

APX-123 Civil Mode Operation

P-8A Poseidon

Contract Number: N00019-C-04-3146

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Submitted: 10/30/2008

by:

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The Boeing Company

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Why an STA is Necessary:

An STA is required to allow for use of the APX-123 transponder using Civil Modes only in support of an aircraft repositioning flight. The flight will be from the Boeing Production Facility at Renton Field, Renton, WA to the Boeing Military Flight Center, located at Boeing Field, Seattle, WA.

Operation Description:

This operation will involve use of the AN/APX-123 IFF system using the Civil Modes 3A, 3C, and S in support of an aircraft repositioning flight. The IFF system is currently undergoing AIMS certification, and a partial certification of the Civil Modes was completed in August, 2008. The partial AIMS certification is included as part of this exhibit.

Experiment Objective:

The purpose of this operation is to reposition the aircraft in order to complete installation of military equipment and system prior to delivery of the airplane to the U.S. Navy. The specific frequency power and emission data is listed in Table 1, and the locations of take-off and landing are listed in Table 2.

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Frequency	Emission	ERP
1090 MHz	11M9M1D 14M0M1D	651 Watts

Table 1: Frequency Bands of Interest and Emissions

City	State	Latitude	Longitude
Renton Field	WA	47-29-35N	122-12-56W
Boeing Field	WA	47-31-48N	122-18-07W

Table 2: Locations of Operation

Operation Period:

The repositioning flight will occur during the period of February 1, 2009 through August 1, 2009.

Stop Buzzer POC:

The "Stop Buzzer" points of contact will be:
Ron Center, 206-544-6583



**DEPARTMENT OF DEFENSE
AIMS INTERNATIONAL PROGRAM OFFICE
ROBINS AIR FORCE BASE GEORGIA**



5 August 2008
TCL 0636301 JJ

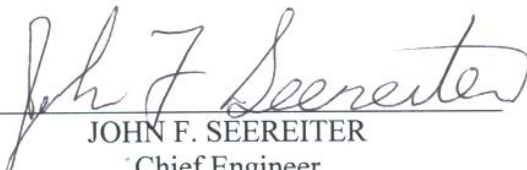
MEMORANDUM FOR: PMA 213
Villa Rd Building 8271, Unit 11
St. Inigoes, MD 20684-0010

FROM: DoD International AIMS Program Office
460 Richard Ray Blvd, Suite 200
Robins AFB GA 31098-1813

SUBJECT: AN/APX-123 Transponder (Software: 6.60) Interim Box Level Certification for
Mark XII / Mode S

1. The United States Department of Defense International AIMS Program Office (AIMS PO), Robins AFB, GA, was established for the configuration control and oversight responsibility of the Mark XII IFF architecture. This includes performance/interoperability evaluation and certification of sub-systems at both the end item (box) and integrated platform level.
2. We have participated in the AN/APX-123 Transponder (Software: 6.60) box level certification testing performed by BAE Systems in cooperation with the US Navy at BAE System Greenlawn, NY. The AIMS Program Office has evaluated the AN/APX-123 Transponder (Software: 6.60) for compliance with DoD AIMS 03-1000A box level performance standards for Mark XII and Mode S performance. The AN/APX-123 has also been tested for Mode 5, but there are a few outstanding issues with the Mode 5 evaluation yet to be resolved, however the open issues will not have a negative impact on ATC. This certification letter only covers the Mark XII and Mode S performance of the AN/APX-123 Transponder and supports a Stage 3 Frequency Approval.
3. Mode 4 performance was demonstrated using the internal crypto and test equipment. Keys were loaded with a SKL. Mode 4 passed the DoD AIMS 03-1000A unclassified requirements.
4. Mode 5 performance was demonstrated using the internal crypto and test equipment. The unresolved issues are SLS Condition for Reply- Pulse Position (Mode 5 issue not just the APX-123) and A/J testing.
5. This memo serves as the interim AIMS Box Level certification of the Mark XII, Mode S performance for the AN/APX-123 Transponder, Software Version 6.60. For a complete Mark XIIA (Mode 5) certified box, additional testing and resolution of any Mode 5 anomalies are required. Additionally, any other hardware and software versions/configurations of the AN/APX-123 Transponder will require evaluation prior to certification by the DoD AIMS PO.
6. Point of contact Jerome Jones by phone (478) 327-4439, DSN 497-4439, e-mail: jerome.jones@robins.af.mil, or Ray Campbell by phone (478) 926-4265, DSN 468-4265, e-mail: ray.campbell@robins.af.mil.

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