EXHIBIT R-2, RDT&E Budget Item Justification						DATE: FEBRUARY 2005		
APPROPRIATION/BUDGET ACTIVITY **RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-4**					R-1 ITEM NOMENCLATURE **0603879N SINGLE INT AIR PICTURE (SIAP) SYS ENG**			
COST ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Total PE Cost	**14.335**	**19.957**	**36.721**	**50.837**	**26.449**	**1.156**	**1.340**	**1.528**
Project 3031/Single Int. Air Picture (SIAP)	**14.335**	**19.957**	**36.721**	**50.837**	**26.449**	**1.156**	**1.340**	**1.528**

PE transferred from SIAP System Engineering Task Force to the Navy starting in FY2004

A. (U) Mission Description and Budget Item Justification

Single Integrated Air Picture (SIAP) is the product of fused, near-real-time and real-time data from multiple sensors to allow development of common, continuous, and unambiguous tracks of all airborne objects in the surveillance area. All airborne objects must be detected, tracked, and reported. Each object must have one and only one track identifier and associated characteristics to be incorporated into SIAP. Current systems do not provide this capability. The SIAP System Engineering (SE) Task Force, now known as the Joint SIAP System Engineering Organization (JSSEO), was approved by the Joint Requirements Oversight Council (JROC) in March 2000, and chartered in Oct 2000 by the Under Secretary of Defense (A&T) to perform "the system engineering needed to fix problems in the existing Joint Data Network (JDN) and to guide development toward a future SIAP capability."

This Joint engineering organization will develop tools/processes and perform system engineering that will identify cost effective fixes to US/coalition tactical data link systems. The resulting fixes will be addressed in incremental blocks designed to improve the SIAP. Each block will identify specific changes to be implemented in tactical systems to improve integrated air and missile defense/theater air warfare capabilities.

* Block 0 addressed four joint warfighting shortfalls selected for their impact on the Joint Data Network (JDN), their applicability across the Services, and the engineering maturity reflected by interface change proposals already on-record. The Block 0 issues addressed were: common correlation/decorrelation, formation tracking/correlation, identification taxonomy and symbology, and an identification (ID) conflict resolution matrix. These fixes will reduce operator confusion and lay the groundwork for subsequent JDN improvements.

* Block 1 is addressing a set of JDN deficiencies approved by United States Joint Forces Command to provide warfighter benefits which can be implemented in the near to mid-term. The issues being addressed are: further reduction of dual tracks, improved combat ID capability, improved data sharing (network capacity), and improved air picture for theater ballistic missile defense performance. Improvements addressing these issues will be implemented via integration of the Integrated Architecture Behavior Model (IABM) into the various Combat Systems being used or being developed by the Services including the Navy.

This PE provides the resources for the Navy system engineering support to the Joint effort to develop SIAP capability and system engineering support to Platform Programs of Record for integration of the Joint solution.

EXHIBIT R-2a, RDT&E Project Justification							DATE: FEBRUARY 2005	
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N / BA-4**	PROGRAM ELEMENT NUMBER AND NAME **0603879N SINGLE INT. AIR PICTURE (SIAP) SYS ENG**				PROJECT NUMBER AND NAME Project 3031/Single Int. Air Picture (SIAP)			
COST ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Project Cost	**14.335**	**19.957**	**36.721**	**50.837**	**26.449**	**1.156**	**1.340**	**1.528**
RDT&E Articles Qty	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The Navy mission is to support the design, development and testing, working with the Joint SIAP System Engineering Organization (JSSEO), of a SIAP capability which satisfies requirements mandated by the Global Information Grid (GIG), Theater Air and Missile Defense (TAMD) and Combat Identification (CID) Capstone Requirements Documents (CRD). The SIAP capability will provide the Navy warfighter with the ability to better understand the battlespace and employ weapons to their designed capabilities. The SIAP will support the spectrum of offensive and defensive operations by US, allied, and coalition partners in the airspace within a theater of operations (e.g., attack operations, suppression of enemy air defenses, air and missile defense, intelligence preparation of the battlefield). The SIAP is accomplished through a combination of materiel and nonmaterial improvements. This effort through the application of disciplined System Engineering processes, policies, products and services will enable the delivery of an integrated, interoperable, reliable, and maintainable Joint SIAP capability in Navy warfare systems/platforms, in support of Joint and Navy Mission Capabilities.

As discussed, SIAP capability is being introduced through a series of Block improvements targeted at eliminating specific interoperability issues, providing C4I enhancements, and delivering an executable integrated architecture. The engineering specifications and requirements developed by each Block system engineering effort will be incorporated into the successive versions of the Joint IABM developed within a two year spiral capability improvement process. The delivered IABM will be used to develop the successive versions of the Open Architecture Track Manager (OATM) and as a standard against which to assess performance of the Navy combat systems in terms of Joint Force interoperability. The Navy is investing in the Open Architecture construct for many reasons, one of which is to create the combat system computing architecture which will permit the most rapid and least expensive implementation of the IABM based OATM. To that end, this effort is also providing some resources to the Open Architecture system engineering process.

The OATM, once implemented by means of a platform specific application in the Navy combat systems, will reduce the risk of fratricide to US/coalition forces caused by incorrect correlation and ID association and enable our combatant commanders to exploit the full kinematic range of our weapons through better Joint Force integration.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA 4	**0603879N SINGLE INT AIR PICTURE (SIAP) SYS ENG**	**Project 3031/Single Int. Air Picture (SIAP)**

B. Accomplishments/Planned Program (Cont.)

	FY04	FY05	FY06	FY07
Navy Block Upgrade Implementation	14.335	19.957	36.721	50.837

(U) FY2004 PLAN:
Continued development of the initial SIAP reference implementation through the development of a "platform" independent behavior model (SIAP Integrated Architecture Behavior Model or IABM) from which the "platform" specific performance model (Open Architecture Track Manager or OA TM) for each Combat System digital computing environment will be developed. Navy Program Office system engineering was required to support Combat System migration to the Navy Open Architecture construct in preparation for OA TM integration and to assure that the IABM under joint development consists of the highly reusable software and functionality required to satisfy Navy multi-mission war-fighting requirements. FY 04 Block 1 efforts were focused on development of the IABM, aligning the SIAP Integrated Architecture and Navy Open Architecture functional allocations, and design of reference algorithms for the command and control functionality of the core combat systems: AEGIS, SSDS, E-2C/CEC and DD(X). Block 0 efforts were focused on implementation of the Common Correlation/Decorrelation Algorithm in Advance Combat Direction System (ACDS) Block 0 and studies to determine the most cost effective means to implement the Common ID Taxonomy Algorithm in the F/A-18.

(U) FY2005 PLAN:
The FY05 Block 1 effort is focused on completion of the reference algorithms for use in the IABM, completing alignment of the SIAP Integrated Architecture and Navy Open Architecture functional allocations, migration of the core combat systems from a closed to open architecture computing environment to enable integration of the JOINT IABM functionality via the OA TM, identification and correction of integration issues, and testing of the IABM software and functionality in a simulation/stimulation environment. System engineering work begins this year on development of the next IABM in the spiral development process, Configuration 2007. Block 0 efforts are focused on completing implementation of the Common Correlation Algorithm in ACDS Block 0.

(U) FY2006 PLAN:
The FY06 effort will be focused on the IABM integration into the OA TM and platform specific implementation design, validation of the OA TM functionality, validation of the Joint Track Management functionality, testing and certification of the IABM platform specific implementation for delivery to the core combat systems for integration. In addition, system engineering will continue in support of the joint spiral development of the IABM Configuration to be delivered in FY07 and migration of the Navy combat systems to the Navy Open Architecture construct. Block 0 efforts will be focused on completing implementation of the common correlation algorithm in ACDS Block 0.

(U) FY2007 PLAN:
The FY07 effort is focused on testing the integration of the OA TM based on IABM Configuration 2005 into the core combat systems, completion of the reference algorithms for use in IABM Configuration 2007, beginning the systems engineering effort in support of the next spiral of IABM development (Configuration 2009), completion of the core combat system migration to the Open Architecture computing environment, and testing of the Configuration 2007 software and functionality in a simulation/stimulation environment preparatory to delivery at year's end. This year the Navy Platform Specific Model will be available for testing against the Platform Independent Model. The Block 0 effort will complete implementation of the common correlation algorithm in ACDS Block 0 to this year.

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	**0603879N SINGLE INT AIR PICTURE (SIAP) SYS ENG**	**Project 3031/Single Int. Air Picture (SIAP)**

C. PROGRAM CHANGE SUMMARY:

Funding:	FY2004	FY2005	FY2006	FY2007
Previous President's Budget: (FY 05 Pres Controls)	15.053	20.252	36.958	50.844
Current President's Budget: (FY06 Pres Controls)	14.335	19.957	36.721	50.837
Total Adjustments	-0.718	-0.295	-0.237	-0.007
Summary of Adjustments				
Management Reform/Reprogramming	-0.552	-0.295	-0.237	-0.007
BTR/SBIR	-0.038			
Economic Assumptions	-0.128			
Subtotal	-0.718	-0.295	-0.237	-0.007

Schedule: See Atached R4.

Technical: Not Applicable

EXHIBIT R-2a, RDT&E Project Justification		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME
RDT&E, N / BA-4	**0603879N SINGLE INT AIR PICTURE (SIAP) SYS ENG**	**Project 3031/Single Int. Air Picture (SIAP)**

D. OTHER PROGRAM FUNDING SUMMARY: Block 1

Line Item No. & Name

Related RDT&E: Computer programs developed under these programs are tested in their integrated configuration. Negative numbers represent amount of funds consolidated into SIAP SE Navy PE.

	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
PE 0605853N S3039 (CHENG)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PE 0205604N X2126 (CDLMS)	0.6	0.5	0.4	0.3	0.0	0.0	0.0	0.0
PE 0603582N S0164(DEP)	1.6	-1.8	-8.4	-18.9	-12.2	0.0	0.0	0.0
PE 0604307N K1447 (AEGIS)	0.0	-1.1	-1.3	-1.1	0.0	0.0	0.0	0.0
PE 0604755N K2178 (SSDS)	1.6	-1.6	-8.0	-18.5	-11.8	0.0	0.0	0.0
PE 0604518N K1604 (ACDS)	3.4	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0
PE 0603658N K2039 (CEC)	1.6	-8.2	-18.7	-12.0	-1.6	0.0	0.0	0.0
PE 0204136N E1662 (F/A 18)	0.4	0.9	1.5	1.7	0.0	0.0	0.0	0.0
PE 0204152N E0463 (E2C)	2.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0

E. Acquisition Strategy: Not Applicable

F. MAJOR PERFORMERS:

Naval Surface Warfare Center, Dahlgren VA - Surface Combatant System Engineering and Computer Integration
Naval Air Warfare Center Aircraft Division, Patuxent River MD - Aircraft Platform Integration and System Engineering
Space and Warfare Systems Command, San Diego CA - System Communication

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Exhibit R-3 Cost Analysis (page 1) DATE: FEBRUARY 2005

APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT	PROJECT NAME AND NUMBER
RDT&E, N/BA-4	**0603879N**	3031 - SINGLE INTEGRATED AIR PICTURE SYS ENG TASK FORCE

Cost Categories (Tailor to WBS, or System/Item Req't)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	***FY 04 Cost**	FY 04 Award Date	**FY 05 Cost**	FY 05 Award Date	**FY 06 Cost**	FY 06 Award Date	**FY 07 Cost**	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Block 0 (JSSEO)	MIPR	Army PEO/AMD, Huntsville AL	0.879	0.000	VAR	0.000	VAR	0.000	VAR	0.000	VAR	0.000	0.000	
	MIPR	Navy PEO/TSC, Arlington VA	1.129	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	Air Force ESC, Boston MA	1.329	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	Marine MARCOR, Quantico VA	0.621	0.000		0.000		0.000		0.000		0.000	0.000	
	VAR	Contract Supt, Various	5.155	0.000		0.000		0.000		0.000		0.000	0.000	
Subtotal Block 0			10.308	0.000		0.000		0.000		0.000				
Block 1 (JSSEO)	MIPR	Army PEO/AMD, Huntsville AL	15.340	0.000	VAR	0.000	VAR	0.000	VAR	0.000	VAR	0.000	0.000	
	MIPR	Navy PEO/TSC, Arlington VA	16.085	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	AF ESC/DI, Boston MA	17.114	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	Marine MARCOR, Quantico VA	7.045	0.000		0.000		0.000		0.000		0.000	0.000	
	VAR	Contract Supt, Various	20.699	0.000		0.000		0.000		0.000		0.000	0.000	
Subtotal Block 1			76.282	0.000		0.000		0.000		0.000		0.000	0.000	
Block 2 (JSSEO)	MIPR	Army PEO/AMD, Huntsville AL	2.060	0.000	VAR	0.000	VAR	0.000	VAR	0.000	VAR	0.000	0.000	
	MIPR	Navy PEO/TSC, Arlington VA	2.266	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	AF ESC/DI, Boston MA	2.369	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	Marine MARCOR, Quantico VA	1.030	0.000		0.000		0.000		0.000		0.000	0.000	
	VAR	Contract Supt, Various	2.271	0.000		0.000		0.000		0.000		0.000	0.000	
Subtotal Block 2			9.996	0.000		0.000		0.000		0.000				
Architecture (JSSEO)	MIPR	Army PEO/AMD, Huntsville AL	1.536	0.000	VAR	0.000	VAR	0.000	VAR	0.000	VAR	0.000	0.000	
	MIPR	Navy PEO/TSC, Arlington VA	1.625	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	AF ESC/DI, Boston MA	1.684	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	Marine MARCOR, Quantico VA	0.786	0.000		0.000		0.000		0.000		0.000	0.000	
	VAR	Contract Supt, Various	2.364	0.000		0.000		0.000		0.000		0.000	0.000	
Subtotal Architecture			7.995	0.000		0.000		0.000		0.000				
System Engineering	MIPR	Army PEO/AMD, Huntsville AL	0.988	0.000	VAR	0.000	VAR	0.000	VAR	0.000	VAR	0.000	0.000	
Tools & Analysis	MIPR	Navy PEO/TSC, Arlington VA	0.876	0.000		0.000		0.000		0.000		0.000	0.000	
(JSSEO)	MIPR	AF ESC/DI, Boston MA	1.206	0.000		0.000		0.000		0.000		0.000	0.000	
	MIPR	Marine MARCOR, Quantico VA	0.520	0.000		0.000		0.000		0.000		0.000	0.000	
	VAR	Contract Supt, Various	1.191	0.000		0.000		0.000		0.000		0.000	0.000	
Subtotal SE Tools & Analysis			4.781	0.000		0.000		0.000		0.000		0.000		
Validation and Certification	WR	Navy DEP/JDEP, NSWC-DD, Dahlgren VA	7.000	0.000		0.000		0.000		0.000				
BLOCK 1 (NAVY)					VAR		VAR		VAR		VAR		CONT	
	VAR	NAVSEA, Washington DC		1.174		0.720		0.979		1.666		CONT	CONT	
	VAR	PEO IWS, Washington, DC		4.476		11.600		21.804		29.997		CONT	CONT	
	WX/VAR	NAVAIR, Pax River, MD		4.757		5.079		9.270		12.752		CONT	CONT	
	PD/FAD	SPAWAR, San Diego, CA		3.428		2.265		4.134		5.687		CONT	CONT	
	PD	CHENG, Washington, DC		0.500		0.293		0.534		0.735		CONT	CONT	
Subtotal BLOCK 1			0.000	14.335		19.957		36.721		50.837		CONT	CONT	
SUBTOTAL			116.362	14.335		19.957		36.721		50.837		CONT	CONT	

Exhibit R-3 Cost Analysis (page 1)

Remarks:

* STARTING IN FY2004 JOINT SIAP FUNDING TRANSITION TO A US ARMY PE AND RELATED DOCUMENTATION WILL BE PROVIDED THROUGH THE US ARMY.

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)												DATE: FEBRUARY 2005			
APPROPRIATION/BUDGET ACTIVITY **RDT&E, N/BA-4**			PROGRAM ELEME **0603879N**	PROJECT NAME AND NUMBER 3031 - SINGLE INTEGRATED AIR PICTURE SYS ENG TASK FORCE											
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 04 Cost	FY 04 Award Date	FY 05 Cost	FY 05 Award Date	FY 06 Cost	FY 06 Award Date	FY 07 Cost	FY 07 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
Developmental Test & Evaluation															
Operational Test & Evaluation															
Tooling															
GFE															
Subtotal T&E			0.000	0.000		0.000		0.000		0.000			0.000		
Remarks:															
Contractor Engineering Support															
Government Engineering Support															
Program Management Support			0.975												
Travel			0.180												
Labor (Research Personnel)															
Rent/Const/Utilities/Computers															
Subtotal Management (JSSEO)			1.155	0.000		0.000		0.000		0.000		CONT	CONT		
Remarks:															
Total Cost			117.517	14.335		19.957		36.721		50.837		CONT	CONT		
Remarks:															

R-1 SHOPPING LIST - Item No. 78

EXHIBIT R4, Schedule Profile		DATE: FEBRUARY 2005
APPROPRIATION/BUDGET ACTIVITY **RDT&E,N/BA-4**	PROGRAM ELEMENT NUMBER AND NAME 0603879N SINGLE INTEGRATED AIR PICTURE (SIAP) SYS ENG	PROJECT NUMBER AND NAME Project 3031/Single Int. Air Picture (SIAP)

Navy SIAP System Engineering Schedule

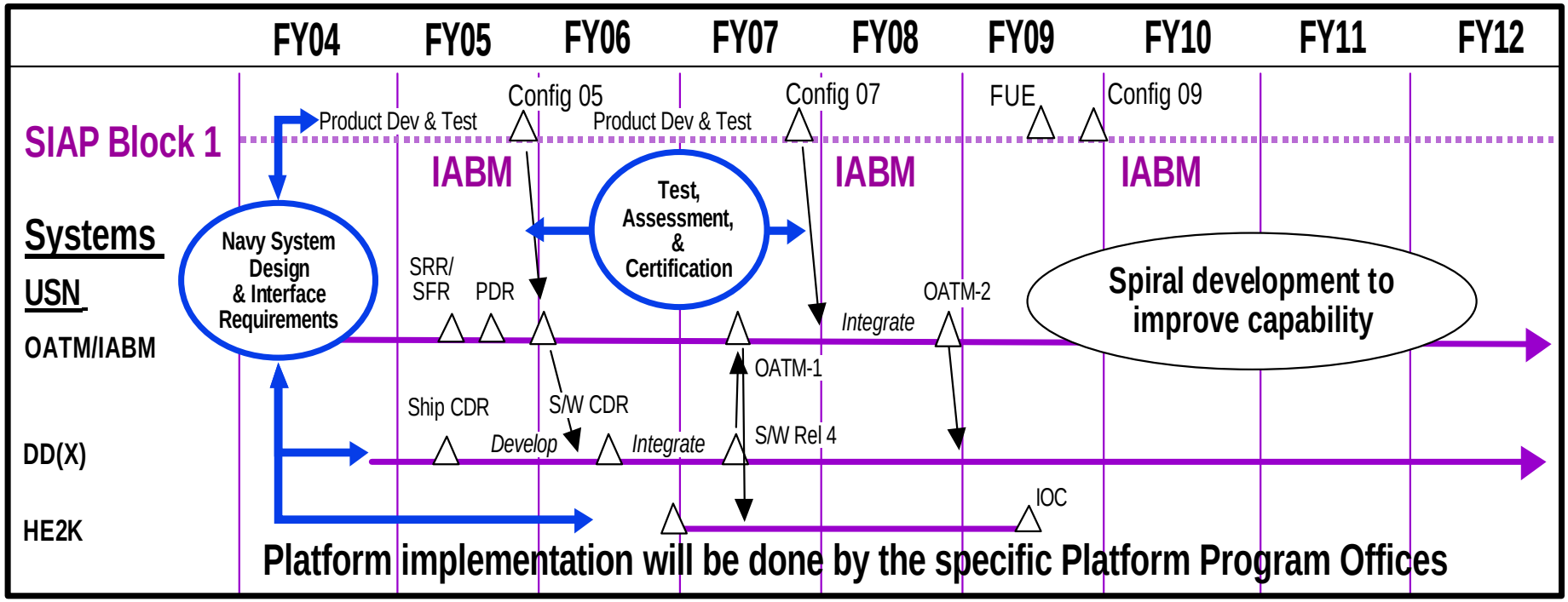

Exhibit R-4a, Schedule Detail				DATE: FEBRUARY 2005						
APPROPRIATION/BUDGET ACTIVITY **RDT&BA-4**	PROGRAM ELEMENT 0603879N SINGLE INT. AIR PICTURE (SIAP) SYS ENG				PROJECT NUMBER AND NAME Project 3031/Single Int. Air Picture (SIAP)					
Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011		
Sustaining Engineering/Infrastructure (Navy)								4Q		
Block 0 Common Correlation/Decorrelation Algorithm				4Q						
IABM Configuration 05 SRR		2Q								
OATM -1 SRR		2Q								
IABM SFR		3Q								
OATM -1 SFR		3Q								
OATM -1 PDR		4Q								
IABM Configuration 05			1Q							
OATM -1				1Q						
IABM Configuration 07					1Q					
OATM -2						1Q				
IABM Configuration 09							1Q			

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