MILITARY COMMUNICATIONS ELECTRONICS BOARD (MCEB)
EQUIPMENT FREQUENCY ALLOCATION GUIDANCE

Military Department	Equipment	Stage
Navy, Air Force	**PREDATOR C-Band MAE UAV** **Medium Altitude Endurance Unmanned Aerial Vehicle**	4- Operational

Section 1: ENCLOSURE

Enclosure Number	Description	Dated
1	J/F 12/07253	04/09/2003

Section 2: OPERATING CHARACTERISTICS FOR WHICH SUPPORT IS CERTIFIED

Frequency (MHz)	Emissions	Power (Watts) Mean	Type of Services	Operating Locations
5250-5850	88K3F1D 560KF1D	10.0	Mobile (Aeronautical Mobile)	Phoeniz, AZ (*only ground Testing*); Ft. Huachuca, AZ; Yuma Proving Grounds, AZ; El Mirage Flight Test Facility, Adelanto, CA; Edwards AFB, CA (*including China Lake, CA)*; Aeronautical Systems, San Diego, CA; Marina, CA; Camp Roberts, CA; San Clemente Island, CA; San Nicholas Island, CA; NTC Fort Irwin, CA; NAS Key West, FL; MacDill AFB, FL; Kauai, HI; Fort Polk, LA; Roswell, NM; Tinker AFB, OK; Fort Sill, OK; Nellis AFB, NV; Indian Springs, NV; Nevada Test Site, NV; Fallon, NV; El Paso, TX; Langley AFB, VA
	4M72F1D 17M0F9F		Mobile	

Section 3: MCEB GUIDANCE

1. The enclosed application is approved for operational use at the above locations subject to the guidance provided in the following paragraphs.

2. For the intended use in the Aeronautical Mobile and Aeronautical Fixed service, the subject equipment is not in accordance with the US and ITU Table of Frequency Allocations over its tuning range. Operations will be on an unprotected, non-interference basis to the established services at the above locations.

3. The provisions of NTIA manual Sections 5.2 and 5.3.3 are considered applicable to the operation of the subject equipment. Based on the information provided, the subject equipment does comply with NTIA Manual Sections 5.2 requirement for frequency tolerances and unwanted emissions and, Section 5.3.3 requirement for spurious, and harmonics emission levels, unwanted emissions bandwidth and receiver's IF selectivity and spurious rejection. In any instance of harmful interference caused by nonconformance with these provisions, the responsibility for eliminating the harmful interference normally shall rest with the agency operating in nonconformance.

4. The subject equipment does not comply with the requirements of MIL-STD-461E for harmonic levels. Compliance is not mandatory but the standard may be used as a design objective.

5. Frequency assignments request must be submitted using Standard Frequency Action Format (SFAF) and coordinated with the cognizant area frequency coordinator in accordance with ACP 190 US SUPP-1 (C), Guide to Frequency Planning, prior to activation.

Steering Member ESG Working Group MCEB Frequency Panel	Steering Member (b) (6) [redacted]	Date **07 May 2003**	IRAC: Doc. 32666/1 SPS- 13432	Page 1 of 2
Downgrading Instructions Classified by: NA Declassify on: NA		Distribution J-12 Holders	MCEB J-12 Number **J/F 12/07253/1**	

MCEB GUIDANCE CONTINUATION PAGE	Equipment **PREDATOR C-Band MAE UAV** **Medium Altitude Endurance Unmanned Aerial Vehicle**

Section 2 MCEB GUIDANCE

6. Coordination with the NTIA Spectrum Planning Subcommittee was requested.

7. Operational use within the appropriate theater commands outside the United States has not been approved. Approval for operational use in the intended deployment area requires appropriate CINC's statement(s) that the subject system has been deemed frequency supportable.

APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION	CLASSIFICATION UNCLASSIFIED	DATE 04/09/2003	J/F 12/07253
			Page 1 of 13 Pages

DOD GENERAL INFORMATION

TO	FROM
Department of the Navy Naval Electromagnetic Spectrum Center CNO N61F Washington, DC 20350	PEO-CU 47123 Buse Road, Unit IPT Patuxent River, MD 20670-1547

1. APPLICATION TITLE (U) PREDATOR C-Band MAE UAV
Medium Altitude Endurance Unmanned Aerial Vehicle

2. SYSTEM NOMENCLATURE (U) MAE UAV C-Band Line-of-Sight Command/Video Links

3. STAGE OF ALLOCATION (U) [ ] a. STAGE 1 CONCEPTUAL [ ] b. STAGE 2 EXPERIMENTAL [ ] c. STAGE 3 DEVELOPMENTAL [X] d. STAGE 4 OPERATIONAL

4. FREQUENCY REQUIREMENTS
a. FREQUENCY(IES) (U) 5250 MHz - 5850 MHz
b. EMISSION DESIGNATORS (U) 560KF1D 17M0F9F (See Remarks)

5. TARGET STARTING DATE FOR SUBSEQUENT STAGES

a. STAGE 2 (U) NA	b. STAGE 3 (U) NA	c. STAGE 4 (U) NA

6. EXTENT OF USE (U) Continuous during flight operations

7. GEOGRAPHICAL AREA FOR
a. STAGE 2 (U) NA
b. STAGE 3 (U) NA
c. STAGE 4 (U) US&P; Korea; Contingency Operations in Central/South America

8. NUMBER OF UNITS

a. STAGE 2 (U) NA	b. STAGE 3 (U) NA	c. STAGE 4 (U) 64

9. NUMBER OF UNITS OPERATING SIMULTANEOUSLY IN THE SAME ENVIRONMENT (U) 6

10. OTHER J/F 12 APPLICATION ID(S) TO BE (U)
[ ] a. SUPERSEDED
[ ] b. RELATED

11. IS THERE ANY OPERATIONAL REQUIREMENT AS DESCRIBED IN THE INSTRUCTIONS FOR PARAGRAPH 11? (U)
[ ] a. YES [X] b. NO [ ] c. NAVAIL

12. NAMES AND TELEPHONE NUMBERS (U)

a. PROGRAM MANAGER (b) (6)	(1) COMMERCIAL 3(b) (6)	(2) DSN (b) (6)
b. PROJECT ENGINEER (b) (6)	(1) COMMERCIAL (b) (6)	(2) DSN 7(b) (6)

13. REMARKS (U)

Item 4b: 4M72F1D, 88K3F1D

Item 7c: Operation in conflict areas.

DOWNGRADING INSTRUCTIONS

J/F 12/07253

CLASSIFICATION
UNCLASSIFIED

TRANSMITTER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) C-Band Transmitter, Model #1234211-SA-N

2. MANUFACTURER'S NAME
(U) Sierra Monolithics, Inc.

3. TRANSMITTER INSTALLATION
(U) Ground Data Terminal

4. TRANSMITTER TYPE
(U) Digital FM Communications

5. TUNING RANGE
(U) 5250 MHz - 5850 MHz

6. METHOD OF TUNING
(U) PLL Synthesizer

7. RF CHANNELING CAPABILITY
(U) 5.25 GHz,1 MHz increments,601 channels

8. EMISSION DESIGNATORS
(U) 560KF1D (U) 88K3F1D (U)

9. FREQUENCY TOLERANCE
(U) 20 ppm

10. FILTER EMPLOYED
(U) [X] a. YES [ ] b. NO

11. SPREAD SPECTRUM
(U) [ ] a. YES [X] b. NO

12. EMISSION BANDWIDTH
[ ] CALCULATED [X] MEASURED

a. -3 dB	(U) 340 KHz	(U)	62.86 KHz	(U)
b. -20 dB	(U) 420 KHz	(U)	88.32 KHz	(U)
c. -40 dB	(U) NA	(U)	219.41 KHz	(U)
d. -60 dB	(U) 1.2 MHz	(U)	671.96 KHz	(U)
e. OC-BW	(U) 560 KHz	(U)	88.32 KHz	(U)

13. MAXIMUM BIT RATE
(U) 200 Kbps

15. MAXIMUM MODULATION FREQUENCY
(U) 100 KHz

14. MODULATION TECHNIQUES AND CODING
(U) 15 bit randomized NRZ FSK data

17. DEVIATION RATIO
(U) 1.5

16. PRE-EMPHASIS
(U) [ ] a. YES [X] b. NO

18. PULSE CHARACTERISTICS

a. RATE	(U) NA	(U)		(U)
b. WIDTH	(U) NA	(U)		(U)
c. RISE TIME	(U) NA	(U)		(U)
d. FALL TIME	(U) NA	(U)		(U)
e. COMP RATIO	(U) NA	(U)		(U)

19. POWER

a. MEAN	(U) 10 W	(U)	10 W	(U)
b. PEP	(U) NA	(U)	NA	(U)

21. HARMONIC LEVEL

a. 2nd	(U)	-65 dB
b. 3rd	(U)	-65 dB
c. OTHER	(U)	-65 dB

20. OUTPUT DEVICE
(U) FET Transistor

22. SPURIOUS LEVEL
(U) -65 dB

23. FCC TYPE ACCEPTANCE NO.
(U) NA

24. REMARKS (U)

Item 13: 19.2 Kbps/200 Kbps.

Item 17: 3 (19.2 Kbps)

TRANSMITTER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) C-Band Transmitter,Model #1234211-SA-N

2. MANUFACTURER'S NAME
(U) Sierra Monolithics, Inc.

3. TRANSMITTER INSTALLATION
(U) MAE UAV (Predator)

4. TRANSMITTER TYPE
(U) FM Video/Data Communications

5. TUNING RANGE
(U) 5250 MHz - 5850 MHz

6. METHOD OF TUNING
(U) PLL Synthesizer

7. RF CHANNELING CAPABILITY
(U) 5.25 GHz,1 MHz increments,601 channels

8. EMISSION DESIGNATORS
(U) 17M0F9F (U) 4M72F1D (U)

9. FREQUENCY TOLERANCE
(U) 20 ppm

10. FILTER EMPLOYED
(U) [X] a. YES [ ] b. NO

11. SPREAD SPECTRUM
(U) [ ] a. YES [X] b. NO

12. EMISSION BANDWIDTH
[ ] CALCULATED [X] MEASURED

a. -3 dB	(U) 8.5 MHz	(U) 2.8 MHz	(U)
b. -20 dB	(U) 18.0 MHz	(U) 20 MHz	(U)
c. -40 dB	(U) NA	(U) NA	(U)
d. -60 dB	(U) 46.2 MHz	(U) 66 MHz	(U)
e. OC-BW	(U) 18.0 MHz	(U) 4.7 MHz	(U)

13. MAXIMUM BIT RATE
(U) 3.2 Mbps

15. MAXIMUM MODULATION FREQUENCY
(U) 8.0 MHz

14. MODULATION TECHNIQUES AND CODING
(U) (See Remarks)

17. DEVIATION RATIO
(U) (See Remarks)

16. PRE-EMPHASIS
(U) [X] a. YES [ ] b. NO

18. PULSE CHARACTERISTICS

a. RATE	(U) NA	(U) NA	(U)
b. WIDTH	(U) NA	(U) NA	(U)
c. RISE TIME	(U) NA	(U) NA	(U)
d. FALL TIME	(U) NA	(U) NA	(U)
e. COMP RATIO	(U) NA	(U) NA	(U)

19. POWER

a. MEAN	(U) 10 W	(U) 10 W	(U)
b. PEP	(U) NA	(U) NA	(U)

20. OUTPUT DEVICE
(U) FET Transistor

21. HARMONIC LEVEL

a. 2nd	(U)	-65 dB
b. 3rd	(U)	-65 dB
c. OTHER	(U)	-65 dB

22. SPURIOUS LEVEL
(U) -65 dB

23. FCC TYPE ACCEPTANCE NO.
(U) NA

24. REMARKS (U)

Item 14: FM Video with 6.8 and 7.5 MHz Telemetry Subcarriers (17M0F9F), or FSK Data with 6.8 and 7.5 MHz carriers not utilized (4M72F1D).

Item 16: Standard NTSC pre-emphasis is employed.

Item 17: Deviation Ratio
0.8 for 17M0F9F
0.625 for 4M72F1D

RECEIVER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) C-Band Receiver, Model #1235110N

2. MANUFACTURER'S NAME
(U) Sierra Monolithics, Inc.

3. RECEIVER INSTALLATION
(U) MAE UAV (Predator)

4. RECEIVER TYPE
(U) Dual Conversion Superheterodyne

5. TUNING RANGE
(U) 5250 MHz - 5850 MHz

6. METHOD OF TUNING
(U) PLL Synthesizer

7. RF CHANNELING CAPABILITY
(U) 5.25 GHz,1 MHz increments,601 channels

8. EMISSION DESIGNATORS
(U) 560KF1D 88K3F1D

9. FREQUENCY TOLERANCE
(U) 20 ppm

11. RF SELECTIVITY
[ ] CALCULATED [X] MEASURED

10. IF SELECTIVITY	1st (U)	2nd (U)	3rd (U)
a. -3 dB	35 MHz	1 MHz	NA
b. -20 dB	55 MHz	3.2 MHz	NA
c. -60 dB	115 MHz	4 MHz	NA

a. -3 dB	(U)	303 MHz
b. -20 dB	(U)	375 MHz
c. -60 dB	(U)	525 MHz
d. Preselection Type	(U)	(See Remarks)

12. IF FREQUENCY
a. 1st (U) 954 MHz
b. 2nd (U) 70 MHz
c. 3rd (U) NA

13. MAXIMUM POST DETECTION FREQUENCY
(U) 150 KHz

14. MINIMUM POST DETECTION FREQUENCY
(U) NA

16. MAXIMUM BIT RATE
(U) 200 Kbps

15. OSCILLATOR TUNED	1st (U)	2nd (U)	3rd (U)
a. ABOVE TUNED FREQUENCY		X	
b. BELOW TUNED FREQUENCY	X		
c. EITHER ABOVE OR BELOW THE FREQUENCY			

17. SENSITIVITY

a. SENSITIVITY	(U)	- 98 dBm
b. CRITERIA	(U)	1X10^-6 BER
c. NOISE FIG	(U)	2 dB
d. NOISE TEMP	(U)	NA

18. DE-EMPHASIS
(U) [ ] a. YES [X] b. NO

19. IMAGE REJECTION
(U) 60 dB

20. SPURIOUS REJECTION
(U) 50 dB

21. REMARKS (U) Item 11d: 10 section cavity bandpass filter.

RECEIVER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) C-Band Receiver, Model #1235110N

2. MANUFACTURER'S NAME
(U) Sierra Monolithics, Inc.

3. RECEIVER INSTALLATION
(U) Ground Data Terminal

4. RECEIVER TYPE
(U) Dual Conversion Superheterodyne

5. TUNING RANGE
(U) 5250 MHz - 5850 MHz

6. METHOD OF TUNING
(U) PLL Synthesizer

7. RF CHANNELING CAPABILITY
(U) 5.25 GHz,1 MHz increments,601 channels

8. EMISSION DESIGNATORS
(U) 17M0F9F 4M72F1D

9. FREQUENCY TOLERANCE
(U) 20 ppm

11. RF SELECTIVITY
[ ] CALCULATED [X] MEASURED

10. IF SELECTIVITY	1st (U)	2nd (U)	3rd (U)
a. -3 dB	35 MHz	20 MHz	NA
b. -20 dB	55 MHz	22.5 MHz	NA
c. -60 dB	115 MHz	28 MHz	NA

a. -3 dB	(U)	303 MHz
b. -20 dB	(U)	375 MHz
c. -60 dB	(U)	525 MHz
d. Preselection Type	(U)	(See Remarks)

12. IF FREQUENCY
a. 1st (U) 954 MHz
b. 2nd (U) 70 MHz
c. 3rd (U) NA

13. MAXIMUM POST DETECTION FREQUENCY
(U) 8.0 MHz

14. MINIMUM POST DETECTION FREQUENCY
(U) NA

16. MAXIMUM BIT RATE
(U) 3.2 Mbps

15. OSCILLATOR TUNED	1st (U)	2nd (U)	3rd (U)
a. ABOVE TUNED FREQUENCY		X	
b. BELOW TUNED FREQUENCY	X		
c. EITHER ABOVE OR BELOW THE FREQUENCY			

17. SENSITIVITY

a. SENSITIVITY	(U)	(See Remarks)
b. CRITERIA	(U)	(See Remarks)
c. NOISE FIG	(U)	2 dB
d. NOISE TEMP	(U)	NA

18. DE-EMPHASIS
(U) [X] a. YES [ ] b. NO

19. IMAGE REJECTION
(U) 60 dB

20. SPURIOUS REJECTION
(U) 50 dB

21. REMARKS (U)

Item 11d: 10 section cavity bandpass filter.

Item 17: -84 dBm for 23 dB S/N and 17M0F9F
-86 dBm for 1X10^-6 BER and 4M72F1D.

ANTENNA EQUIPMENT CHARACTERISTICS

1. (U) [ ] a. TRANSMITTING [ ] b. RECEIVING [X] c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) GCS Acquisition Horn, Model #15921

3. MANUFACTURER'S NAME
(U) Technical Systems Associates

4. FREQUENCY RANGE
(U) 5250 MHz - 5850 MHz

5. TYPE (U) Monopulse Horn

6. POLARIZATION
(U) Vertical

7. SCAN CHARACTERISTICS
a. TYPE (U) MECHANICAL
b. VERTICAL SCAN (U) Manual
(1) Max Elev (U) 30 deg
(2) Min Elev (U) -10 deg
(3) Scan Rate (U) NA
c. HORIZONTAL SCAN (U) Mechanical
(1) Sector Scanned (U) 360
(2) Scan Rate (U) 45 deg/sec, <11 scans/minute
d. SECTOR BLANKING (U) [ ] (1) YES [X] (2) NO

8. GAIN
a. MAIN BEAM
(U) 15.0 dBi
b. 1st MAJOR SIDE LOBE
(U) 2.0 dBi @ 44 deg

9. BEAMWIDTH
a. HORIZONTAL
(U) 30 deg
b. VERTICAL
(U) 30 deg

10. REMARKS (U)

Item 7b: The horn is normally adjusted to be 20 degrees above the horizon.

ANTENNA EQUIPMENT CHARACTERISTICS

1. (U) [ ] a. TRANSMITTING [ ] b. RECEIVING [X] c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) GCS 6' Dish Antenna, Model #16616

3. MANUFACTURER'S NAME
(U) Technical Systems Associates

4. FREQUENCY RANGE
(U) 5250 MHz - 5850 MHz

5. TYPE (U) (See Remarks)

6. POLARIZATION
(U) Vertical

7. SCAN CHARACTERISTICS
a. TYPE (U) MECHANICAL
b. VERTICAL SCAN (U) Adjustable
(1) Max Elev (U) 30 deg
(2) Min Elev (U) -10 deg
(3) Scan Rate (U) NA
c. HORIZONTAL SCAN (U) Mechanical
(1) Sector Scanned (U) 360
(2) Scan Rate (U) 45 deg/sec, <11 scans/minute
d. SECTOR BLANKING (U) [ ] (1) YES [X] (2) NO

8. GAIN
a. MAIN BEAM
(U) 34.5 dBi
b. 1st MAJOR SIDE LOBE
(U) 14.5 dBi @ 3.5 deg

9. BEAMWIDTH
a. HORIZONTAL
(U) 2.2 deg
b. VERTICAL
(U) 2.2 deg

10. REMARKS (U)

Item 5: 1.83 Meter cosecant-squared reflector with monopulse feed.

ANTENNA EQUIPMENT CHARACTERISTICS

1. (U) [ ] a. TRANSMITTING [ ] b. RECEIVING [X] c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) GCS Omni Antenna, Model #10171

3. MANUFACTURER'S NAME
(U) Technical Systems Associates

4. FREQUENCY RANGE
(U) 5250 MHz - 5850 MHz

5. TYPE (U) Stacked Dipole Array

6. POLARIZATION
(U) Vertical

7. SCAN CHARACTERISTICS

a. TYPE (U) FIXED

b. VERTICAL SCAN (U) NA

(1) Max Elev (U)

(2) Min Elev (U)

(3) Scan Rate (U)

c. HORIZONTAL SCAN (U) NA

(1) Sector Scanned (U)

(2) Scan Rate (U)

d. SECTOR BLANKING (U) [ ] (1) YES [X] (2) NO

8. GAIN

a. MAIN BEAM
(U) 6 dBi

b. 1st MAJOR SIDE LOBE
(U) NA

9. BEAMWIDTH

a. HORIZONTAL
(U) 360 deg

b. VERTICAL
(U) 30 deg

10. REMARKS (U)

None.

ANTENNA EQUIPMENT CHARACTERISTICS

1. (U) [ ] a. TRANSMITTING [ ] b. RECEIVING [X] c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) MAE UAV Omni, Model #702653-1

3. MANUFACTURER'S NAME
(U) TECOM Industries, Inc.

4. FREQUENCY RANGE
(U) 5250 MHz - 5850 MHz

5. TYPE (U) Stacked Dipole Array

6. POLARIZATION
(U) Vertical

7. SCAN CHARACTERISTICS

a. TYPE (U) FIXED

b. VERTICAL SCAN (U) NA

(1) Max Elev (U)

(2) Min Elev (U)

(3) Scan Rate (U)

c. HORIZONTAL SCAN (U) NA

(1) Sector Scanned (U)

(2) Scan Rate (U)

8. GAIN

a. MAIN BEAM
(U) 3 dBi

b. 1st MAJOR SIDE LOBE
(U) NA

9. BEAMWIDTH

a. HORIZONTAL
(U) 360 deg

b. VERTICAL
(U) 25 deg

d. SECTOR BLANKING (U) [ ] (1) YES [X] (2) NO

10. REMARKS (U)

None.

ANTENNA EQUIPMENT CHARACTERISTICS

1. (U) [ ] a. TRANSMITTING [ ] b. RECEIVING [X] c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) MAE UAV Horn Antenna, Model #11572

3. MANUFACTURER'S NAME
(U) Technical Associates, Inc.

4. FREQUENCY RANGE
(U) 5250 MHz - 5850 MHz

5. TYPE (U) Lensed Horn

6. POLARIZATION
(U) Vertical

7. SCAN CHARACTERISTICS

a. TYPE (U) MECHANICAL

b. VERTICAL SCAN (U) Fixed, Adjustable

(1) Max Elev (U) 30 deg

(2) Min Elev (U) -30 deg

(3) Scan Rate (U) NA

c. HORIZONTAL SCAN (U) Mechanical

(1) Sector Scanned (U) 360

(2) Scan Rate (U) 45 deg/sec, <11 scans/minute

d. SECTOR BLANKING (U) [ ] (1) YES [X] (2) NO

8. GAIN

a. MAIN BEAM
(U) 15.0 dBi

b. 1st MAJOR SIDE LOBE
(U) -5 dBi @ 44 deg

9. BEAMWIDTH

a. HORIZONTAL
(U) 30 deg

b. VERTICAL
(U) 30 deg

10. REMARKS (U)

None.

ANTENNA EQUIPMENT CHARACTERISTICS

1. (U) [ ] a. TRANSMITTING [ ] b. RECEIVING [X] c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.
(U) MAE UAV Monopole Stub, #702-653-3

3. MANUFACTURER'S NAME
(U) TECOM Industries, Inc.

4. FREQUENCY RANGE
(U) 5250 MHz - 5850 MHz

5. TYPE (U) 1/4 Wavelength Monopole Stub

6. POLARIZATION
(U) Vertical

7. SCAN CHARACTERISTICS
a. TYPE (U) FIXED
b. VERTICAL SCAN (U) NA
(1) Max Elev (U)
(2) Min Elev (U)
(3) Scan Rate (U)
c. HORIZONTAL SCAN (U) NA
(1) Sector Scanned (U)
(2) Scan Rate (U)
d. SECTOR BLANKING (U) [ ] (1) YES [X] (2) NO

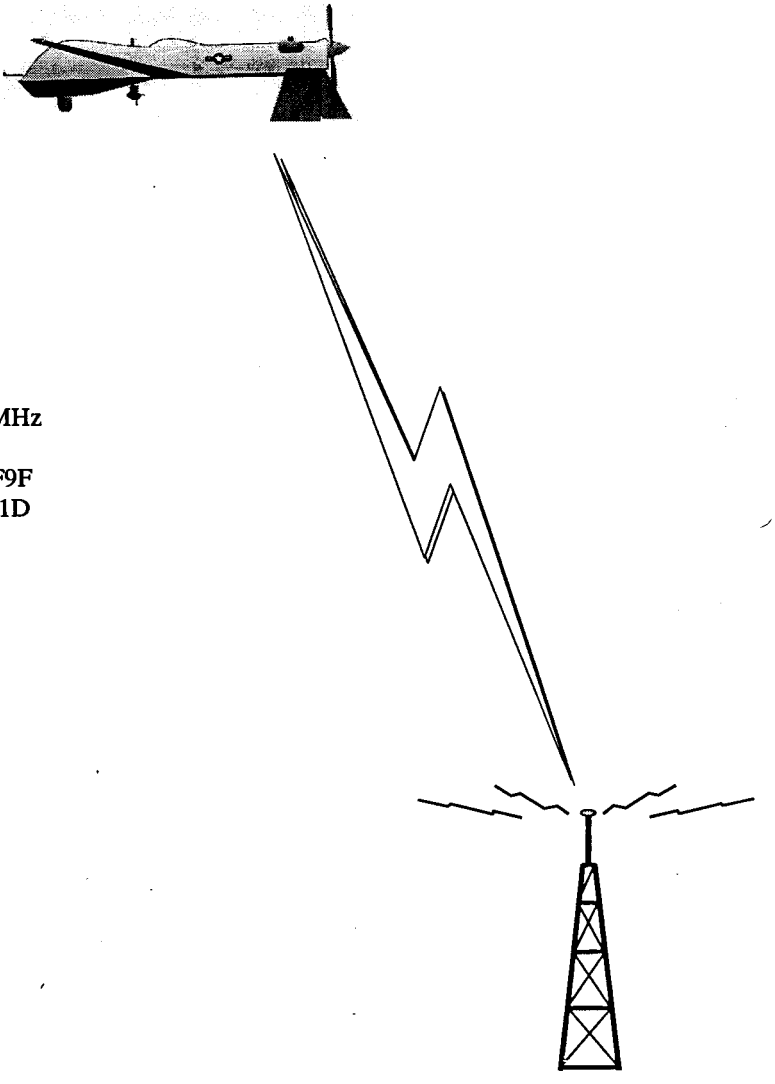
8. GAIN
a. MAIN BEAM
(U) 0.3 dBi
b. 1st MAJOR SIDE LOBE
(U) NA

9. BEAMWIDTH
a. HORIZONTAL
(U) 360 deg
b. VERTICAL
(U) 55 deg

10. REMARKS (U)

General: AN/URY-1/2/3/4 R-Cubed Units all have the same antenna equipment characteristics.

PREDATOR C-Band MAE UAV
Medium Altitude Endurance Unmanned Aerial Vehicle



5250 MHz-5850 MHz
10 Watts
4M72F1D 17M0F9F
88K3F1D 560KF1D

J/F 12 /07253

APPLICATION FOR SPECTRUM REVIEW	CLASSIFICATION UNCLASSIFIED	PAGE 13

NTIA GENERAL INFORMATION

1. **APPLICATION TITLE** (U) PREDATOR C-Band MAE UAV
Medium Altitude Endurance Unmanned Aerial Vehicle

2. **SYSTEM NOMENCLATURE** (U) MAE UAV C-Band Line-of-Sight Command/Video Links

3. **STAGE OF ALLOCATION** (U) [ ] a. STAGE 1 CONCEPTUAL [ ] b. STAGE 2 EXPERIMENTAL [ ] c. STAGE 3 DEVELOPMENTAL [X] d. STAGE 4 OPERATIONAL

4. **FREQUENCY REQUIREMENTS**

a. FREQUENCY(IES) (U)	5250 MHz - 5850 MHz	5250 MHz - 5850 MHz	5250 MHz - 5850 MHz
b. EMISSION DESIGNATORS (U)	560KF1D	17M0F9F	4M72F1D

5. **PURPOSE OF SYSTEM, OPERATIONAL AND SYSTEM CONCEPTS** (WARTIME USE) [X] a. YES [ ] b. NO
(U) Provide command and control of unmanned aerial vehicle, transmit payload imagery and system telemetry data.

6. **INFORMATION TRANSFER REQUIREMENTS** (U) 19.2/200 Kbps FSK uplink; FM analog video with 19.2 kbps on subcarriers or 3.2 Mbps FSK data downlink

7. **ESTIMATED INITIAL COST OF THE SYSTEM** (U) $75k per aerial vehicle system

8. **TARGET DATE FOR**

a. APPLICATION APPROVAL	b. SYSTEM ACTIVATION	c. SYSTEM TERMINATION
(U) 03/01/1998	(U) 04/01/1998	(U) 12/31/2015

9. **SYSTEM RELATIONSHIP AND ESSENTIALITY** (U) This system controls the MAE UAV "PREDATOR" within Line-of-Sight, and is critical to the mission.

10. **REPLACEMENT INFORMATION** (U) None

11. **RELATED ANALYSIS AND/OR TEST DATA** (U) None

12. **NUMBER OF MOBILE UNITS** (U) 64

13. **GEOGRAPHICAL AREA FOR**

a. **STAGE 2** (U) NA

b. **STAGE 3** (U) NA

c. **STAGE 4** (U) US&P; Korea; Contingency operations in Central/South America

14. **LINE DIAGRAM** (U) **See Page(s)** 12

15. **SPACE SYSTEMS** (U) **See Page(s)** NA

16. **TYPE OF SERVICE(S) FOR STAGE 4**
(U) Aeronautical Mobile
Mobile

17. **STATION CLASS(ES) FOR STAGE 4**
(U) FAD MOEA

18. **REMARKS** (U)

Item 4b: The transmitters and receivers are configurable via software setup for either 88K3F1D, 560KF1D, 4M72F1D, or 17M0F9F.

Item 13c: Operations in conflict areas.

DOWNGRADING INSTRUCTIONS

J/F 12/07253

CLASSIFICATION
UNCLASSIFIED