APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION	CLASSIFICATION Unclassified	DATE 1 April, 2008	Form Approved OMB No. 0704-0188 PAGE 1 OF 7 PAGES

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DOD GENERAL INFORMATION

TO	FROM

1. APPLICATION TITLE
L3 Communications Models VNTXL-2A transmitter and VR10LA receiver

2. SYSTEM NOMENCLATURE
Micro Air Vehicle (MAV)

3. STAGE OF ALLOCATION (X one)

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

4. FREQUENCY REQUIREMENTS
a. FREQUENCY(IES) 1700 MHz – 1880 MHz
b. EMISSION DESIGNATOR(S) 18M0F9W

5. TARGET STARTING DATE FOR SUBSEQUENT STAGES

a. STAGE 2	b. STAGE 3	c. STAGE 4
NA	NA	1 April, 2008

6. EXTENT OF USE
1-24 hrs per day, day/night

7. GEOGRAPHICAL AREA FOR
a. STAGE 2
b. STAGE 3
c. STAGE 4 US &P, Iraq

8. NUMBER OF UNITS

a. STAGE 2	b. STAGE 3	c. STAGE 4
N/A	NA	400

9. NUMBER OF UNITS OPERATING SIMULTANEOUSLY IN THE SAME ENVIRONMENT 2 to 16

10. OTHER J/F 12 APPLICATION NUMBER(S) TO BE
a. SUPERSEDED J/F 12/
b RELATED J/F 12/08343, J/F 12/08344, J/F 12/8345

11. IS THERE ANY OPERATIONAL REQUIREMENT AS DESCRIBED IN THE INSTRUCTIONS FOR PARAGRAPH 11?

	a. YES	X	b. NO		c. NAvail

12. NAMES AND TELEPHONE NUMBERS

a. PROGRAM MANAGER David Milburn	(1) COMMERCIAL 256-313-5377	(2) AUTOVON 897-5377
b. PROJECT ENGINEER Richard Szcepanski	(1) COMMERCIAL 256-876-1996	(2) AUTOVON 746-1996

13. REMARKS

DOWNGRADING INSTRUCTIONS	CLASSIFICATION	
N/A	Unclassified	

TRANSMITTER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO. VNTXL-2A/SCDC/R/DP/GPS	2. MANUFACTURER'S NAME L3 Communications
3. TRANSMITTER INSTALLATION Micro Air Vehicle (MAV)	4. TRANSMITTER TYPE FM
5. TUNING RANGE 1350 -1390 MHz	6. METHOD OF TUNING Synthesizer
7. RF CHANNELING CAPABILITY 1700 – 1880 MHz, 100 KHz increments	8. EMISSION DESIGNATOR(S) 18M0F9W
9. FREQUENCY TOLERANCE 30 ppm	
10. FILTER EMPLOYED (X one) X a. YES ☐ b. NO	
11. SPREAD SPECTRUM (X one) ☐ a. YES X b. NO	12. EMISSION BANDWIDTH (X and complete as applicable) ☐ CALCULATED X MEASURED
13. MAXIMUM BIT RATE 9600 bps	a. -3 dB 3 MHz b. -20 dB 17 MHz
14. MODULATION TECHNIQUES AND CODING FM video, FSK data subcarrier	c. -40 dB 30 MHz d. -60 dB 41 MHz e. OC-BW 18 MHz
	15. MAXIMUM MODULATION FREQUENCY 7.6 MHz
16. PRE-EMPHASIS (X one) X a. YES ☐ b. NO	17. DEVIATION RATIO 1
	18. PULSE CHARACTERISTICS N/A (frequency modulated)
19. POWER	a. RATE N/A
a. MEAN 0.003 W, 2.0 W	b. WIDTH N/A
b. PEP	c. RISE TIME N/A
20. OUTPUT DEVICE FET Transistor	d. FALL TIME N/A e. COMP RATIO N/A
	21. HARMONIC LEVEL
22. SPURIOUS LEVEL -80 dB	a. 2ND -58 dB
23. FCC TYPE ACCEPTANCE NO. N/A	b. 3RD -58 dB c. OTHER -58 dB

24. REMARKS

Item 10: Filter is a 5 pole low pass filter.

Item 16: Pre-emphasis is 3 dB.

RECEIVER EQUIPMENT CHARACTERISTICS

1. NOMENCLATURE, MANUFACTURER'S MODEL NO.
VR10LA/SCDC

2. MANUFACTURER'S NAME
L3 Communications

3. RECEIVER INSTALLATION
MAV Ground Control Station

4. RECEIVER TYPE
Single Stage Supperheterodyne

5. TUNING RANGE
1700-1880 MHz

6. METHOD OF TUNING
Synthesizer

7. RF CHANNELING CAPABILITY
1700 MHZ, 100 KHz increments

8. EMISSION DESIGNATOR(S)
18M0F9W

9. FREQUENCY TOLERANCE
30 PPM

10. IF SELECTIVITY	1ST	2ND	3RD
a. -3 dB	24 MHz	N/A	N/A
b. -20 dB	27 MHz	N/A	N/A
c. -60 dB	40 MHz	N/A	N/A

11. RF SELECTIVITY (X and complete as applicable)
[ ] CALCULATED [X] MEASURED

a. -3 dB 100 MHz
b. -20 dB 150 MHz
c. -60 dB 280 MHz
d. PRESELECTION TYPE
Front End LC Filter

12. IF FREQUENCY
a. 1ST 479.5 MHz
b. 2ND N/A
c. 3RD N/A

13. MAXIMUM POST DETECTION FREQUENCY
120 kHz

14. MINIMUM POST DETECTION FREQUENCY
N/A

15. OSCILLATOR TUNED	1ST	2ND	3RD
a. ABOVE TUNED FREQUENCY	X	N/A	N/A
b. BELOW TUNED FREQUENCY			
c. EITHER ABOVE OR BELOW TUNED FREQUENCY			

16. MAXIMUM BIT RATE
230.4 kbps

17. SENSITIVITY
a. SENSITIVITY -85 dBm
b. CRITERIA SNR = 12dB
c. NOISE FIG 6 dB
d. NOISE TEMP N/A

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

19. IMAGE REJECTION
60 dBc

20. SPURIOUS REJECTION
60 dB

21. REMARKS
Items 18 De-emphasis is 3 dB

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ANTENNA EQUIPMENT CHARACTERISTICS

1. [X] a. TRANSMITTING [ ] b. RECEIVING [ ] c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.	3. MANUFACTURER'S NAME
LBANDRPSMA	Radiall Inc.
4. FREQUENCY RANGE	**5. TYPE**
1700 MHz – 1880 MHz	Dipole
6. POLARIZATION	**7. SCAN CHARACTERISTICS**
Vertical	a. TYPE FIXED
8. GAIN	b. VERTICAL SCAN
a. MAIN BEAM	(1) MAX ELEV
4.6 dBi	N/A
	(2) MIN ELEV
	N/A
b. 1ST MAJOR SIDE LOBE	(3) SCAN RATE
NA	N/A
9. BEAMWIDTH	c. HORIZONTAL SCAN
a. HORIZONTAL	(1) SECTOR SCANNED
360 deg	N/A
	(2) SCAN RATE
	N/A
b. VERTICAL	d. SECTOR BLANKING (X one)
70 deg	[ ] (1) YES [X] (2) NO

10. REMARKS

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ANTENNA EQUIPMENT CHARACTERISTICS

1. [ ] a. TRANSMITTING [X] b. RECEIVING [ ] c. TRANSMITTING AND RECEIVING

2. NOMENCLATURE, MANUFACTURER'S MODEL NO.	3. MANUFACTURER'S NAME
8535248-901	Honeywell International
4. FREQUENCY RANGE	**5. TYPE**
1700 MHz – 1880 MHz	Logie
6. POLARIZATION	**7. SCAN CHARACTERISTICS**
Vertical	a. TYPE FIXED
8. GAIN	b. VERTICAL SCAN
a. MAIN BEAM	(1) MAX ELEV
8 dBi	N/A
	(2) MIN ELEV
	N/A
b. 1ST MAJOR SIDE LOBE	(3) SCAN RATE
NA	N/A
9. BEAMWIDTH	c. HORIZONTAL SCAN
a. HORIZONTAL	(1) SECTOR SCANNED
135 deg	N/A
	(2) SCAN RATE
	N/A
b. VERTICAL	d. SECTOR BLANKING (X one)
70 deg	[ ] (1) YES [X] (2) NO

10. REMARKS

CLASSIFICATION	
Unclassified	

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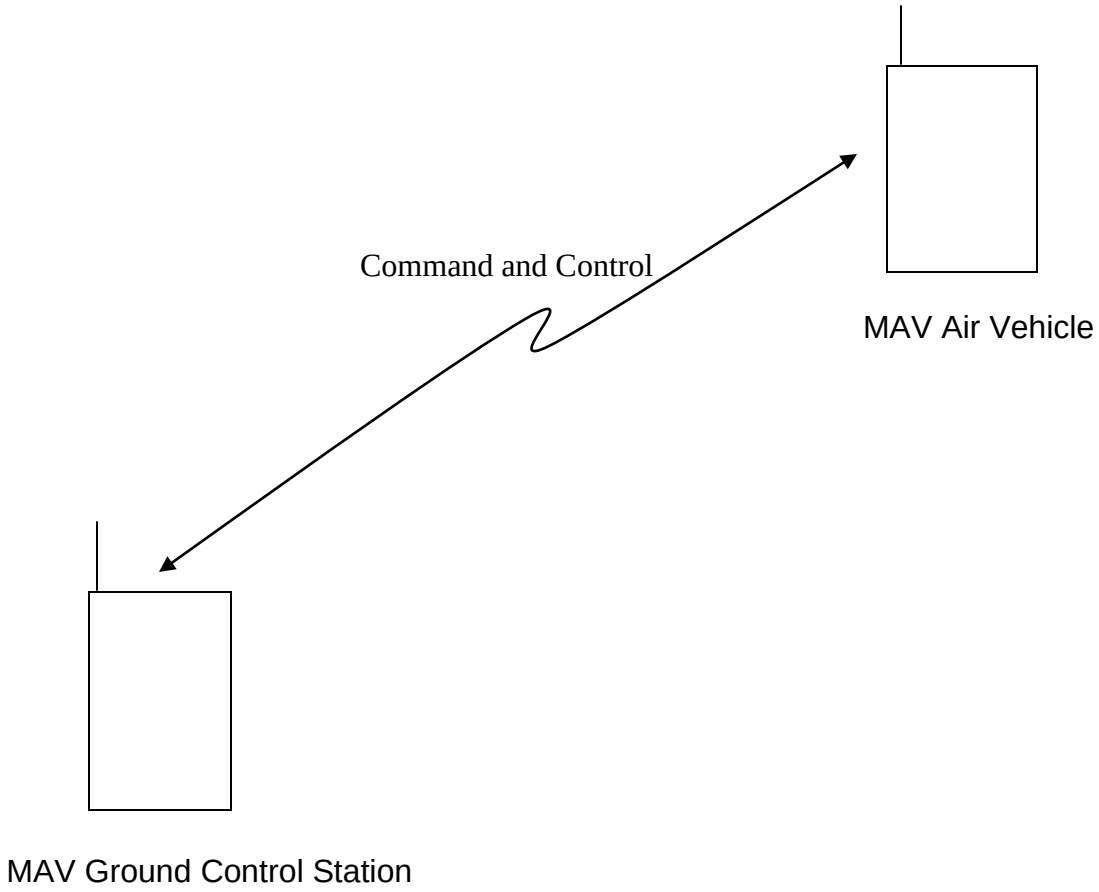
Table 1

ANTENNA CONTINUATION PAGE



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APPLICATION FOR SPECTRUM REVIEW	CLASSIFICATION Unclassified	PAGE 7 of 7

NTIA GENERAL INFORMATION

1. APPLICATION TITLE
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2. SYSTEM NOMENCLATURE
Micro Air Vehicle (MAV)

3. STAGE OF ALLOCATION (X one)

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

4. FREQUENCY REQUIREMENTS
a. FREQUENCY(IES) 1700 - 18800 MHz
b. EMISSION DESIGNATOR(S) 18M0F9W

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

Scout reconnaissance, Route clearance, FOB security and EOD IED investigation

6. INFORMATION TRANSFER REQUIREMENTS
9600 bps

7. ESTIMATED INITIAL COST OF THE SYSTEM
$325 K

8. TARGET DATE FOR

a. APPLICATION APPROVAL	b. SYSTEM ACTIVATION	c. SYSTEM TERMINATION
April 2008	15 May 2008	

9. SYSTEM RELATIONSHIP AND ESSENTIALITY

Support 25th ID and Joint EOD operations

10. REPLACEMENT INFORMATION
NA

11. RELATED ANALYSIS AND TEST DATA
NA

12. NUMBER OF MOBILE UNITS
400

13. GEOGRAPHICAL AREA FOR

a. STAGE 2	NA
b. STAGE 3	NA
c. STAGE 4	US & P and Iraq

14. LINE DIAGRAM	15. SPACE SYSTEMS
See Page(s) 6	See Page(s) NA

16. TYPE OF SERVICE(S) FOR STAGE 4	17. STATION CLASS(ES) FOR STAGE 4
Mobile / Fixed	MO / FX

18. REMARKS

Item 7: System consist of 2 Micro Air Vehicles and 1 Ground Control Station

DOWNGRADING INSTRUCTIONS	CLASSIFICATION	
N/A	Unclassified	

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