



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



23 September 2013  
CL 1110302

MEMORANDUM FOR NAVAIR WARCENACDIV  
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FROM: DoD International AIMS Program Office  
710 Ninth Street, Bldg. 937  
Robins AFB, GA 31098

SUBJECT: Mark XII (Mode 3/A & C only) Integrated Platform Level Certification for the Local Area Multilateration System (LAMS) with Transmitter Unit 1167-T part number 920-00496, Maintenance Interface Unit SWV: 4.2.5 and Remote Control Unit SWV: 4.3.0.2 Fiber Optic Sensor Subsystem Elevation Sensor Assembly (ESA) Part Number 920-00507 Azimuth Sensor Assembly (ASA) Part Number 920-00497 Azimuth Time of Arrival Assembly (ATA) and CAL-BIT Subsystem Part Number 920-00508.

References: (a) DoD AIMS 03-1000A Performance/Design and Qualification Requirements Technical Standard for the ATCRBS/IFF/Mark XIIA Electronic Identification System and Military Implementation of Mode S with Changes 1, 2 and 3  
(b) ANPC LAMS Interrogator Performance Test Plan document number 010-00148  
(c) ANPC LAMS System Flight Test AIMS Certification Testing Report, Document Number 010-00138-076 Rev B, dated 15 April 2013

1. The United States Department of Defense International AIMS Program Office (DoD AIMS PO), Robins AFB, GA, was established for the configuration control and oversight responsibility of the Mark XIIA IFF architecture. This includes performance/interoperability evaluation and certification of sub-systems at both the end item (box) and integrated platform level.

2. The DoD AIMS PO has evaluated the Local Area Multilateration System with Transmitter Unit 1167-T, Maintenance Interface Unit (Software 4.2.5), Remote Control Unit (Software 4.3.0.2), Fiber Optic Sensor Subsystem, and CAL-BIT subsystems at the bench and operational level for compliance with the DoD AIMS 03-1000A with Changes 1, 2 and 3. DoD AIMS PO engineers participated in bench, integration, and operational level testing conducted at Advanced Navigation & Positioning Corporation's (ANPC) facility located in Hood River, Oregon and Pōhakuloa Training Area, Hawaii. LAMS is a system designed for surveillance and only utilizes Modes 3/A and C.

3. The bench level tests were not performed on a standalone interrogation transmitter due to the way the transmitter is integrated within the system. As a result, the bench level tests were performed on a system that includes the interrogation transmitter subsystem, sensor subsystem

(ESA, ASA, ATA), and the built-in-test subsystems. Transmitter characteristics, receiver characteristics, reply decoding, and interrogator system characteristics were tested with ANPC's Bench Performance Test Plan, ref. (b), which was created from the DoD AIMS 03-1201 Rev 001 Mark XIIA and Mode S Interrogator Bench Performance Test Requirements and the 03-1202 Interrogator Mark XIIA and Mode S Installation Test Requirements. Operationally, the system was tested using ANPC's Test Plan, ref. (c), which was created from the DoD AIMS 03-1202 Integration and 03-1203 Operational Test Requirement documents.

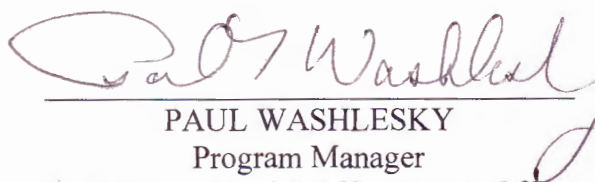
4. The subject interrogator and subsystems as integrated into the LAMS meets the performance requirements of DoD AIMS 03-1000A with Changes 1, 2 and 3 with no noted discrepancies.

5. This memo serves as the DoD AIMS Integrated Platform Level Certification of the Mark XII (Mode 3A and C only) for the Local Area Multilateration System, with Transmitter Unit 1167-T, Maintenance Interface Unit (Software 4.2.5), Remote Control Unit (Software 4.3.0.2), Fiber Optic Sensor Subsystem, and CAL-BIT subsystems. Any deviations or revisions to the hardware, software, or firmware of the platform or interrogator, as tested and evaluated in this configuration, will require evaluation prior to certification by the DoD AIMS PO.

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