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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604270F / <i>Electronic Warfare Development</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	-	7.815	0.843	12.476	0.000	12.476	20.435	14.423	2.081	2.118	Continuing	Continuing
653891: <i>Advanced IR Counter Measures (AIRCM)</i>	-	7.815	0.843	12.476	0.000	12.476	20.435	14.423	2.081	2.118	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
This program, BA 05 PE 0604270F, project 653891, Military Code (M code) receiver, is a new start.

A. Mission Description and Budget Item Justification

The Advanced Infrared Countermeasure (AIRCM) project contains related aircraft self-protection efforts aimed at increasing aircraft survivability against the increasing threat of sophisticated infrared-guided surface-to-air and air-to-air missiles. These missiles may employ sophisticated next-generation electro-optics or dual-mode IR and radio frequency seekers. AIRCM will provide advanced IR expendable countermeasures and/or IRCM techniques that will be functionally compatible with existing dispenser systems and employed across multiple USAF weapons systems. This also explicitly includes any and all flare and decoy development and testing that may be demanded or needed in current operations supporting the war on terrorism regardless of aircraft platform. Similar activities that are supplementary to this effort may be accomplished ad hoc using platform specific funding or through other testing activities such as joint services or NATO test groups.

BA5 - 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. Program Change Summary (\$ in Millions)	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>
Previous President's Budget	7.815	0.929	2.601	0.000	2.601
Current President's Budget	7.815	0.843	12.476	0.000	12.476
Total Adjustments	0.000	-0.086	9.875	0.000	9.875
• Congressional General Reductions	0.000	-0.086			
• 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	9.875	0.000	9.875

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Congressional Add Details (\$ in Millions, and Includes General Reductions)	FY 2015	FY 2016
Project: 653891: Advanced IR Counter Measures (AIRCM) Congressional Add: ANG Digital Radar Warning Receiver (RWR)		
Congressional Add Subtotals for Project: 653891	7.750	0.000
Congressional Add Totals for all Projects	7.750	0.000

Change Summary Explanation

FY17: \$10M added for GPS M-code development and integration; -\$125K for inflation adjustment

C. Accomplishments/Planned Programs (\$ in Millions)

	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Title: IR Flare Testing Description: IR flare testing and qualification on aircraft FY 2015 Accomplishments: Activities included testing and qualification of IR flare cocktails on various aircraft. FY 2016 Plans: Activities include testing and qualification of IR flare cocktails on various aircraft. FY 2017 Base Plans: Activities include testing and qualification of IR flare cocktails on various aircraft. FY 2017 OCO Plans: N/A	0.065	0.843	2.476	0.000	2.476
Title: Military Code (M code) receiver Description: The development and integration of a GPS receiver capable of receiving a Military Code (M code). FY 2015 Accomplishments: N/A FY 2016 Plans: N/A FY 2017 Base Plans:	0.000	0.000	10.000	0.000	10.000

UNCLASSIFIED

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Prototype development/component level testing.					
<i>FY 2017 OCO Plans:</i> N/A					
Accomplishments/Planned Programs Subtotals	0.065	0.843	12.476	0.000	12.476

Congressional Add:	FY 2015	FY 2016
ANG Digital Radar Warning Receiver (RWR)	7.750	0.000
<i>FY 2015 Accomplishments:</i> Activities included development, integration and test of digital radar warning receivers on ANG aircraft.		
<i>FY 2016 Plans:</i> N/A		
Congressional Adds Subtotals	7.750	0.000

D. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017 Base</u>	<u>FY 2017 OCO</u>	<u>FY 2017 Total</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PAAF: BA01: Line Item # 356010: <i>Flares</i>	103.296	120.935	159.046	0.000	159.046	149.793	142.884	132.018	115.896	Continuing	Continuing

Remarks
 Qualified flares, if not in AF inventory, will be procured under program 0208030F War Reserve Munitions, Flares.

E. Acquisition Strategy
 Do not anticipate need to award contracts as activities will be completed with Military Interdepartmental Purchase Requests.

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.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Air Force **Date:** February 2016

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604270F / <i>Electronic Warfare Development</i>	Project (Number/Name) 653891 / <i>Advanced IR Counter Measures (AIRCM)</i>
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Digital RWR development	MIPR	TBD : TBD	-	7.750	Jul 2016	0.000		0.000		0.000		0.000	Continuing	Continuing	-
Military Code (M code) receiver	SS/CPFF	Raytheon : Tucson, AZ	-	0.000		0.000		10.000	Jun 2017	0.000		10.000	Continuing	Continuing	-
Subtotal			-	7.750		0.000		10.000		0.000		10.000	-	-	-

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Aircraft/Unit Support	MIPR	AATC : Tucson, AZ	-	0.000		0.225	May 2016	0.290	Jun 2017	0.000		0.290	Continuing	Continuing	-
Mission Planning	MIPR	TBD : TBD	-	0.045	May 2015	0.125	May 2016	0.324	Jun 2017	0.000		0.324	Continuing	Continuing	-
Subtotal			-	0.045		0.350		0.614		0.000		0.614	-	-	-

Remarks
Performing activities dependent on test participants.

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Modeling and Simulation	MIPR	Air Force Research Laboratory : WPAFB, OH	-	0.000		0.125	May 2016	0.325	Jun 2017	0.000		0.325	Continuing	Continuing	-
Range Test	MIPR	96th Test Wing : Eglin AFB, FL	-	0.000		0.271	May 2016	1.397	Jun 2017	0.000		1.397	Continuing	Continuing	-
Test Support	MIPR	Various : TBD	-	0.000		0.077	May 2016	0.120	Jun 2017	0.000		0.120	Continuing	Continuing	-
Subtotal			-	0.000		0.473		1.842		0.000		1.842	-	-	-

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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Office/ Government Support	Various	Air National Guard Air Force Reserve Command Test Center : Tucson, AZ	-	0.020	May 2015	0.020	May 2016	0.020	May 2017	0.000		0.020	Continuing	Continuing	-
Subtotal			-	0.020		0.020		0.020		0.000		0.020	-	-	-

Remarks
Performing activity dependent on test participants.

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	7.815	0.843	12.476	0.000	12.476	-	-	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604270F / <i>Electronic Warfare Development</i>	Project (Number/Name) 653891 / <i>Advanced IR Counter Measures (AIRCM)</i>

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
FY16 Test Event					■																							
First FY17 Semi-Annual Test Event									■																			
Second FY17 Semi-Annual Test Event												■																
First FY18 Semi-Annual Test Event													■															
Second FY18 Semi-Annual Test Event																■												
First FY19 Semi-Annual Test Event																	■											
Second FY19 Semi-Annual Test Event																				■								
First FY20 Semi-Annual Test Event																					■							
Second FY20 Semi-Annual Test Event																								■				
First FY21 Semi-Annual Test Event																									■			
Second FY21 Semi-Annual Test Event																												■

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Air Force		Date: February 2016
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604270F / <i>Electronic Warfare Development</i>	Project (Number/Name) 653891 / <i>Advanced IR Counter Measures (AIRCM)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FY16 Test Event	2	2016	2	2016
First FY17 Semi-Annual Test Event	2	2017	2	2017
Second FY17 Semi-Annual Test Event	4	2017	4	2017
First FY18 Semi-Annual Test Event	2	2018	2	2018
Second FY18 Semi-Annual Test Event	4	2018	4	2018
First FY19 Semi-Annual Test Event	2	2019	2	2019
Second FY19 Semi-Annual Test Event	4	2019	4	2019
First FY20 Semi-Annual Test Event	2	2020	2	2020
Second FY20 Semi-Annual Test Event	4	2020	4	2020
First FY21 Semi-Annual Test Event	2	2021	2	2021
Second FY21 Semi-Annual Test Event	4	2021	4	2021

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