

UNCLASSIFIED	J/F 12/10087
SECURITY SUMMARY & SPECIAL HANDLING REQUIREMENTS	
The title of this application is: L3 Communications BANDIT Data Link Terminal The overall classification of this application is: UNCLASSIFIED	
The following Special Handling summary lists the applicable markings for the printed page(s). It is your responsibility to place all Special Handling markings on the cover page of the application. If an Entire Application was printed, the following Special Handling summary lists the applicable markings for the Entire Application. If an Individual Page (TX, RX, ANT, etc.) was printed, the following Special Handling summary lists the applicable markings for the printed page. It is your responsibility to make certain that any Special Handling markings that are unique to the Individual Page are also reflected on the cover of the Entire Application. If the "!" code is shown below, the "SEE REMARKS" refers to the REMARKS block on the applicable page. Refer to your Security Manual for further guidance. No Application Level Special Handling No Page Level Special Handling	
UNCLASSIFIED	J/F 12/10087

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The overall classification of this application is: **UNCLASSIFIED**

If the "!" code is shown below, the "SEE REMARKS" refers to the REMARKS block on the applicable page.

UNCLASSIFIED

APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION		CLASSIFICATION UNCLASSIFIED		DATE 03/06/2012		J/F 12/10087									
						Page 1 of 16 Pages									
DOD GENERAL INFORMATION															
TO AF Spectrum Management Office AFSMO/DON 6916 Cooper Ave. DISA Operations Bldg Fort Meade, Maryland 20755-7088				FROM AF Materiel Command (ASC 10072) 88 CG/SCXP 2435 5th Street, Bldg 676, Area B Wright Patterson AFB, OH 45433-7802											
1. APPLICATION TITLE (U) L3 Communications BANDIT Data Link Terminal															
2. SYSTEM NOMENCLATURE (U) L3 Communications BANDIT Data Link Terminal															
3. STAGE OF ALLOCATION (U) ☐ a. STAGE 1 CONCEPTUAL ☐ b. STAGE 2 EXPERIMENTAL ☐ c. STAGE 3 DEVELOPMENTAL ☒ d. STAGE 4 OPERATIONAL															
4. FREQUENCY REQUIREMENTS <table style="width:100%; border: none;"> <tr> <td style="width: 25%;">a. FREQUENCY(IES) (U)</td> <td style="width: 25%;">1755 MHz - 1850 MHz</td> <td style="width: 25%;">2200 MHz - 2290 MHz</td> <td style="width: 25%;"></td> </tr> <tr> <td>b. EMISSION DESIGNATORS (U)</td> <td>2M40G1D</td> <td>4M79G1D</td> <td>9M58G1D 18M5F9W</td> </tr> </table>								a. FREQUENCY(IES) (U)	1755 MHz - 1850 MHz	2200 MHz - 2290 MHz		b. EMISSION DESIGNATORS (U)	2M40G1D	4M79G1D	9M58G1D 18M5F9W
a. FREQUENCY(IES) (U)	1755 MHz - 1850 MHz	2200 MHz - 2290 MHz													
b. EMISSION DESIGNATORS (U)	2M40G1D	4M79G1D	9M58G1D 18M5F9W												
5. TARGET STARTING DATE FOR SUBSEQUENT STAGES															
a. STAGE 2 (U)		b. STAGE 3 (U)		c. STAGE 4 (U)		03/10/2012									
6. EXTENT OF USE (U) Intermittently															
7. GEOGRAPHICAL AREA FOR															
a. STAGE 2 (U)															
b. STAGE 3 (U)															
c. STAGE 4 (U) US&P															
8. NUMBER OF UNITS															
a. STAGE 2 (U)		b. STAGE 3 (U)		c. STAGE 4 (U)		170									
9. NUMBER OF UNITS OPERATING SIMULTANEOUSLY IN THE SAME ENVIRONMENT (U) 1															
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 ☒ b. NO ☐ c. NAVAIL											
12. NAMES AND TELEPHONE NUMBERS (U)															
a. PROGRAM MANAGER Smith, Andrew				(1) COMMERCIAL 937-430-2466		(2) DSN									
b. PROJECT ENGINEER Lalendran, Ashwin				(1) COMMERCIAL 937-241-1923		(2) DSN									
13. REMARKS (U)															
DOWNGRADING INSTRUCTIONS						J/F 12/10087									
						CLASSIFICATION UNCLASSIFIED									

CLASSIFICATION UNCLASSIFIED		PAGE 2	
TRANSMITTER EQUIPMENT CHARACTERISTICS			
1. NOMENCLATURE, MANUFACTURER'S MODEL NO. (U) Bandit L/S Band		2. MANUFACTURER'S NAME (U) L-3 Communications	
3. TRANSMITTER INSTALLATION (U) Airborne		4. TRANSMITTER TYPE (U) Digital Communications	
5. TUNING RANGE (U) 1710 MHz - 1850 MHz 2200 MHz - 2400 MHz		6. METHOD OF TUNING (U) Crystal Controlled PLL Synthesizer	
7. RF CHANNELING CAPABILITY (U)		8. EMISSION DESIGNATORS (U) 2M40G1D (U) 4M79G1D (U) 9M58G1D See Data Overflow Page	
9. FREQUENCY TOLERANCE (U) 1.5 ppm		12. EMISSION BANDWIDTH See Data Overflow Page ☐ CALCULATED ☒ MEASURED	
10. FILTER EMPLOYED (U) ☒ a. YES ☐ b. NO		a. -3 dB (U) 1.650 MHz (U) 3.360 MHz (U) 6.450 MHz	
11. SPREAD SPECTRUM (U) ☐ a. YES ☒ b. NO		b. -20 dB (U) 2.780 MHz (U) 5.550 MHz (U) 11.10 MHz	
13. MAXIMUM BIT RATE (U) 6.4 Mbps		c. -40 dB (U) 4.330 MHz (U) 7.550 MHz (U) 15.00 MHz	
14. MODULATION TECHNIQUES AND CODING (U) FM,OQPSK.		d. -60 dB (U) 12.100 MHz (U) 24.30 MHz (U) 56.60 MHz	
16. PRE-EMPHASIS (U) ☐ a. YES ☒ b. NO		e. OC-BW (U) 2.400 MHz (U) 4.790 MHz (U) 9.590 MHz	
19. POWER See Data Overflow Page		15. MAXIMUM MODULATION FREQUENCY (U) 6 MHz	
a. MEAN (U) 2 W (U) 2 W (U) 2 W		17. DEVIATION RATIO (U) 1	
b. PEP (U) (U) (U)		18. PULSE CHARACTERISTICS See Data Overflow Page	
20. OUTPUT DEVICE (U) Transistor		a. RATE (U) NA (U) NA (U) NA	
22. SPURIOUS LEVEL (U) -80 dB		b. WIDTH (U) NA (U) NA (U) NA	
23. FCC TYPE ACCEPTANCE NO. (U)		c. RISE TIME (U) NA (U) NA (U) NA	
24. REMARKS (U) Item 10. Lowpass		d. FALL TIME (U) NA (U) NA (U) NA	
		e. COMP RATIO (U) NA (U) NA (U) NA	
		21. HARMONIC LEVEL	
		a. 2nd (U) -70 dB	
		b. 3rd (U) -70 dB	
		c. OTHER (U) -70 dB	
CLASSIFICATION UNCLASSIFIED		J/F 12/10087	

TRANSMITTER DATA OVERFLOW PAGE

1. NOMENCLATURE,
MANUFACTURER'S MODEL NO.

5. TUNING RANGE

8. EMISSION DESIGNATORS

(U) 18M5F9W

12. EMISSION BANDWIDTH

a. -3 dB (U) 1.400 MHz
b. -20 dB 7.800 MHz
c. -40 dB 18.00 MHz
d. -60 dB 27.30 MHz
e. OC-BW 18.50 MHz

18. PULSE CHARACTERISTICS

a. RATE (U) NA

b. WIDTH (U) NA

c. RISE TIME (U) NA
d. FALL TIME (U) NA
e. COMP RATIO (U) NA

19. POWER

a. MEAN (U) 0 W - 2 W

b. PEP (U)

CLASSIFICATION UNCLASSIFIED				PAGE 4	
RECEIVER EQUIPMENT CHARACTERISTICS					
1. NOMENCLATURE, MANUFACTURER'S MODEL NO. (U) Bandit Receiver			2. MANUFACTURER'S NAME (U) L-3 Communications		
3. RECEIVER INSTALLATION (U) Airborne			4. RECEIVER TYPE (U) Single Conversion Superheterodyne		
5. TUNING RANGE (U) 1625 MHz - 1850 MHz 2200 MHz - 2500 MHz			6. METHOD OF TUNING (U) Crystal Controlled PLL Synthesizer		
7. RF CHANNELING CAPABILITY (U) 500KHz			8. EMISSION DESIGNATORS (U) 2M40G1D 4M79G1D See Data Overflow Page		
9. FREQUENCY TOLERANCE (U) 1.5 ppm			11. RF SELECTIVITY ☐ CALCULATED ☒ MEASURED		
10. IF SELECTIVITY			a. -3 dB (U) 300 MHz		
1st (U)	2nd (U)	3rd (U)	b. -20 dB (U) 650 MHz		
a. -3 dB	34.4 MHz		c. -60 dB (U) 1100 MHz		
b. -20 dB	53.7 MHz		d. Preselection Type (U) Bandpass Filter		
c. -60 dB	130.0 MHz		13. MAXIMUM POST DETECTION FREQUENCY (U) 6.84 MHz		
12. IF FREQUENCY			14. MINIMUM POST DETECTION FREQUENCY (U) NAvail		
a. 1st (U) 2002.5 MHz			16. MAXIMUM BIT RATE (U) 6.4 Mbps		
b. 2nd (U)			17. SENSITIVITY		
c. 3rd (U)			a. SENSITIVITY (U)		
15. OSCILLATOR TUNED			b. CRITERIA (U)		
1st (U)	2nd (U)	3rd (U)	c. NOISE FIG (U)		
a. ABOVE TUNED FREQUENCY	X		d. NOISE TEMP (U)		
b. BELOW TUNED FREQUENCY			20. SPURIOUS REJECTION (U) 60 dB		
c. EITHER ABOVE OR BELOW THE FREQUENCY					
18. DE-EMPHASIS (U) ☐ a. YES ☒ b. NO					
19. IMAGE REJECTION (U) 60 dB					
21. REMARKS (U) Item 17.					
2M40G1D 4M79G1D 9M58G1D 18M5F9W					
Sensitivity (dBm) -103 -100 -97 -90					
Criteria BER BER BER S/N					
Performance Value 0.6E-5 0.6E-5 0.6E-5 NAvail					
Noise Figure (dB) 3 3 3 3					
Noise Temp (K) 289 289 289 289					
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RECEIVER DATA OVERFLOW PAGE

1. NOMENCLATURE,
MANUFACTURER'S MODEL NO.

5. TUNING RANGE

8. EMISSION DESIGNATORS (U)

9M58G1D

18M5F9W

4. Continued compliance with the provisions of the standards cited in paragraph 3 above is mandatory.

5. Based on the information provided, the subject equipment complies with spurious level requirements of MIL-STD-461F, but does not comply with the harmonic level requirements of MIL-STD-461F.

6. Frequency assignment requests 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.

7. Coordination with the NTIA/SPS has been accomplished and the following recommendations were received.

a. DoD be aware that, in accordance with the NTIA press release of January 31, 2011, titled "NTIA takes next step in 500 MHz wireless broadband initiative", NTIA is conducting an evaluation to determine whether the band 1755-1850 MHz can be repurposed for commercial broadband use, and that furthermore, if NTIA concludes that this band should be repurposed, there may be significant impact on the ability of the subject system to continue operations in this band.

b. DoD ensures that personnel are protected from radiation levels that exceed generally accepted exposure criteria.

Steering Member
ESG Working Group
MCEB Frequency Panel

Signature

Date
APR 04 2012

IRAC/SPS Number
Doc. 39117/1
SPS-18556/1

Page
1 of 2

Downgrading Instructions
Classified by: NA
Declassify on: NA

CLASSIFICATION UNCLASSIFIED		PAGE 7	
ANTENNA EQUIPMENT CHARACTERISTICS			
1. (U) ☐ a. TRANSMITTING		☐ b. RECEIVING	
		☒ c. TRANSMITTING AND RECEIVING	
2. NOMENCLATURE, MANUFACTURER'S MODEL NO. (U) GMS P/N 501-017 S Band		3. MANUFACTURER'S NAME (U) GMS Antenna Products	
		5. TYPE (U) Monopole	
4. FREQUENCY RANGE (U) 2200 MHz - 2500 MHz		7. SCAN CHARACTERISTICS	
		a. TYPE (U) FIXED	
6. POLARIZATION (U) Vertical		b. VERTICAL SCAN (U) NA	
		(1) Max Elev (U) NA	
8. GAIN		(2) Min Elev (U) NA	
a. MAIN BEAM (U) 3 dBi		(3) Scan Rate (U) NA	
b. 1st MAJOR SIDE LOBE (U) 0 dBi @ 0 deg		c. HORIZONTAL SCAN (U) NA	
		(1) Sector Scanned (U) NA	
9. BEAMWIDTH		(2) Scan Rate (U) NA	
a. HORIZONTAL (U) 360 deg		d. SECTOR BLANKING (U) ☐ (1) YES ☒ (2) NO	
b. VERTICAL (U) 50 deg			
10. REMARKS (U)			
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ANTENNA EQUIPMENT CHARACTERISTICS			
1. (U) ☐ a. TRANSMITTING ☐ b. RECEIVING ☒ c. TRANSMITTING AND RECEIVING			
2. NOMENCLATURE, MANUFACTURER'S MODEL NO. (U) S-Band		3. MANUFACTURER'S NAME (U) INSITU	
4. FREQUENCY RANGE (U) 2200 MHz - 2500 MHz		5. TYPE (U) Dipole	
6. POLARIZATION (U) Vertical		7. SCAN CHARACTERISTICS a. TYPE (U) FIXED	
8. GAIN a. MAIN BEAM (U) 1 dBi b. 1st MAJOR SIDE LOBE (U) 0 dBi @ 0 deg		b. VERTICAL SCAN (U) NA (1) Max Elev (U) NA (2) Min Elev (U) NA (3) Scan Rate (U) NA	
9. BEAMWIDTH a. HORIZONTAL (U) 360 deg b. VERTICAL (U) 78 deg		c. HORIZONTAL SCAN (U) NA (1) Sector Scanned (U) NA (2) Scan Rate (U) NA d. SECTOR BLANKING (U) ☐ (1) YES ☒ (2) NO	
10. REMARKS (U)			
CLASSIFICATION UNCLASSIFIED		J/F 12/10087	

APPLICATION FOR SPECTRUM REVIEW	CLASSIFICATION UNCLASSIFIED	PAGE 10
NTIA GENERAL INFORMATION		
1. APPLICATION TITLE (U) L3 Communications BANDIT Data Link Terminal		
2. SYSTEM NOMENCLATURE (U) L3 Communications BANDIT Data Link Terminal		
3. STAGE OF ALLOCATION (U) ☐ a. STAGE 1 CONCEPTUAL ☐ b. STAGE 2 EXPERIMENTAL ☐ c. STAGE 3 DEVELOPMENTAL ☒ d. STAGE 4 OPERATIONAL		
4. FREQUENCY REQUIREMENTS a. FREQUENCY(IES) (U) 1755 MHz - 1850 MHz 2200 MHz - 2290 MHz b. EMISSION DESIGNATORS (U) 2M40G1D 4M79G1D 9M58G1D 18M5F9W		
5. PURPOSE OF SYSTEM, OPERATIONAL AND SYSTEM CONCEPTS (WARTIME USE) ☐ a. YES ☒ b. NO (U) The purpose of the Bandit Data Link Terminal is to deliver real-time internet protocol (IP) based full motion video and data for situational awareness, targeting, battle damage assessment, surveillance, convoy operations, and other situations where eyes on target are required.		
6. INFORMATION TRANSFER REQUIREMENTS(U) 1.6 - 6.4 Mbps OQPSK data.		
7. ESTIMATED INITIAL COST OF THE SYSTEM (U) \$100000		
8. TARGET DATE FOR		
a. APPLICATION APPROVAL (U) 03/02/2012	b. SYSTEM ACTIVATION (U) 03/03/2012	c. SYSTEM TERMINATION (U) 12/31/2030
9. SYSTEM RELATIONSHIP AND ESSENTIALITY (U) Essential to provide Unmanned Aerial Vehicle (UAV) video data to a maritime or ground facility.		
10. REPLACEMENT INFORMATION (U) NA		
11. RELATED ANALYSIS AND/OR TEST DATA (U) NA		
12. NUMBER OF MOBILE UNITS (U) 170		
13. GEOGRAPHICAL AREA FOR		
a. STAGE 2 (U)		
b. STAGE 3 (U)		
c. STAGE 4 (U) US&P		
14. LINE DIAGRAM (U) See Page(s) 11		15. SPACE SYSTEMS (U) See Page(s) NA
16. TYPE OF SERVICE(S) FOR STAGE 4 (U) Aeronautical Mobile		17. STATION CLASS(ES) FOR STAGE 4 (U) MA
18. REMARKS (U)		
DOWNGRADING INSTRUCTIONS		J/F 12/10087
		CLASSIFICATION UNCLASSIFIED

UNCLASSIFIED

(MCEB)

MILITARY COMMUNICATIONS ELECTRONICS BOARD

EQUIPMENT FREQUENCY ALLOCATION GUIDANCE

Military Department

AIR FORCE, ARMY, COAST GUARD, NAVY

Equipment

L-3 Communications BANDIT
Datalink Terminal

Stage

4-Operational

Section 1: ENCLOSURES

Enclosure Number

1

Description

J/F 12/10087

Dated

12 March 2012

Section 2: OPERATING CHARACTERISTICS FOR WHICH SUPPORT IS CERTIFIED

Frequency (MHz)

1755-1850
2200-2290

Emission

2M40G1D
4M79G1D
9M58G1D
18M5F9W

Power (Mean)

2W

Type of Service

Aeronautical
Mobile

Operating Location

US&P

Section 3: MCEB GUIDANCE

1. The enclosed application as described in Section 2 above is approved for operational use subject to the guidance below.
2. For the intended operation in the Aeronautical Mobile service, the subject equipment is in accordance with the US Table of Frequency Allocations.
3. Based on the information provided, the subject equipment complies with
 - (a) the frequency tolerance requirements of NTIA Manual Section 5.2.1 and
 - (b) the transmitter primary emission requirements of NTIA Manual Section 5.2.2.2.

Distribution
J-12 Holders

MCEB J-12 Number
J/F 12/10087/1

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NTIA ADMINISTRATIVE PAGE

(U) SPS #: 18556/1

(U) SIN #:

(U) AGENCY: AF

(U) STAGE: 4

(U) PREVIOUS CERTIFICATION:

(U) STATUS: DATE: ACTION:

(U) REMARKS:

DOC # 39117/1

(U) SPS RELATED DOCUMENTS: DATE: DOCKET #: DESCRIPTION:

(U) SPS RECOMMENDATIONS:

(U) NTIA CERTIFICATION:

ADMINISTRATIVE INFORMATION PAGE

1. SYSTEM IDENTIFIER: (U) C
2. EQUIPMENT FUNCTION: (U)
3. EQUIPMENT NOMENCLATURE: (U) L-3Communications Bandit (U)
(U) Datalink Terminal (U)
(U) (U)
(U) (U)
4. ECI CODE: (U)
5. MCEB USE: (U) O (C:CONCEP; E:EXPER; D:DEVELOP; O:OPER; N:NOTED)
6. MCEB LOCATIONS: (U) COUNTRY STATE CITY
USP US&P
7. HOST COUNTRY: COUNTRY DATE MESSAGE DTG
(U)
(U)
(U)
(U)
(U)
(U)
(U)
(U)
(U)
(U)
8. NOTE-TO-HOLDER:
(U)
(U)
(U)
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(U)
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(U)
9. JSC MEMO DATE: (U) 04-04-2012
10. USING AGENCIES: (U) 1:AF 2:AR 3:N
11. PROCURING AGENCY: (U) AF
12. APPLICATION STATUS: (U) 1 (1:APPROV; 2:CANCEL; 3:SUPERSE; 4:NOTED; 5:WITHDR; 6:PEND)