

APPLICATION FOR SPECTRUM REVIEW	CLASSIFICATION	PAGE 5
NTIA GENERAL INFORMATION		
1. APPLICATION TITLE Next Generation ACAS II		
2. SYSTEM NOMENCLATURE CAS-100 Processor, TPA-100A		
3. STAGE OF ALLOCATION (<i>X one</i>)		
☐ a. STAGE 1 - CONCEPTUAL	☐ b. STAGE 2 - EXPERIMENTAL	☒ c. STAGE 3 - DEVELOPMENTAL
☐ d. STAGE 4 - OPERATIONAL		
4. FREQUENCY REQUIREMENTS		
a. FREQUENCY(IES) 1030 MHz (transmit); 1090 MHz (receive)		
b. EMISSION DESIGNATOR(S) 10M0K1D 10M0V1D 14M0V1D 14M0K1D		
5. PURPOSE OF SYSTEM, OPERATIONAL AND SYSTEM CONCEPTS (WARTIME USE) (<i>X one</i>)		
☒ a. YES ☐ b. NO		
This system provides Traffic Alert and Collision Avoidance protection (ACAS II) per FAA and European civil aviation requirements.		
6. INFORMATION TRANSFER REQUIREMENTS		
7. ESTIMATED INITIAL COST OF THE SYSTEM Less than \$10 M (through Stage 3)		
8. TARGET DATE FOR		
a. APPLICATION APPROVAL Stage 3 : Q3 2002	b. SYSTEM ACTIVATION Q4 2002	c. SYSTEM TERMINATION 2035 +
9. SYSTEM RELATIONSHIP AND ESSENTIALITY This system is being developed as the Next Generation TCAS system for all transport and business and regional aircraft. This new product also serves as the baseline system for military TCAS derivatives including MILACAS-XR and MILACAS-FR. Many military customers only require the use of the commercial functionality. We anticipate military sales of this product in late 2002.		
10. REPLACEMENT INFORMATION		
11. RELATED ANALYSIS AND TEST DATA EMC performance will not be degraded from that documented in HW document number 004-50513. (continued, see remarks)		
12. NUMBER OF MOBILE UNITS Fully equipped: Systems will be operational on over 3000 aircraft (over 3000 mobile units)		
13. GEOGRAPHICAL AREA FOR		
a. STAGE 2 West, Northwest USA (Washington and Southern California)		
b. STAGE 3 West, Northwest USA (Washington and Southern California)		
c. STAGE 4 Worldwide		
14. LINE DIAGRAM (See Page(s) 6 through 8)	15. SPACE SYSTEMS (See Page(s)) NA	
16. TYPE OF SERVICE(S) FOR STAGE 4	17. STATION CLASS(ES) FOR STAGE 4	
18. REMARKS 11. Document 004-50513 is entitled "Spec, TSO Test Procedure/ Report for 486 TCAS Processor". This documents the EMI/EMC characteristics of the most recent TPA-81 processor. It is anticipated that the EMI/EMC characteristics of the TPA-100A will not be degraded from that of the TPA-81A family of processors. A test report for the EMI/EMC characteristics of the TPA-100A will be available by Q1 2003.		
DOWNGRADING INSTRUCTIONS	CLASSIFICATION	

**INSTRUCTIONS FOR COMPLETING DD FORM 1494,
"APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION"
NTIA GENERAL INFORMATION PAGE**

ITEM 1 - Application Title. Enter the Government nomenclature of the equipment, or the manufacturer's name and model number, and a short descriptive title.

ITEM 2 - System Nomenclature. Enter the nomenclature of the system for which this equipment is a subsystem, e.g., PATRIOT or Global Positioning System.

ITEM 3 - Stage of Allocation. Mark appropriate block.

ITEM 4 - Frequency Requirements.

a. Enter the required frequency bands. For equipment designed to operate only at a single frequency, enter this frequency. Indicate units, e.g., kHz, MHz, or GHz.

b. Enter the emission designators including the necessary bandwidth for each designator, as described in Chapter 9 of the NTIA Manual e.g., 40M0PON.

Enter in Item 18, "Remarks," any other information pertinent to frequency requirements, such as minimum frequency separation for full duplex links or repeaters; or special relationships involving multiple discrete frequencies.

ITEM 5 - Purpose of System, Operational and System Concepts. Enter a summary description of the function of the system or subsystem, e.g., collect and disseminate meteorological data using satellite techniques; transmission of radar data for air traffic control; a remote control of ATC radars; provide for the transmission and reception of digital voice and data by means of LOS or tropo modes of propagation; provide navigational signal from which a broad spectrum of users are able to derive navigation data. Also include information on operational and system concepts. Mark whether the system has a wartime function.

ITEM 6 - Information Transfer Requirements. Enter the required character rate, data rates, circuit quality, reliability, etc.

ITEM 7 - Estimated Initial Cost of the System. This item is for information to show the general size and complexity of the system. It is not intended to be a determining factor in system review. For Stage 2 enter research cost, for Stage 3 enter development cost, for Stage 4 enter unit cost of equipment and expected number of equipments/systems to be procured.

ITEM 8 - Target Date. For the stage review requested, enter the appropriate dates. Funds must not be obligated prior to the approval of this application. If foreign coordination is not required, then approximately one year must be allowed for application approval. If foreign coordination is required, approximately two years must be allowed for application approval.

ITEM 9 - System Relationship and Essentiality. Enter the essentiality and a statement of the relationship between the proposed system and the operational function it is intended to support.

ITEM 10 - Replacement Information. Identify existing system(s) which may be replaced by the proposed system. State any known additional frequency requirements.

ITEM 11 - Related Analysis and/or Test Data. Identify reports that can be made available documenting previous EMC studies, predictions, analyses, or prototype EMC testing that are relevant to the assessment of the system under review.

ITEM 12 - Number of Units. (For mobile systems) - Self explanatory.

ITEM 13 - Geographical Area. Enter geographical location(s) or area(s) of use for this and subsequent stage(s), e.g., Gilfillan Plant, Los Angeles, California, and White Sands Missile Range, New Mexico (Stage 2); US&P (Stage 3); US&P, NATO Countries and Korea (Stage 4). Provide geographical coordinates (degrees, minutes, seconds) if available.

ITEM 14 - Line Diagram. Enter the page number of the line diagram(s). Attach as another page the line diagram showing the links, direction of transmissions, frequency band(s), and associated equipment with J/F 12 numbers.

ITEM 15 - Space Systems. Enter the page number of the space system data. Attach as another page the space system data as described in the NTIA Manual, Paragraph 8.3.7. Data Requirement.

ITEM 16 - Type of Service(s) for Stage 4. Enter the appropriate type of service(s) that applies or will apply to the equipment in the operational stage (Stage 4), as described in Chapter 6, Table of Services, Station Classes, and Stations of the NTIA Manual. If the service is not in accordance with the allocation tables full justification must be entered.

ITEM 17 - Station Class(es) for Stage 4. Enter the appropriate station class(es) as described in Chapter 6 of the NTIA Manual.