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APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION	CLASSIFICATION	DATE	J/F 12 No.
			Page No.

DOD GENERAL INFORMATION

TO	FROM

1. APPLICATION TITLE

2. SYSTEM NOMENCLATURE

3. STAGE OF ALLOCATION *(X one)*

☐ a. STAGE 1 - CONCEPTUAL ☐ b. STAGE 2 - EXPERIMENTAL ☐ c. STAGE 3 - DEVELOPMENTAL ☐ d. STAGE 4 - OPERATIONAL

4. FREQUENCY REQUIREMENTS

a. FREQUENCY(IES):			
b. EMISSION DESIGNATOR(S):			

5. TARGET STARTING DATE FOR SUBSEQUENT STAGES

a. STAGE 2:	b. STAGE 3:	c. STAGE 4:

6. EXTENT OF USE

7. GEOGRAPHICAL AREA FOR

a. STAGE 2:

b. STAGE 3:

c. STAGE 4:

8. NUMBER OF UNITS

a. STAGE 2	b. STAGE 3	c. STAGE 4

9. NUMBER OF UNITS OPERATING SIMULTANEOUSLY IN THE SAME ENVIRONMENT

10. OTHER J/F 12 APPLICATION NUMBER(S) TO BE	11. IS THERE ANY OPERATIONAL REQUIREMENT AS DESCRIBED IN THE INSTRUCTIONS FOR PARAGRAPH 11?
a. SUPERSEDED J/F 12/ b. RELATED J/F 12/	☐ a. YES ☐ b. NO ☐ c. NAvail

12. NAMES AND TELEPHONE NUMBERS

a. PROGRAM MANAGER	(1) COMMERCIAL PHONE	(2) DSN
b. PROJECT ENGINEER	(1) COMMERCIAL PHONE	(2) DSN

13. REMARKS

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INSTRUCTIONS FOR COMPLETING DD FORM 1494
"APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION"

GENERAL INFORMATION

CLASSIFICATION: This form must be classified in accordance with appropriate agency security directions. Downgrading instructions must be indicated. The highest classification for each item or subitem as required must be indicated by a (U), (C), or (S) alongside the item or sub-item title, for classified applications.

APPLICATION PURPOSE: This is an application for development or procurement of equipment with RF emitters. It is not a frequency assignment request for operation of RF emitters. Funds must not be obligated prior to the approval of an application for frequency allocation.

DATA REQUIREMENT: All applicable data items shall be submitted for all stages. Estimated values or ranges of values may be submitted for Stage 1 and 2 in the absence of calculated or measured values and shall be annotated (EST). Values for Stages 3 and 4 should be measured.

STANDARDS: Technical parameters of the application will be evaluated against the appropriate DoD, National and International EMC standards.

REMARKS ITEMS: Use the remarks item located at the bottom of each page of the form to amplify or clarify the entries. Add continuation pages as required.

ABBREVIATIONS:

Hertz	**Hz**	**microseconds**	usec
kilohertz	kHz	decibel	dB
megahertz	MHz	dB isotropic	dBi
gigahertz	GHz	pulses per second	pps
milliwatt	mW	parts per million	ppm
watt	W	peak envelope power	PEP
nanoseconds	nsec	not applicable	NA
National	NTIA	not available	NAvail
Telecommunications & Information Administration		occupied bandwidth	OC-BW

HOW TO ASSEMBLE THE FORM:

FOR US COORDINATION:

1. DoD General Information Page
2. Transmitter Page(s)
3. Receiver Page(s)
4. Antenna Page(s)
5. Line Diagram(s)
6. Space Systems Data, if applicable
7. Continuation Page(s) (cross reference pages)
8. NTIA General Information Page

FOR FOREIGN COORDINATION: If this form is used to obtain foreign national frequency supportability comments, see the instructions on the back of the Foreign Coordination General Information Page.

DOD 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 the appropriate block using the following NTIA definitions.

Stage 1 - Conceptual. The initial planning effort has been completed, including proposed frequency bands and other available characteristics.

Stage 2 - Experimental. The preliminary design has been completed, and radiation, using test equipment or preliminary models, may be required.

Stage 3 - Developmental. The major design has been completed, and radiation may be required during testing.

Stage 4 - Operational. Development has been essentially completed, and final operating constraints or restrictions required to assure compatibility need to be identified.

ITEM 4 - Frequency Requirements.

a. Enter the required frequency band(s). 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 designator(s) including the necessary bandwidth for each designator, as described in Chapter 9 of the NTIA Manual e.g., 40M0PON. Identify each mode as hopping or non-hopping, e.g. 64M0F3E (Hopping).
Enter in Item 13, "Remarks," any other information pertinent to frequency requirements, such as minimum frequency separation or special relationships involving multiple discrete frequencies.

ITEM 5 - Target Starting Date for Subsequent Stages. Enter proposed date of application submission for each subsequent stage.

ITEM 6 - Extent of Use. Describe extent of use that will apply to Stage 4, e.g., continuous or intermittent. If intermittent, provide information including the expected number of hours of operation per day or other appropriate time period; scheduling capability; and any conditions governing the times of intermittent use, e.g., used only during terminal guidance phase, used only as required for calibration of test range equipment.

ITEM 7 - 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 8 - Number of Units. Enter total number of units planned for the stage review requested and the subsequent stages.

ITEM 9 - Number of Units Operating Simultaneously in the Same Environment. Enter maximum number of these units planned to be operating simultaneously in the same environment during Stage 4 use.

ITEM 10 - Other J/F 12 Application Number(s). Mark appropriate block(s) and enter J/F 12 number(s) for superseded and/or related application(s).

ITEM 11 - Operational Requirement. If this equipment will operate with the same or similar equipment used by other US Military Services, DoD Components, US Government Agencies or Allied Nations, mark "Yes," and specify in Item 13, "Remarks," the Services, Agencies or countries (to include the country's services).

ITEM 12 - Self explanatory.

ITEM 13 - Remarks. Use this item to amplify or clarify any of the information provided above.

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TRANSMITTER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.

2. MANUFACTURER'S NAME

3. TRANSMITTER INSTALLATION

4. TRANSMITTER TYPE

5. TUNING RANGE

6. METHOD OF TUNING

7. RF CHANNELING CAPABILITY:

a. Lowest channel/frequency

b. Tuning increments

c. Number of channels

d. Number of frequencies required for operation

e. Minimum Frequency Separation

8. EMISSION DESIGNATOR(S)

9. FREQUENCY TOLERANCE

10. FILTER EMPLOYED *(X one)*

☐ a. Yes ☐ b. No

11. SPREAD SPECTRUM *(X one)*

☐ a. Yes ☐ b. No

12. EMISSION BANDWIDTH *(x and complete as applicable)*

☐ CALCULATED ☐ MEASURED

a. -3 dB			
b. -20 dB			
c. -40 dB			
d. -60 dB			
e. OC-BW			

13. MAXIMUM BIT RATE

14. MODULATION TECHNIQUES AND CODING

15. MODULATION FREQUENCY

☐ a. Maximum ☐ b. Minimum

16. PRE-EMPHASIS *(X one)*

☐ a. Yes ☐ b. No

17. DEVIATION RATIO

18. PULSE CHARACTERISTICS

a. RATE			
b. WIDTH			
c. RISE TIME			
d. FALL TIME			
e. COMP RATIO			

19. POWER *(X one)* ☐ a. MEAN ☐ b. PEP

20. OUTPUT DEVICE

21. HARMONIC LEVEL

a. 2ND

b. 3RD

c. OTHER

22. SPURIOUS LEVEL

23. FCC TYPE ACCEPTANCE NO.

24. NAVSTAR GPS BAND MEASUREMENT

a. GPS WIDEBAND EMISSION LEVEL (1164-1240 MHz): dBw/MHz

b. GPS WIDBAND EMISSION LEVEL (1559-1610 MHz0: dBw/MHz

c. GPS NARROWBAND EMISSION LEVEL (1164-1240 MHz): dBw

d. GPS NARROWBAND EMISSION LEVEL (1559-1610 MHz) : dBw

e. PULSE SYSTEMS

25. REMARKS

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INSTRUCTIONS FOR COMPLETING DD FORM 1494 "APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION" TRANSMITTER EQUIPMENT CHARACTERISTICS PAGE

ITEM 1 - Nomenclature, Manufacturer's Model No. Enter the Government assigned alphanumeric equipment designation. If above is not available, enter the manufacturer's model number, e.g., MIT 502, and complete Item 2. If above is not available, enter a short descriptive title, e.g., ATS-6 telemetry transmitter.

ITEM 2 - Manufacturer's Name. Enter the manufacturer's name if available. If a manufacturer's model number is listed in Item 1, this item must be completed.

ITEM 3 - Transmitter Installation. List specific type(s) of vehicle(s), ship(s), plane(s) or building(s), etc., where the transmitter(s) will be installed.

ITEM 4 - Transmitter Type. Enter the generic class of the transmitter, e.g., Frequency Scan, Scan While Track Radar, Monopulse Tracker, AM or FM Communications.

ITEM 5 - Tuning Range. Enter the frequency range through which the transmitter is capable of being tuned, e.g., 225-400 MHz. For equipment designed to operate only at a single frequency, enter this frequency.Indicate units, e.g., kHz, MHz or GHz.

ITEM 6 - Method of Tuning. Enter the method of tuning, e.g., crystal, synthesizer or cavity. If the equipment is not readily tunable in the field, indicate in Item 25, "Remarks," the complexity of tuning. Include complexity factors such as skill levels involved, major assemblies involved, time required, and location (factory or depot) where equipment is to be tuned.

ITEM 7 - RF Channeling Capability.
a. Lowest channel/frequency: Proposed Definition - The lowest tuned frequency of the transmitter frequency band(s) at which the transmitter is capable of operating.
b. Tuning increments: Proposed Definition - The frequency separation between tuned frequencies for equipment with uniformly-spaced step-tuned capability.
c. Number of channels: Proposed Definition - For uniformly spaced channels, enter the center frequency of the first channel and channel spacing.
d. Number of frequencies required for operation: Proposed Definition - Enter the number of frequencies required for nominal operation.
e. Minimum Frequency Separation: Proposed Definition - The required frequency separation between the different radio sets operated at one transmitter or receiver location

ITEM 8 - Emission Designator(s). Enter the emission designator(s) including the necessary bandwidth for each designator as described in Chapter 9 of the NTIA Manual, e.g., 16K0F3E. For systems with a frequency hopping mode as well as a non-hopping mode enter the emission designators for each mode. Identify each mode as hopping or non-hopping.

ITEM 9 - Frequency Tolerance. Enter the frequency tolerance, i.e., the maximum departure of a transmitter from its assigned frequency after normal warm-up time has been allowed. Indicate the units in parts per million (ppm) for all emission types except single sideband which shall be indicated in Hertz (Hz).

ITEM 10 - Filter Employed. Mark the appropriate block. Provide the characteristics of any filter used in Item 24, "Remarks."

ITEM 11 - Spread Spectrum. Mark the appropriate block. If "Yes," see instructions for Item 14.

ITEM 12 - Emission Bandwidth. Enter the emission bandwidths for which the transmitter is designed at the -3, -20, and -60 dB levels and the occupied bandwidth. The bandwidth at -40 dB shall also be entered for pulse radar transmitters. The emission bandwidth is defined as that appearing at the antenna terminals and includes any significant attenuation contributed by filtering in the output circuit or transmission lines. Values of emission bandwidth specified should be indicated as calculated or measured by marking the appropriate block. Indicate unit s used, e.g., Hz, kHz or MHz. Note that the Occupied Bandwidth (Item 12.e.) is defined as the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5% of the total mean power radiated.

ITEM 13 - Maximum Bit Rate. Enter the maximum information bit rate for digital equipment, in bits per second. If spread spectrum is used, enter the bit rate after encoding.

ITEM 14 - Modulation Techniques and Coding. Describe in detail the modulation and/or coding techniques employed. For complex modulation schemes such as direct sequence spread spectrum, frequency hopping, frequency agile, etc., enter full details in Item 25, "Remarks."

ITEM 15 - Modulation Frequency. - a. Maximum - For frequency or phase modulated transmitter enter the maximum modulation or baseband frequency. This frequency is assumed to be the frequency at -3 dB point on the high frequency side of the modulator response curve. Indicate the units, e.g., Hz, kHz or MHz. b. Minimum - Enter lowest frequency in the baseband modulating signal when analog modulation is employed.

ITEM 16 - Pre-emphasis. For frequency or phase modulated transmitters mark the appropriate block to indicate whether pre-emphasis is available.

ITEM 17 - Deviation Ratio. For frequency or phase modulated transmitter enter the deviation ratio computed with the formula

$$\text{Deviation Ratio} = \frac{\text{Maximum Frequency Deviation}}{\text{Maximum Modulation Frequency}}$$

ITEM 18 - Pulse Characteristics. For pulse modulated transmitters:
a. Enter the pulse repetition rate in pulses per second (pps).
b. Enter the pulse width at the half voltage levels in microseconds (usec).
c. Enter the pulse rise time in microseconds (usec). This is the time duration for the leading edge of the voltage pulse to rise from 10% to 90% of its peak amplitude.
d. Enter the pulse fall time in microseconds (usec). This is the time duration for the trailing edge of the voltage pulse to fall from 90% to 10% of its peak amplitude.
e. Enter the maximum pulse compression ratio, if applicable.

ITEM 19 - Power. Enter the mean power delivered to the antenna terminals for all AM and FM emissions, or the peak envelope power (PEP) for all other classes of emissions. If there are any unique situations such as interrupted CW, provide details in Item 24, "Remarks." Indicate the units, e.g., W or kW.

ITEM 20 - Output Device. Enter a description of the device used in the transmitter output stage, e.g., ceramic diode, reflex klystron, transistor or TWT.

ITEM 21 - Harmonic Level. Enter the harmonic level in dB relative to the fundamental of the 2nd and 3rd harmonics. Enter in Item c. the relative level in dB of the highest powered harmonic above the 3rd.

ITEM 22 - Spurious Level. Enter the maximum value of spurious emission in dB relative to the fundamental which occurs outside the -60 dB point on the transmitter fundamental emission spectrum (Item 12) and does not occur on a harmonic of the fundamental frequency.

ITEM 23 - FCC Type Acceptance No. Enter the FCC type acceptance number if applicable

ITEM 24 - NAVSTAR GPS Band Measurement. Federal agencies requesting Spectrum Certification for systems operating in the 390-413 MHz, and 960-1710 MHz frequency bands must provide measurements of the emission levels generated in the frequency bands used by the Navstar Global Positioning System. Provide measurements in wideband and narrowband
a. GPS WIDEBAND EMISSION LEVEL (1164-1240 MHz): dBw/MHz
b. GPS WIDEBAND EMISSION LEVEL (1559-1610 MHz): dBw/MHz
c. GPS NARROWBAND EMISSION LEVEL (1164-1240 MHz): dBw
d. GPS NARROWBAND EMISSION LEVEL (1559-1610 MHz) : dBw
e. For Pulse Systems, provide measurements of the temporal characteristics of the emissions in the 1164.45-1188.45MHz, 1215.6-1239.6MHz and 1563.42-1587.42MHz band

ITEM 25 - Remarks. Use this item to amplify or clarify any of the information provided above.

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CLASSIFICATION	PAGE

RECEIVER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.	2. MANUFACTURER'S NAME
3. RECEIVER INSTALLATION	**4. RECEIVER TYPE**
5. TUNING RANGE	**6. METHOD OF TUNING**

7. RF CHANNELING CAPABILITY:	8. EMISSION DESIGNATOR(S)
a. Lowest channel/frequency	
b. Tuning increments	
c. Number of channels	
d. Number of frequencies required for operation	
e. Minimum Frequency Separation	
9. FREQUENCY TOLERANCE	

10. IF SELECTIVITY	1ST	2ND	3RD
a. -3 dB			
b. -20 dB			
c. -60 dB			

11. RF SELECTIVITY *(X and complete as applicable)*

☐ CALCULATED ☐ MEASURED

a. -3 dB	
b. -20 dB	
c. -60 dB	
d. PRESELECTION TYPE	

12. IF FREQUENCY	13. MAXIMUM POST DETECTION FREQUENCY
a. 1ST	
b. 2ND	**14. MINIMUM POST DETECTION FREQUENCY**
c. 3RD	

15. OSCILLATOR TUNED	1ST	2ND	3RD
a. ABOVE TUNED FREQUENCY			
b. BELOW TUNED FREQUENCY			
c. EITHER ABOVE OR RELOW TUNED FREQUENCY			

16. MAXIMUM BIT RATE	
17. SENSITIVITY	
a. SENSITIVITY	dBm
b. CRITERIA	
c. NOISE FIG	dB
d. NOISE TEMP	Kelvin

18. DE-EMPHASIS *(X one)*

☐ a. Yes ☐ b. No

19. IMAGE REJECTION	20. SPURIOUS REJECTION

21. ADJACENT CHANNEL SELECTIVITY (dB)	22. INTERMODULATION REJECTION LEVEL (dB)	23. CONDUCTED UNDESIRED EMISSIONS (dBm)

24. REMARKS

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INSTRUCTIONS FOR COMPLETING DD FORM 1494 "APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION" RECEIVER EQUIPMENT CHARACTERISTICS PAGE

ITEM 1 - Nomenclature, Manufacturer's Model No. Enter the Government assigned alphanumeric equipment designation. If above is not available, enter the manufacturer's model number, e.g., MIT 502, and complete Item 2. If above is not available, enter a short descriptive title, e.g., GPS Receiver, Director Station RX.

ITEM 2 - Manufacturer's Name. Enter the manufacturer's name if available. If a manufacturer's model number is listed in Item 1, this item must be completed.

ITEM 3 - Receiver Installation. List specific type(s) of vehicle(s), ship(s), plane(s) or building(s), etc., where the receiver(s) will be installed.

ITEM 4 - Receiver Type. Enter the generic class, e.g., Dual Conversion Superheterodyne or Homodyne.

ITEM 5 - Tuning Range. Enter the frequency range through which the receiver is capable of being tuned, e.g., 225-400 MHz. For equipment designed to operate only at a single frequency, enter this frequency. Indicate units, e.g., kHz, MHz or GHz.

ITEM 6 - Method of Tuning. Enter the method of tuning, e.g., crystal, synthesizer or cavity. If the equipment is not readily tunable in the field, indicate in Item 23, "Remarks," the complexity of tuning. Include complexity factors such as skill levels involved, major assemblies involved, time required, and location (factory or depot) where equipment is to be tuned.

ITEM 7 - RF Channeling Capability.
a. Lowest channel/frequency: Proposed Definition - The lowest tuned frequency of the transmitter frequency band(s) at which the transmitter is capable of operating.
b. Tuning increments: Proposed Definition - The frequency separation between tuned frequencies for equipment with uniformly-spaced step-tuned capability.
c. Number of channels: Proposed Definition - For uniformly spaced channels, enter the center frequency of the first channel and channel spacing.
d. Number of frequencies required for operation: Proposed Definition - Enter the number of frequencies required for nominal operation.
e. Minimum Frequency Separation: Proposed Definition - The required frequency separation between the different radio sets operated at one transmitter or receiver location

ITEM 8 - Emission Designator(s). Enter the emission designator(s) including the necessary bandwidth(s) for each designator, e.g., 16K0F3E. For systems with a frequency hopping mode as well as a non-hopping mode enter the emission designators for each mode.

ITEM 9 - Frequency Tolerance. Enter the frequency tolerance, i.e., the maximum departure of a receiver from its assigned frequency after normal warm-up time has been allowed. Indicate the units in parts per million (ppm) for all emission types except single sideband which shall be indicated in Hertz (Hz).

ITEM 10 - IF Selectivity. Enter the bandwidth for each IF stage at the -3, -20 and -60 dB levels. Indicate units, e.g., kHz or MHz.

ITEM 11 - RF Selectivity. Enter the bandwidth at the -3, -20 and -60 dB levels. The RF bandwidth includes any significant attenuation contributed by filtering in the input circuit or transmission line. Values of RF bandwidths specified should be indicated as calculated or measured by marking the appropriate block. Indicate units, e.g., kHz or MHz. Enter the preselection type, e.g., tunable cavity.

ITEM 12 - IF Frequency. Enter the tuned frequency of the first, second and third IF stages. Indicate units, e.g., kHz or MHz.

ITEM 13 - Maximum Post Detection Frequency. Enter the maximum post detection frequency. This is the nominal frequency at the -3 dB point on the high frequency side of the receiver base band. Indicate units, e.g., kHz or MHz.

ITEM 14 - Minimum Post Detection Frequency. For multichannel FM systems enter the minimum post detection frequency. This is the nominal frequency at the -3 dB point on the low frequency side of the receiver base band. Indicate units, e.g., kHz or MHz.

ITEM 15 - Oscillator Tuned. Mark the appropriate block to indicate the location of the 1st, 2nd and 3rd oscillator frequencies with respect to the associated mixer input signal.

ITEM 16 - Maximum Bit Rate. Where applicable, enter the maximum bit rate (bps) that can be used. If spread spectrum is used, enter the bit rate after encoding. Describe any error detecting/correcting codes in Item 23, "Remarks."

ITEM 17 - Sensitivity.
a. Enter the sensitivity in dBm.
b. Specify criteria used, e.g., 12 dB SINAD (Signal to Interference plus Noise and Distortion).
c. If the receiver is used with terrestrial systems, enter the receiver noise figure in dB.
d. If the receiver is used with space or satellite earth stations, enter the receiver noise temperature in Kelvin.

ITEM 18 - De-emphasis. For frequency or phase modulated receivers mark the appropriate block to indicate whether de-emphasis is available.

ITEM 19 - Image Rejection. Enter the image rejection in dB. Image rejection is the ratio of the image frequency signal level required to produce a specified output, to the desired signal level required to produce the same output.

ITEM 20 - Spurious Rejection. Enter the spurious rejection in dB. Enter the single level of spurious rejection that the receiver meets or exceeds at all frequencies outside the -60 dB IF bandwidth. Spurious rejection is the ratio of a particular out-of-band frequency signal level required to produce a specified output, to the desired signal level required to produce the same output.

ITEM 21 - Adjacent Channel Selectivity. A ratio in (dB) that compares signal strength received against a similar signal on another frequency.

ITEM 22 - Intermodulation Rejection Level. A measure of RF input threshold before intermodulation products occurs (expressed in dB).

ITEM 23 - Conducted Undesired Emissions. Those undesired signals generated in the receiver and leaving the receiver by way of the receiving transmission line. Only required when employing wideband Fixed, Land, Mobile, or portable transmitters in the Fixed or Mobile service between 29.7 and 50, 162 and 174, or 406.1 and 420 MHz (expressed in dBm).

ITEM 24 - **Remarks**. Use this item to amplify or clarify any of the information provided above

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CLASSIFICATION	PAGE

ANTENNA EQUIPMENT CHARACTERISTICS

1. ☐ a. TRANSMITTING ☐ b. RECEIVING ☐ c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.	**3. MANUFACTURER'S NAME**
4. FREQUENCY RANGE	**5. TYPE**
6. POLARIZATION	**7. SCAN CHARACTERISTICS**
	a. TYPE
8. GAIN	b. VERTICAL SCAN
a. MAIN BEAM	(1) MAX ELEV
	(2) MIN ELEV
b. 1ST MAJOR SIDE LOBE AND ANGULAR DISPLACEMENT	(3) SCAN RATE
9. BEAMWIDTH	c. HORIZONTAL SCAN
a. HORIZONTAL	(1) SECTOR SCANNED
	(2) SCAN RATE
b. VERTICAL	d. SECTOR BLANKING *(x one)*
	☐ a. Yes ☐ b. No

10. REMARKS

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ANTENNA EQUIPMENT CHARACTERISTICS PAGE

ITEM 1 - Function. Mark the appropriate block to indicate the type of function the antenna performs. For multi-antenna system, use one page for each antenna.

ITEM 2 - Nomenclature, Manufacturer's Model No. Enter the Government assigned alphanumeric equipment designation. If above is not available, enter the manufacturer's model number, e.g., DS6558, and complete Item 3. If above is not available, enter a short descriptive title, e.g., ATS-6 telemetry antenna.

ITEM 3 - Manufacturer's Name. Enter the manufacturer's name if available. If a manufacturer's model number is listed in Item 2, this item must be completed.

ITEM 4 - Frequency Range. Enter the range of frequencies for which the antenna is designed. Indicate units, e.g., kHz or MHz.

ITEM 5 - Type. Enter the generic name or describe general technical features, e.g., Horizontal Log Periodic, Cassegrain with Polarization Twisting, Whip, Phased Array or Conformal Array.

ITEM 6 - Polarization. Enter the polarization; if circular, indicate whether it is right or left hand.

ITEM 7 - Scan Characteristics.

a. If this antenna scans, enter the type of scanning, e.g., vertical, horizontal, vertical and horizontal.

b. (1) Enter the maximum elevation angle in degrees (positive or negative referenced to the horizontal) that the antenna can scan.

(2) Enter the minimum elevation angle in degrees (positive or negative referenced to the horizontal) that the antenna can scan.

(3) Enter the vertical scan rate in scans per minute.

c. (1) Enter the angular scanning range in scans per minute.

(2) Enter the horizontal scanning rate in scans per minute.

d. Indicate if antenna is capable of sector blanking. If yes, enter details in item 10, "Remarks."

ITEM 8 - Gain.

a. Enter the maximum gain in dBi.

b. Enter the nominal gain of the first major side lobe of the main beam in dBi and the angular displacement from the main beam in degrees.

ITEM 9 - Beamwidth. Enter the 3 dB beamwidth in degrees.

ITEM 10 - Remarks. Use this item to describe any unusual characteristics of the antenna, particularly as they relate to the assessment of electromagnetic compatibility. Use this item to amplify or clarify any of the information provided above.

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APPLICATION FOR SPECTRUM REVIEW	CLASSIFICATION	DATE	PAGE

NTIA GENERAL INFORMATION

1. APPLICATION TITLE

2. SYSTEM NOMENCLATURE

3. STAGE OF ALLOCATION *(X one)*

☐ a. STAGE 1 - CONCEPTUAL ☐ b. STAGE 2 - EXPERIMENTAL ☐ c. STAGE 3 - DEVELOPMENTAL ☐ d. STAGE 4 - OPERATIONAL

4. FREQUENCY REQUIREMENTS

a. FREQUENCY(IES):			
b. EMISSION DESIGNATOR(S):			

5. PURPOSE OF SYSTEM, OPERATIONAL AND SYSTEM CONCEPTS **(NSEP USE)** *(X one)* ☐ a. YES ☐ b. NO

6. INFORMATION TRANSFER REQUIREMENTS

7. ESTIMATED INITIAL COST OF THE SYSTEM

8. TARGET DATE FOR

a. APPLICATION APPROVAL	b. SYSTEM ACTIVATION	c. SYSTEM TERMINATION

9. SYSTEM RELATIONSHIP AND ESSENTIALITY

10. REPLACEMENT INFORMATION

11. RELATED ANALYSIS AND TEST DATA

12. NUMBER OF MOBILE UNITS

13. GEOGRAPHICAL AREA FOR

a. STAGE 2:

b. STAGE 3:

c. STAGE 4:

14. LINE DIAGRAM *(See Page(s))* Attach Diagram

15. SPACE SYSTEMS *(X and complete SPACE SYSTEMS DATA field if applicable)* ☐ Yes ☐ No

16. TYPE OF SERVICE(S) FOR STAGE 4

17. STATION CLASS(ES) FOR STAGE 4

18. REMARKS

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APPLICATION FOR SPECTRUM REVIEW LINE DIAGRAM	CLASSIFICATION	DATE	PAGE

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Click on the space below to add your line diagram image

LINE DIAGRAM

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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.

ITEM 18 - Remarks. Use this item to amplify or clarify any of the information provided above

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APPLICATION FOR FOREIGN SPECTRUM SUPPORT	CLASSIFICATION	DATE	PAGE

FOREIGN COORDINATION GENERAL INFORMATION

1. APPLICATION TITLE

2. SYSTEM NOMENCLATURE

3. STAGE OF ALLOCATION *(X one)*

☐ a. STAGE 1 - CONCEPTUAL ☐ b. STAGE 2 - EXPERIMENTAL ☐ c. STAGE 3 - DEVELOPMENTAL ☐ d. STAGE 4 - OPERATIONAL

4. FREQUENCY REQUIREMENTS

a. FREQUENCY(IES):			
b. EMISSION DESIGNATOR(S):			

5. PROPOSED OPERATING LOCATIONS OUTSIDE US&P

6. PURPOSE OF SYSTEM, OPERATIONAL AND SYSTEM CONCEPTS

7. INFORMATION TRANSFER REQUIREMENTS

8. NUMBER OF UNITS OPERATING SIMULTANEOUSLY IN THE SAME ENVIRONMENT

9. REPLACEMENT INFORMATION

10. LINE DIAGRAM *(See Page(s))* Attach Diagram

11. SPACE SYSTEMS *(X and complete SPACE SYSTEMS DATA field if applicable)* ☐ Yes ☐ No

12. PROJECTED OPERATIONAL DEPLOYMENT DATE

13. REMARKS

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APPLICATION FOR FOREIGN SPECTRUM SUPPORT LINE DIAGRAM	CLASSIFICATION	DATE	PAGE

LINE DIAGRAM

Click on the space below to add your line diagram image

LINE DIAGRAM

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INSTRUCTIONS FOR COMPLETING DD FORM 1494 "APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION" FOREIGN COORDINATION GENERAL INFORMATION PAGE

NOTES

1. For equipment intended to be operated outside the US&P foreign disclosure authority is required to coordinate and obtain radio frequency spectrum support from those countries where this equipment may operate. Action must be initiated to obtain foreign disclosure authority in accordance with Military Department regulations and policies for the release of appropriate data to the proposed host nations.

2. Do not complete this page unless you are preparing a foreign coordination version of the DD Form 1494. A foreign coordination version of this form is treated as a completely separate document from a US coordination version, and in general the information content will be different.

3. Frequency allocation processing for US coordination can be initiated without submitting a foreign coordination version of the DD Form 1494. In any case, submission of the US coordination version should not be delayed simply because a foreign coordination version has not been completed.

HOW TO ASSEMBLE THE APPLICATION FOR FOREIGN SPECTRUM SUPPORT:

1. Foreign Coordination General Information Page(s).
2. Transmitter Equipment Characteristics Page(s).
3. Receiver Equipment Characteristics Page(s).
4. Antenna Equipment Characteristics Page(s).
5. Continuation Page(s).

FOREIGN COORDINATION 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 the appropriate block.

ITEM 4 - Frequency Requirements.

a. Enter the required frequency band(s). 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 designator(s) including the necessary bandwidth for each designator, as described in Chapter 9 of the NTIA Manual e.g., 40M0PON.

Enter in Item 13, "Remarks," any other information pertinent to frequency requirements, such as minimum frequency separation or special relationships involving multiple discrete frequencies.

ITEM 5 - Proposed Operating Locations Outside US&P. Enter host nations, locations or areas of use. Provide geographical coordinates (degrees, minutes, seconds) if available.

ITEM 6 - 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.

ITEM 7 - Information Transfer Requirements. Enter the required character rate, data rates, circuit quality, reliability, etc.

ITEM 8 - Number of Units Operating Simultaneously in the Same Environment. Enter maximum number of these units which will be operating simultaneously in the same environment, during Stage 4 use.

ITEM 9 - Replacement Information. Identify the existing equipment/system(s) and associated frequency assignments to be replaced by the proposed equipment system(s) where applicable.

ITEM 10 - 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.

ITEM 11 - Space System. 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 Requirements.

ITEM 12 - Projected Operational Deployment Date. Self explanatory.

ITEM 13 - Remarks. Use this item to amplify or clarify any of the information provided above