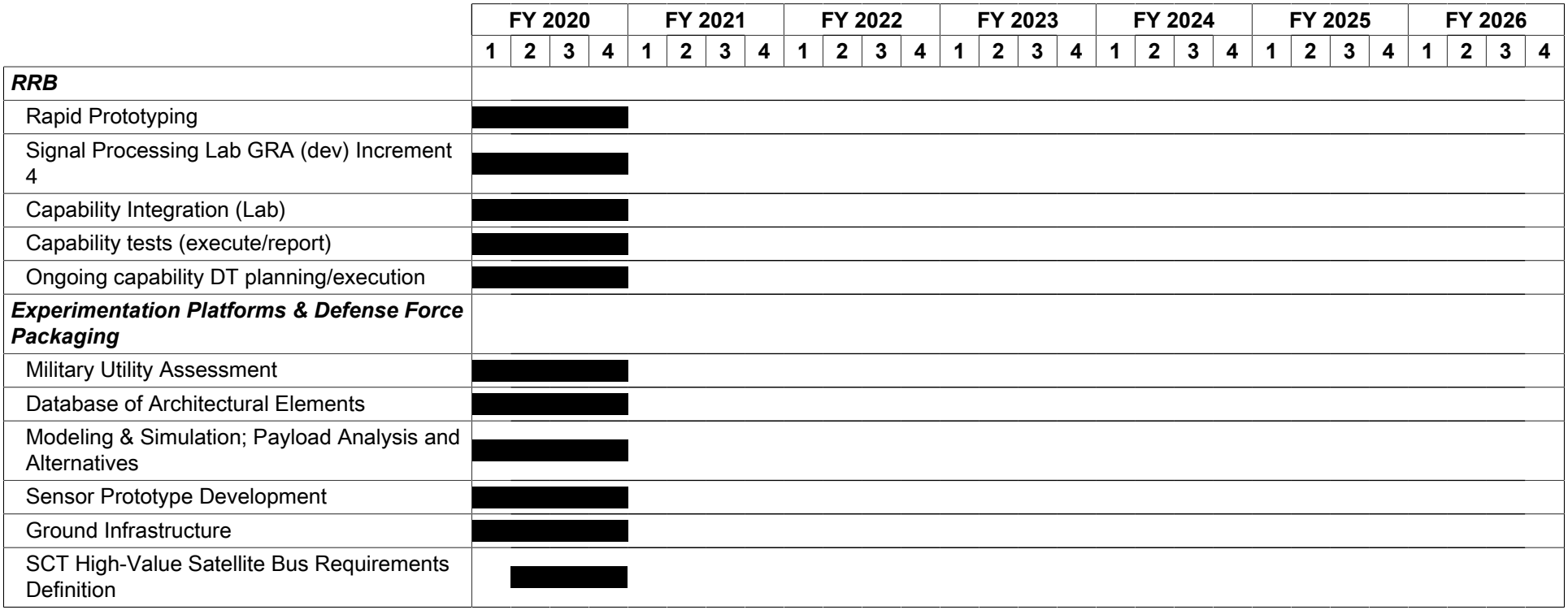

Exhibit R-4A, RDT&E Schedule Details: PB 2022 Air Force		Date: May 2021
Appropriation/Budget Activity 3600 / 4	**R-1 Program Element (Number/Name)** PE 1206438F / *Space Control Technology*	**Project (Number/Name)** 642611 / *Technology Insertion Planning and Analysis*

Schedule Details

	Start		End	
Events by Sub Project	**Quarter**	**Year**	**Quarter**	**Year**
RRB				
Rapid Prototyping	1	2020	4	2020
Signal Processing Lab GRA (dev) Increment 4	1	2020	4	2020
Capability Integration (Lab)	1	2020	4	2020
Capability tests (execute/report)	1	2020	4	2020
Ongoing capability DT planning/execution	1	2020	4	2020
Experimentation Platforms & Defense Force Packaging				
Military Utility Assessment	1	2020	4	2020
Database of Architectural Elements	1	2020	4	2020
Modeling & Simulation; Payload Analysis and Alternatives	1	2020	4	2020
Sensor Prototype Development	1	2020	4	2020
Ground Infrastructure	1	2020	4	2020
SCT High-Value Satellite Bus Requirements Definition	2	2020	4	2020