Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army											Date: February 2018	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 1203142A *I SATCOM Ground Environment (SPACE)*							
COST ($ in Millions)	**Prior Years**	**FY 2017**	**FY 2018**	**FY 2019 Base**	**FY 2019 OCO**	**FY 2019 Total**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.000	11.959	12.119	-	12.119	8.644	8.769	8.908	9.506	Continuing	Continuing
FE1: *Dscs-Dcs (Phase II)*	-	0.000	6.756	4.234	-	4.234	4.265	4.381	4.505	4.566	Continuing	Continuing
FE2: *MILSATCOM System Engineering*	-	0.000	4.203	4.392	-	4.392	4.379	4.388	4.403	4.940	Continuing	Continuing
FE4: *Enroute Mission Command*	-	0.000	1.000	3.493	-	3.493	0.000	0.000	0.000	0.000	0.000	4.493

Note

Program in FY 2017 and prior funded in OSD PE 0303142A. Realigned in FY 2018 to OSD PE 1203142A to reflect Major Force Program 12 (MFP12) Space.

A. Mission Description and Budget Item Justification

FE1: Dscs-Dcs (Phase II):
This project provides funds to develop Satellite Communication (SATCOM) ground subsystem equipment and software in support of Joint Chiefs of Staff (JCS) validated Mission Command Network and Systems requirements for the worldwide Defense Enterprise Wideband SATCOM System (DEWSS). DEWSS is composed of the Super High Frequency (SHF) Defense Satellite Communications System (DSCS) and Wideband Global SATCOM (WGS) programs, which are required to support legacy, interim and emerging communication space architectures and future Force requirements. Expansion of the WGS constellation and upgrades to both DSCS and WGS are vital to support the Army's emerging power projection and rapid deployment role. DSCS and WGS provide multiple channels of tactical end-to-end connectivity and interoperability with strategic networks and national decision-makers, satisfying JCS network operations

FE2: Military Satellite Communications (MILSATCOM)System Engineering (SE):
Military Satellite Communications (MILSATCOM)System Engineering (SE) assures that tactical Army Satellite Communications (SATCOM) and SATCOM On-The-Move (SOTM) systems are engineered to legally and efficiently operate worldwide. MILSATCOM SE shapes Joint SATCOM systems' design efforts, standards development and planning processes. MILSATCOM SE represents the Army's tactical interests within DoD, Commercial & International forums to ensure affordable and scalable future SATCOM capabilities for maneuver forces. These efforts, performed by MILSATCOM SE, lead to savings for the overall Army in the out years.

FE4 / Enroute Mission Command:
Mission Description and Budget Item Justification:
Enroute Mission Command (EMC) supports the Global Response Force (GRF) and other Army units with the requirement to conduct Airborne forced entry operations with the ability to conduct mission command, to include mission planning and rehearsal, while enroute on board US Air Force Air Mobility Command (AMC) aircraft. EMC provides a modernization to enroute communications to enable broadband reach-back data capability utilizing military or commercial networks with adequate bandwidth support required by Mission Command and Intelligence applications. EMC will provide commanders with the ability to obtain and share near real-time information regarding intelligence, situational awareness and command and control information while enroute to their objective. The ability to adjust plans and strategize utilizing the latest Intel data will give the GRF the information dominance needed to execute their mission once they arrive at their objective.

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army	Date: February 2018
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 1203142A *I SATCOM Ground Environment (SPACE)*

Due to rephasing of FY 2017 OPA funding into FY 2018/2019, program was restructured in Dec 2015. MDA addressed schedule issues (Oct 2016) by authorizing to field a Ku FISA FOC (4QFY17) and complete a Modification Word Order (MWO), adding Ka FISA capability, post Ku FISA FOC.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	0.000	11.959	19.425	-	19.425
Current President's Budget	0.000	11.959	12.119	-	12.119
Total Adjustments	0.000	0.000	-7.306	-	-7.306
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-7.306	-	-7.306

Change Summary Explanation

Reduction in project FE1 funding reflects updated costs to develop interfaces necessary to fully integrate Digital IF technology in DoD gateway architecture, complete IA accreditation, and finalize interoperability tests and certifications.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 1203142A / *SATCOM Ground Environment (SPACE)*	Project (Number/Name) FE1 / *Dscs-Dcs (Phase II)*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
FE1: *Dscs-Dcs (Phase II)*	-	0.000	6.756	4.234	-	4.234	4.265	4.381	4.505	4.566	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides funds to develop Satellite Communication (SATCOM) ground subsystem equipment and software in support of Joint Chiefs of Staff (JCS) validated Mission Command Network and Systems requirements for the worldwide Defense Enterprise Wideband SATCOM System (DEWSS). DEWSS is composed of the Super High Frequency (SHF) Defense Satellite Communications System (DSCS) and Wideband Global SATCOM (WGS) programs, which are required to support legacy, interim and emerging communication space architectures and future Force requirements. Expansion of the WGS constellation and upgrades to both DSCS and WGS are vital to support the Army's emerging power projection and rapid deployment role. DSCS and WGS provide multiple channels of tactical end-to-end connectivity and interoperability with strategic networks and national decision-makers, satisfying JCS network operations in support of the President, JCS, combatant commanders, military departments, Department of State and other government departments and agencies.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: SATCOM Terminal Digital IF Implementation Analysis	-	3.831	3.014
Description: SATCOM Terminal Digital Intermediate Frequency (IF) implementation analysis aimed at improving bandwidth efficiency of gateway terminals while providing an additional layer of resiliency through terminal redundancy. These analyses include various evaluations for digital terminal components to replace current, less efficient, analog components. These analyses also include assessment of terrestrial connectivity among SATCOM terminals to enable Continuity Of Operations (COOP) and Failover scenarios required for resiliency. ***FY 2018 Plans:*** Develop interfaces necessary to fully integrate Digital IF technology into DoD gateway architecture. Complete IA accreditation and finalize interoperability tests and certifications. ***FY 2019 Plans:*** Assess various vendor implementations for compliance with Digital IF standard. Perform multi-vendor interoperability analysis to ensure maximum vendor participation in future Digital IF technology and foster competition. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Reduction in funds is due to switch from standard development and IA certification to conducting multi-vendor interoperability analysis.			
Title: Electromagnetic Interference Mitigation Analysis	-	2.925	1.220

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE1 / *Dscs-Dcs (Phase II)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Description: Assess various interference mitigation/cancellation technologies for effectiveness in SATCOM gateway operations. Mature technology to software/firmware that will improve SATCOM modem/terminal performance in contested environment. ***FY 2018 Plans:*** Investigate and develop solutions to support satellite communications operating in a contested environment. Perform interoperability and IA accreditation tests. Integrate solutions into DoD gateway satellite communications architecture. ***FY 2019 Plans:*** Mature Interference Mitigation / Cancellation technology to software/firmware that can be incorporated in SATCOM modem/terminal. Integrate solutions into DoD gateway satellite communications architecture. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** Reduction in funds is due to switch from developing solutions and conducting testing to maturing software/firmware and integration.			
Accomplishments/Planned Programs Subtotals	-	6.756	4.234

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• BB8500: *Defense Enterprise Wideband Satcom Systems*	143.805	161.383	108.133	-	108.133	111.000	99.480	118.628	108.253	Continuing	Continuing

Remarks

D. Acquisition Strategy

This effort finances Project Manager, Defense Communications and Army Transmission Systems (PM DCATS) netcentric systems engineering, modem risk mitigation, and Risk Management Framework (RMF) support. Funding provides for SATCOM terminal upgrades, enhancement of baseband throughput capabilities, technology insertion and upgrades which enhance decision support capabilities, allowing for full utilization of Wideband Global SATCOM (WGS) capabilities. Both the Wideband SATCOM Operational Management System (WSOMS) and the Enterprise Wideband SATCOM Terminal System (EWSTS) Capability Production Documents (CPDs) contain Netcentric-Ready Key Performance Parameters (NR-KPPs) as required by CJCSI 6212.01C. Netcentric efforts are required to facilitate the migration from the current trunk-based communications systems to Internet Protocol (IP) based systems and to engineer, test and integrate IP based capabilities into EWSTS and WSOMS systems. Studies, risk mitigation, system integration and advanced demonstrations for Netcentric baseband and policy based control will accommodate technology insertion, data sharing, remote operations, architecture efforts and use of commercial technology, thus ensuring the life of the Defense Enterprise Wideband System (DEWSS) terminal family beyond 2025 and reducing lifecycle costs and enterprise requirements on the WGS and Defense Satellite Communication System (DSCS) satellites in the future.

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE1 / *Dscs-Dcs (Phase II)*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 1203142A / *SATCOM Ground Environment (SPACE)*	Project (Number/Name) FE1 / *Dscs-Dcs (Phase II)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SATCOM Terminal Digital IF Implementation Analysis	MIPR	TBD : APG, MD	-	-		2.709	Jan 2018	2.183	Jan 2019	-		2.183	Continuing	Continuing	Continuing
Electromagnetic Interference Mitigation Analysis	MIPR	TBD : APG, MD	-	-		2.393	Jan 2018	1.035	Jan 2019	-		1.035	Continuing	Continuing	Continuing
		Subtotal	-	-		5.102		3.218		-		3.218	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
In-house Support	Allot	PdM WESS : Ft. Belvoir, VA	-	-		1.121		0.689		-		0.689	Continuing	Continuing	Continuing
Contractor Support	C/CPFF	ACC, MD : APG, MD	-	-		0.533	Jan 2018	0.327	Jan 2019	-		0.327	Continuing	Continuing	Continuing
		Subtotal	-	-		1.654		1.016		-		1.016	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		6.756		4.234		-		4.234	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE1 / *Dscs-Dcs (Phase II)*

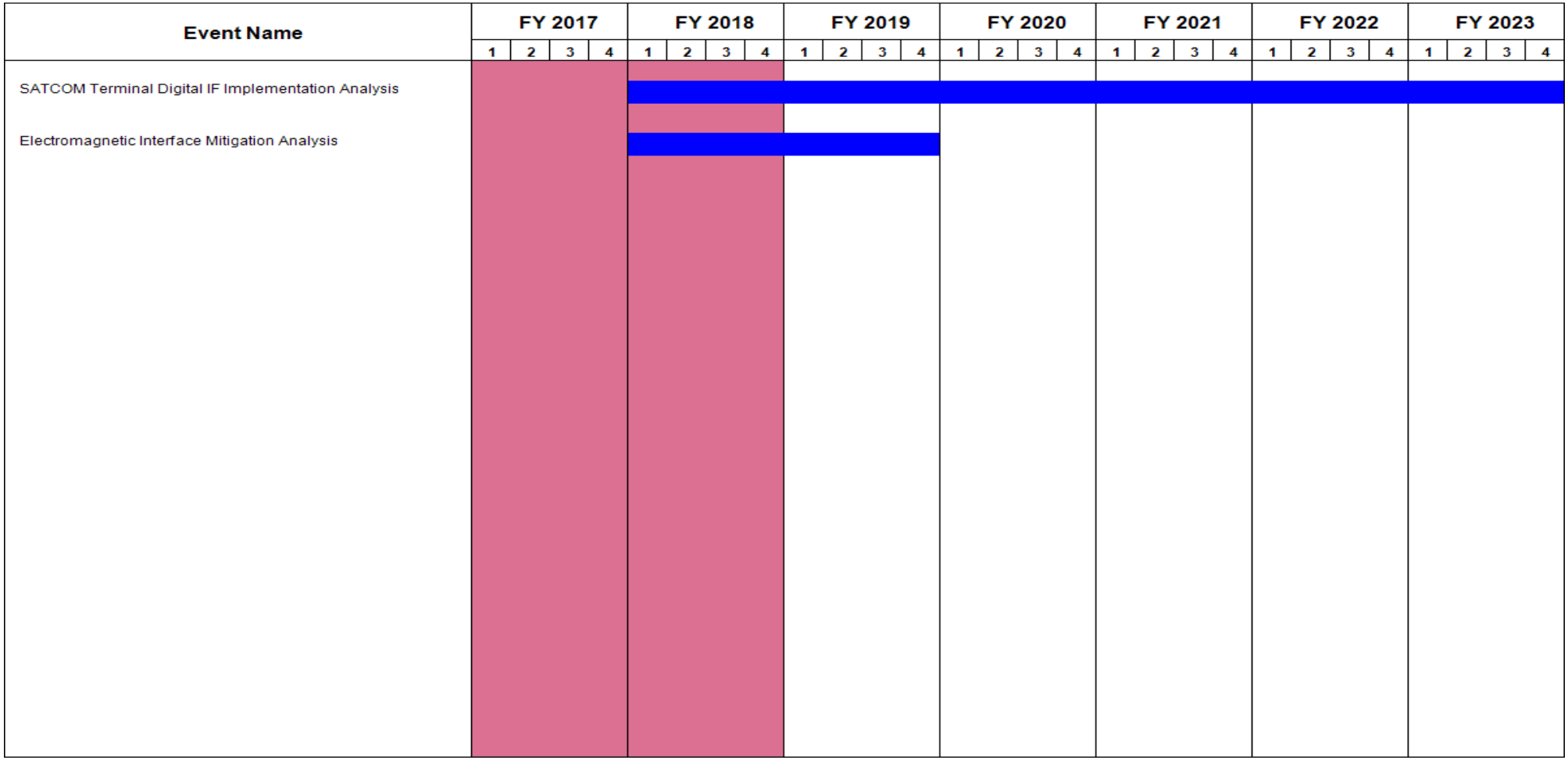

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE1 / *Dscs-Dcs (Phase II)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SATCOM Terminal Digital IF Implementation Analysis	1	2018	4	2023
Electromagnetic Interface Mitigation Analysis	1	2018	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 1203142A / *SATCOM Ground Environment (SPACE)*	Project (Number/Name) FE2 / *MILSATCOM System Engineering*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
FE2: *MILSATCOM System Engineering*	-	0.000	4.203	4.392	-	4.392	4.379	4.388	4.403	4.940	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

FE2: Military Satellite Communications (MILSATCOM)System Engineering (SE) assures that tactical Army Satellite Communications (SATCOM) and SATCOM On-The-Move (SOTM) systems are engineered to legally and efficiently operate worldwide. MILSATCOM SE shapes Joint SATCOM systems' design efforts, standards development and planning processes. MILSATCOM SE represents the Army's tactical interests within DoD, Commercial & International forums to ensure affordable and scalable future SATCOM capabilities for maneuver forces. These efforts, performed by MILSATCOM SE, lead to savings for the overall Army in the out years.

FY 2019 funds support the continued systems engineering required to support technology maturation, systems analysis, and planning associated with joint SATCOM development efforts including complying with the outcome of the Protected SATCOM Communications Systems (PSCS) Analysis of Alternatives (AoA). In addition, FY 2019 funding covers the Protected Tactical Service Field Demo (PTSFD) Modem Testing, Narrowband Mobile User Objective System (MUOS) Analysis of Alternatives (AoA), Protected Tactical Service Field Demo (PTSFD), Network Centric Waveform Tool (NCWT) Development and Testing, Network Centric Waveform - Resilient (NCW-R) engineering support and other efforts that have impact on tactical Army use of military and commercial satellite constellations. These efforts have a direct impact in reducing technical and programmatic risk for the acquisition efforts for tactical Army SATCOM systems using these constellations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: Protected Communications System Engineering and WGS Communications	-	1.051	1.185
FY 2018 Plans: Product development and analysis for the Protected Communications and WGS Communications System Engineering to include CCW-R, NCW Tool, and Protected Tactical Waveform Programs.			
FY 2019 Plans: Product development and analysis for the Protected Communications and WGS Communications System Engineering to include NCW-R, NCW Tool, and Protected Tactical Waveform Programs.			
FY 2018 to FY 2019 Increase/Decrease Statement: No significant change.			
Title: System Engineering Support	-	2.552	2.644
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE2 / *MILSATCOM System Engineering*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
In house Engineering Support, Contractor Support and System Architecture & Analysis ***FY 2019 Plans:*** In house Engineering Support, Contractor Support and System Architecture & Analysis ***FY 2018 to FY 2019 Increase/Decrease Statement:*** No significant change.			
Title: Testing and certification of critical SATCOM and Satellite-On-The-Move (SOTM) communication and network technologies ***FY 2018 Plans:*** Testing and certification of critical SATCOM and SOTM communication and network technologies. ***FY 2019 Plans:*** Testing and certification of critical SATCOM and SOTM communication and network technologies. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** No significant change.	-	0.600	0.563
Accomplishments/Planned Programs Subtotals	-	4.203	4.392

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• 456: *MILSATCOM System Engineering*	4.287	-	0.000	-	0.000	-	-	-	-	0.000	4.287

Remarks

FY 2017 and prior funding was aligned to 0303142A/456.
FY 2016 0.908M
FY 2017 4.287M

D. Acquisition Strategy

This project funds advanced systems engineering, research, development, test and evaluation of new and emerging technologies to optimize terminal performance and communications control. Once the technologies are mature and deemed feasible, funding and management responsibility for implementation of the technology will transition to PM Tactical Network and related programs of record.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 1203142A / *SATCOM Ground Environment (SPACE)*	Project (Number/Name) FE2 / *MILSATCOM System Engineering*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Protected Communications and WGS Communications SE	TBD	Various : APG, MD	-	-		1.051		1.185	Jan 2019	-		1.185	Continuing	Continuing	Continuing
		Subtotal	-	-		1.051		1.185		-		1.185	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering (In House)	MIPR	PM WIN-T : APG, MD	-	-		1.200		1.214	Sep 2019	-		1.214	Continuing	Continuing	-
Engineering Contractors Support	C/CPFF	PM WIN-T : APG, MD	-	-		1.152		1.200	Mar 2019	-		1.200	Continuing	Continuing	-
System Architecture & Analysis	Various	CERDEC : APG, MD	-	-		0.200		0.230	Apr 2019	-		0.230	Continuing	Continuing	-
		Subtotal	-	-		2.552		2.644		-		2.644	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Terminal Testing and Evaluation System Engineering	FFRDC	PEO C3T : TBD	-	-		0.200		0.200	Dec 2018	-		0.200	0.000	0.400	-
Test Support	MIPR	Matrix : APG, MD	-	-		0.175		0.163	Apr 2019	-		0.163	0.000	0.338	-
Testing, Certification	MIPR	TBD : APG, MD	-	-		0.225		0.200	Jul 2019	-		0.200	0.000	0.425	-
		Subtotal	-	-		0.600		0.563		-		0.563	0.000	1.163	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		4.203		4.392		-		4.392	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 1203142A / *SATCOM Ground Environment (SPACE)*	Project (Number/Name) FE2 / *MILSATCOM System Engineering*	

	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE2 / *MILSATCOM System Engineering*

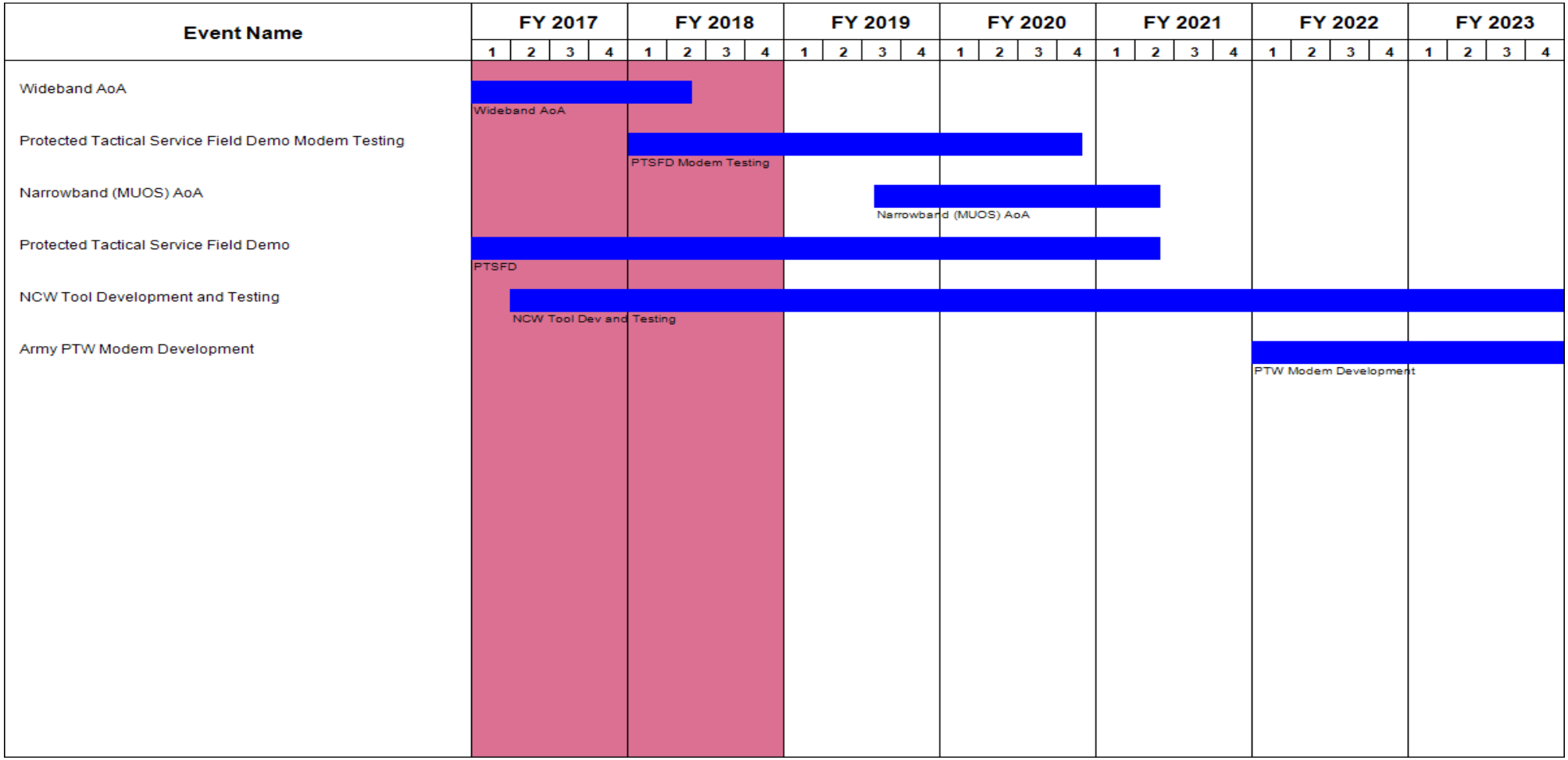

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE2 / *MILSATCOM System Engineering*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Wideband AoA	4	2016	2	2018
Protected Tactical Service Field Demo Modem Testing	1	2018	4	2020
Narrowband (MUOS) AoA	3	2019	2	2021
Protected Tactical Service Field Demo	4	2015	2	2021
NCW Tool Development and Testing	1	2015	4	2023
Army PTW Modem Development	1	2022	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 1203142A / *SATCOM Ground Environment (SPACE)*	Project (Number/Name) FE4 / *Enroute Mission Command*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
FE4: *Enroute Mission Command*	-	0.000	1.000	3.493	-	3.493	0.000	0.000	0.000	0.000	0.000	4.493
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Enroute Mission Command (EMC) supports the Global Response Force (GRF) and other Army units with the requirement to conduct Airborne forced entry operations with the ability to conduct mission command, to include mission planning and rehearsal, while enroute on board US Air Force Air Mobility Command (AMC) aircraft. EMC provides a modernization to enroute communications to enable broadband reach-back data capability utilizing military or commercial networks with adequate bandwidth support required by Mission Command and Intelligence applications. EMC will provide commanders with the ability to obtain and share near real-time information regarding intelligence, situational awareness and command and control information while enroute to their objective. The ability to adjust plans and strategize utilizing the latest Intel data will give the GRF the information dominance needed to execute their mission once they arrive at their objective.

Ku FOC was achieved in September 2017 as directed by MDA due to rephasing of FY 2017 OPA funding into FY 2018/2019 and program was restructure in Dec 2015. A Modification Work Order (MWO), adding Ka Fixed Installed Satellite Antenna (FISA) capability begins in FY18.

FY 2019 funding supports the Ka FISA Post Deployment Assessment (PDA) requirement which will validate the EMC capability for warfighters to conduct mission command utilizing the Key Leader Enroute Node (KEN), Dependent Airborne Node (DAN) and Command and Staff Palletized Airborne Node (CASPAN) on the C17 aircraft.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019
Title: EMC Testing	-	1.000	3.493
Description: Post Deployment Assessment (PDA)			
FY 2018 Plans: Wideband Global System (WGS) Terminal and Modem Certification.			
FY 2019 Plans: Ka FISA Post Deployment Assessment (PDA)			
FY 2018 to FY 2019 Increase/Decrease Statement: FY19 Funding increase is for Post Deployment Assessment (PDA)			
Accomplishments/Planned Programs Subtotals	-	1.000	3.493

Exhibit R-2A, RDT&E Project Justification: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE4 / *Enroute Mission Command*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
• B00015: *Enroute Mission Command (EMC)*	-	21.667	37.401	-	37.401	8.653	-	-	-	0.000	67.721

Remarks

B08400: OPA funding line for EMC

D. Acquisition Strategy

The continued procurement of the EMC full operational capability follows DoDI 5000.02, 7 Jan 2015, Enclosure 13, Rapid Fielding of Capabilities. The Milestone Decision Authority (MDA) and project manager will tailor and streamline program strategy based on the required timelines to meet urgent need capability requirements. The Army Executive Agent signed an Acquisition Decision Memorandum (ADM) on 27 April 2015 delegating MDA to PEO C3T. The MDA signed an ADM on 11 May 2015 selecting the KuKa Antenna and Radome for the Full Operational Capability (FOC). An ADM was signed on 20 May 2015 granting approval to enter into production and deployment phase.

Ku FOC was achieved in September 2017 as directed by MDA due to rephasing of FY 2017 OPA funding into FY 2018/2019 and program was restructure in Dec 2015. A Modification Work Order (MWO), adding Ka Fixed Installed Satellite Antenna (FISA) capability begins in FY18.

FY 2019 funding (173142 FE4) supports the Ka FISA Post Deployment Assessment (PDA) requirement which will validate the EMC capability for warfighters to conduct mission command utilizing the Key Leader Enroute Node (KEN), Dependent Airborne Node (DAN) and Command and Staff Palletized Airborne Node (CASPAN) on the C17 aircraft.

Initial Operational Capability met in May 2015 with modification of five C-17s with satellite antennae and installation kits, and roll-on/roll-off, battalion level, Key Leader Node (KEN). FOC is 35 C-17s, eight Key Leader Enroute Node (KEN), and 24 company level Dependent Airborne Nodes (DAN), and a Command and Staff Palletized Airborne Node (CASPAN).

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army			Date: February 2018
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 1203142A / *SATCOM Ground Environment (SPACE)*	Project (Number/Name) FE4 / *Enroute Mission Command*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Ka FISA Post Deployment Assessment (PDA)	MIPR	Air Mobility Command (AMC) : Ft Bragg, NC	-	-		-		3.493	May 2019	-		3.493	0.000	3.493	-
		Subtotal	-	-		-		3.493		-		3.493	0.000	3.493	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing	MIPR	Army Test and Evaluation Command (ATEC) : Ft. Bragg, NC	-	-		1.000		-		-		-	0.000	1.000	-
		Subtotal	-	-		1.000		-		-		-	0.000	1.000	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		1.000		3.493		-		3.493	0.000	4.493	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE4 / *Enroute Mission Command*

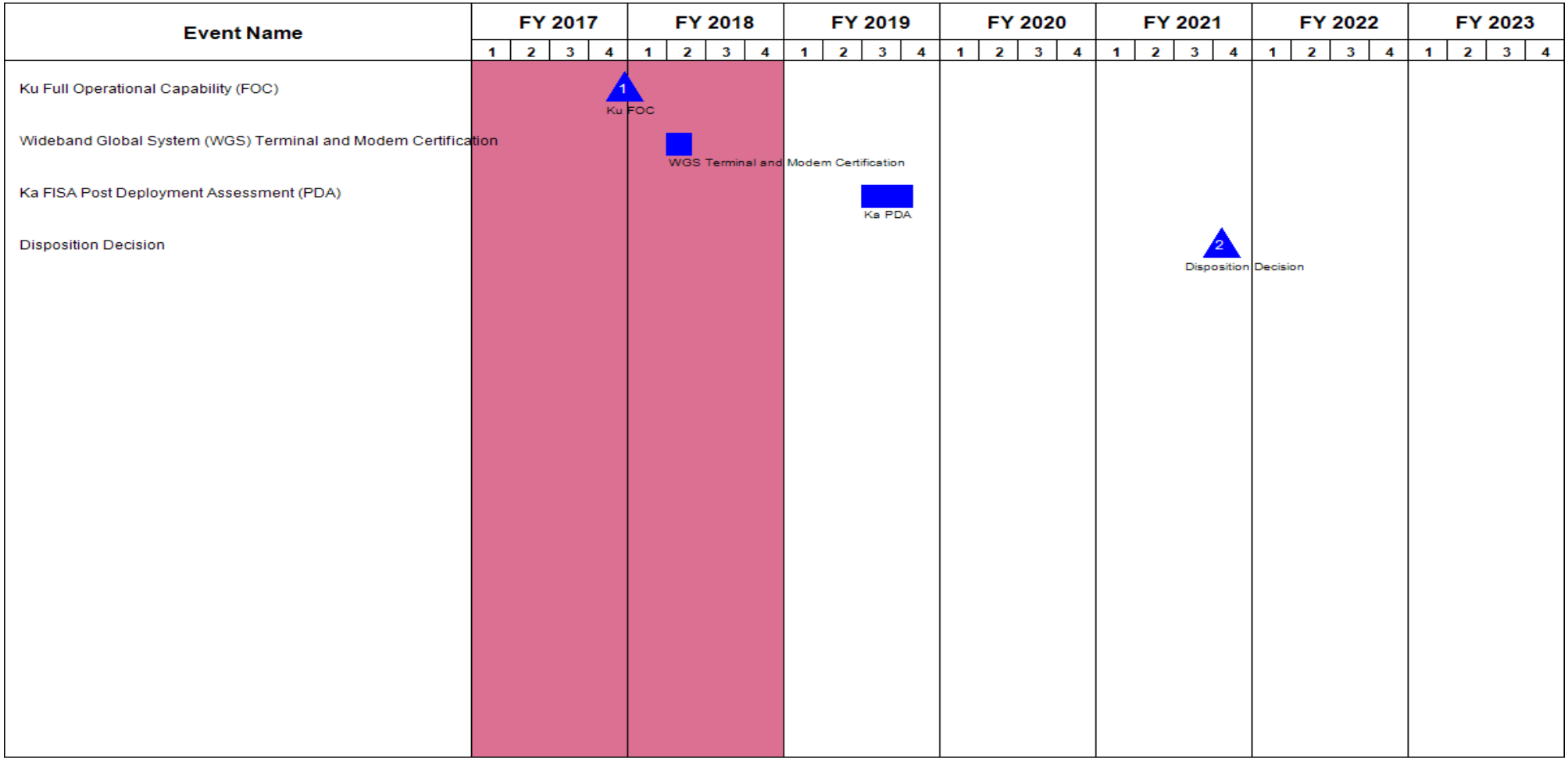

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army		Date: February 2018
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 1203142A / *SATCOM Ground Environment (SPACE)*	**Project (Number/Name)** FE4 / *Enroute Mission Command*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Ku Full Operational Capability (FOC)	4	2017	4	2017
Wideband Global System (WGS) Terminal and Modem Certification	2	2018	2	2018
Ka FISA Post Deployment Assessment (PDA)	3	2019	4	2019
Disposition Decision	4	2021	4	2021