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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2022 Air Force **Date:** May 2021

<b>Appropriation/Budget Activity</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force I BA 5: System Development &amp; Demonstration (SDD)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604618F <i>I Joint Direct Attack Munition</i>
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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	0.000	0.000	6.806	0.000	0.000	0.000	-	-	-	-	-	-
653891: <i>JDAM M-Code Integration</i>	0.000	0.000	6.806	0.000	0.000	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

Military Code (M-Code) receivers with Enhanced Anti-Jam (EAJ) will be developed and integrated in order to provide advanced Positioning, Navigation, and Timing (PNT) capabilities to allow operations in anti-access/area denial (A2/AD) environments. M-Code and EAJ also provide increased accuracy, better signal acquisition, and advanced security.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605831F. In FY20 \$0M was expended for civilian pay expenses in this program element, and in FY21 \$0M is forecasted for civilian pay expenses in this program element

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022 Base</b>	<b>FY 2022 OCO</b>	<b>FY 2022 Total</b>
Previous President's Budget	0.000	7.926	0.000	0.000	0.000
Current President's Budget	0.000	6.806	0.000	0.000	0.000
Total Adjustments	0.000	-1.120	0.000	0.000	0.000
• Congressional General Reductions	0.000	-1.120			
• 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	0.000	0.000			
• Other Adjustments	0.000	0.000	0.000	0.000	0.000

**Change Summary Explanation**

Joint Direct Attack Munition (JDAM) M-Code was marked for "PMA unjustified program growth" in the FY21 NDAA.

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<b>C. Accomplishments/Planned Programs (\$ in Millions)</b>	FY 2020	FY 2021	FY 2022
<p><b>Title:</b> M-Code/Enhanced Anti-Jam (EAJ)</p> <p><b>Description:</b> Develop and integrate M-Code receivers with EAJ to provide advanced Positioning, Navigation, and Timing (PNT) capabilities, providing the capability to operate in adversarial anti-access/area denial (A2/AD) environments. M-Code receivers with EAJ also provides increased accuracy, better signal acquisition, and advanced security.</p> <p><b>FY 2021 Plans:</b> FY21 funding will support qualification testing for M-Code/EAJ.</p> <p><b>FY 2022 Plans:</b> N/A</p> <p><b>FY 2021 to FY 2022 Increase/Decrease Statement:</b> Funding decreased because work will be completed with residual funds and prepared for a transition to production.</p>	0.000	6.806	0.000
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	6.806	0.000

**D. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u> <u>Base</u>	<u>FY 2022</u> <u>OCO</u>	<u>FY 2022</u> <u>Total</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTE 04 PE 0604201F: <i>Integrated Avionics Planning and Development</i>	120.267	-	39.742	-	39.742	-	-	-	-	-	-

**Remarks**

**E. Acquisition Strategy**

M-Code/EAJ effort uses a Family of Systems approach where the three prime weapons contractors develop receivers capable of operating in any of their AF weapons. The receivers are based on a common, internally-developed Interface Requirements Specification, Technical Requirements Document, and threat scenario. This approach uses a combination of contract types based on acquisition phase (Technology Maturation and Risk Reduction, Development, Production) and risk. The Weapons System Program Offices share a common development program element to allow flexibility in funding and planning, switching to individual PEs for receiver integration, operational testing, and production. The M-Code/EAJ Weapons Receiver Development effort leverages technology currently under development by the Global Positioning System (GPS)-D Military GPS User Equipment (MGUE) program and will provide the warfighter with unmatched capability to operate in future A2/AD environments.



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**Exhibit R-4, RDT&E Schedule Profile: PB 2022 Air Force** **Date:** May 2021

<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604618F / <i>Joint Direct Attack Munition</i>	<b>Project (Number/Name)</b> 653891 / <i>JDAM M-Code Integration</i>
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	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026			
	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

<b>M-Code/EAJ Receivers</b>	
M-Code/EAJ Test and Evaluation	[REDACTED]

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2022 Air Force **Date:** May 2021

<b>Appropriation/Budget Activity</b> 3600 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0604618F / <i>Joint Direct Attack Munition</i>	<b>Project (Number/Name)</b> 653891 / <i>JDAM M-Code Integration</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<b><i>M-Code/EAJ Receivers</i></b>				
M-Code/EAJ Test and Evaluation	3	2021	3	2022