APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION

CLASSIFICATION

DATE

1 April, 2008

Form Approved OMB No. 0704-0188

PAGE 1 OF 7 **PAGES**

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AS APPROPRIATE.							
DOD GENERAL INFORMATION							
то	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)							
	SE 2 - EXPERIMENTAL	c. STAGE 3 - DEVEL	OPMENTAL	X d. STAGE 4 - OPERATIONAL			
4. FREQUENCY REQUIREMENTS		1 1		'			
a. FREQUENCY(IES) 1700 MHz – 1880 M	ИН г						
b. EMISSION DESIGNATOR(S) 18M0F9W	VII 12						
() 101101 011							
5. TARGET STARTING DATE FOR SUBSEQUE	NT STAGES						
a STACE 2	h STAGE 3		c. STAGE 4				
a. STAGE 2 NA	D. STAGES 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 LIC OR Iron							
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 SIMULTAN	NEOUSLY IN THE SAM	E ENVIRONMENT	2 to 16				
			2 10 10				
10. OTHER J/F 12 APPLICATION NUMBER(S) T	О ВЕ	11. IS THERE ANY OPERATIONAL REQUIREMENT AS DESCRIBED IN					
a. SUPERSEDED J/F 12/		THE INSTRUCTIONS	FOR PARAG	GRAPH 11?			
b RELATED J/F 12/08343, J/F 12/08344, J/F 12/8345		a. YES	X b. NO	c. NAvail			
12. NAMES AND TELEPHONE NUMBERS		<u> </u>					
a. PROGRAM MANAGER		(1) COMMERCIAL	3-5377	(2) AUTOVON			
David Milburn		230-31	3-3311	897-5377			
b. PROJECT ENGINEER		(1) COMMERCIAL 256-876-1996 (2) AUTOVON 746-1996					
Richard Szcepanski		200 01		746-1996			
13. REMARKS							
DOWNGRADING INSTRUCTIONS		CLASSIFICATION					
N/A		Unclassified					

CLASSIFICATION		PAGE		
Unclassified	2 of 7			
TRANSMITTER EQUIPME				
NOMENCLATURE, MANUFACTURER'S MODEL NO. VNTXL-2A/SCDC/R/DP/GPS	2. MANUFACTURER'S NAME L3 Communications			
VNTXL-2A/3CDC/R/DF/GF3	L3 Communications			
3. TRANSMITTER INSTALLATION	4. TRANSMITTER TYPE			
Micro Air Vehicle (MAV)	FM			
5. TUNING RANGE	6. METHOD OF TUNING			
1350 -1390 MHz	Synthesizer			
7. RF CHANNELING CAPABILITY	8. EMISSION DESIGNATOR(S)			
1700 – 1880 MHz, 100 KHz increments	18M0F9W			
9. FREQUENCY TOLERANCE 30 ppm				
10. FILTER EMPLOYED (X one)				
χ a. YES b. NO				
11. SPREAD SPECTRUM (X one)	12. EMISSION BANDWIDTH (X and comple	te as applicable)		
a. YES X b. NO		MEASURED		
13. MAXIMUM BIT RATE	a3 dB 3 MHz			
9600 bps	b20 dB 17 MHz			
14. MODULATION TECHNIQUES AND CODING	c40 dB 30 MHz			
FM video, FSK data subcarrier	d60 dB 41 MHz			
	e. OC-BW 18 MHz 15. MAXIMUM MODULATION FREQUENCY	y		
	7.6 MHz	•		
16. PRE-EMPHASIS (X one)	17. DEVIATION RATIO			
X a. YES b. NO	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 20. OUTPUT DEVICE	c. RISE TIME N/A			
	d. FALL TIME N/A e. COMP RATIO N/A			
FET Transistor	21. HARMONIC LEVEL			
22. SPURIOUS LEVEL	a. 2ND			
-80 dB	-58 dB			
	b. 3RD -58 dB			
23. FCC TYPE ACCEPTANCE NO.				
N/A	c. OTHER -58 dB			
24. REMARKS				
Item 10: Filter is a 5 pole low pass filter.				
Item 16: Pre-emphasis is 3 dB.				
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CLASSIFICATION				
Unclassified				
Unclassified				

CLASSIFICATION					PAGE		
					3 of 7		
				EQUIPME	NT CHARACTERISTICS		
1. NOMENCLATURE, MANU	JFACTURER'S	S MODEL	NO.		2. MANUFACTURER'S NAME		
VR10LA/SCDC					L3 Communications		
3. RECEIVER INSTALLATION MAV Ground Control					4. RECEIVER TYPE Single Stage Supperheterodyne		
5. TUNING RANGE	Station				6. METHOD OF TUNING		
1700-1880 MHz					Synthesizer		
7. RF CHANNELING CAPABILITY 1700 MHZ, 100 KHz increments		8. EMISSION DESIGNATOR(S) 18M0F9W					
9. FREQUENCY TOLERANG 30 PPM	Œ						
10. IF SELECTIVITY	1ST	2ND		3RD	11. RF SELECTIVITY (X and complete as applicable)		
a3 dB	24 MHz	N/A		N/A	CALCULATED X MEASURED		
b20 dB	27 MHz	N/A		N/A	a3 dB 100 MHz b20 dB 150 MHz		
		_			b20 dB 150 MHz c60 dB 280 MHz		
c60 dB	40 MHz	N/A	١	N/A	d. PRESELECTION TYPE		
12. IF FREQUENCY					Front End LC Filter		
a. 1ST 479,5 MHz					13. MAXIMUM POST DETECTION FREQUENCY		
					120 kHz		
b. 2ND N/A					14. MINIMUM POST DETECTION FREQUENCY		
c. 3RD N/A					N/A		
15. OSCILLATOR TUNED		1ST	2ND	3RD	16. MAXIMUM BIT RATE 230.4 kbps		
a. ABOVE TUNED FREQUENCY		X	N/A	N/A	17. SENSITIVITY		
b. BELOW TUNED FREQUENCY					a. SENSITIVITY -85 dBm		
c. EITHER ABOVE OR BELOW TUNED FREQUENCY b. CRITERIA SNR = 12dB			b. CRITERIA SNR = 12dB				
18. DE-EMPHASIS (X one) c. NOISE FIG 6 dB				c. NOISE FIG 6 dB			
X a. YES b. NO				d. NOISE TEMP N/A			
19. IMAGE REJECTION					20. SPURIOUS REJECTION		
60 d	Вс				60 dB		
21. REMARKS							
Items 18 De-emphasi	is is 3 dB						
CLASSIFICATION							
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CLASSIFICATION		PAGE	
Unclassified		4 of 7	
ANTENNA EQUIPMEI	NT CHARACTERISTICS		
1. X a. TRANSMITTING b. RECEIVING	c. TRANSM	ITTING 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 Vertical	7. SCAN CHARACTERISTICS		
	a. TYPE FIXED		
8. GAIN a. MAIN BEAM	b. VERTICAL SCAN		
4.6 dBi	(1) MAX ELEV N/A		
4.0 UDI	(2) MIN ELEV		
b. 1ST MAJOR SIDE LOBE	N/A	1	
NA	(3) SCAN RATE N/A		
9. BEAMWIDTH	c. HORIZONTAL SCAN		
a. HORIZONTAL	(1) SECTOR SCANNED N/A		
360 deg			
b. VERTICAL	(2) SCAN RATE N/A		
70 deg	d. SECTOR BLANKING (X one)		
.0 405	(1) YES X (2)	NO	
OL ACCUSION TO N	1		
CLASSIFICATION			
Unclassified			

CLASSIFICATION		PAGE			
Unclassified		5 of 7			
		0 01 7			
ANTENNA EQUIPMENT CHARACTERISTICS					
1. a. TRANSMITTING X b. RECEIVING	c. TRANSMI	ITTING AND RECEIVING			
2. NOMENCLATURE, MANUFACTURER'S MODEL NO.	3. MANUFACTURER'S NAME				
8535248-901	Honeywell International				
0000240 001	Tioneywen 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	1			
	(2) MIN ELEV				
b. 1ST MAJOR SIDE LOBE					
NA	(3) SCAN RATE N/A				
9. BEAMWIDTH	c. HORIZONTAL SCAN				
a. HORIZONTAL	(1) SECTOR SCANNED				
135 deg	N/A				
	(2) SCAN RATE N/A				
b. VERTICAL					
70 deg	d. SECTOR BLANKING (X one) (1) YES X (2) NO				
10. REMARKS	(1) YES X (2)	NU			
CLASSIFICATION					
Unclassified					

Table 1

CLASSIFICATION		PAGE
CLASSIFICATION	Unclassified	6 of 7
	Onolassinea	8 01 7
	ANTENNA CONTINUATION PAGE	
MAV Gr	Command and Control Cound Control Station	MAV Air Vehicle
	Unclassified	

APPLICATION FOR	APPLICATION FOR CLASSIFICATION		PAGE		
SPECTRUM REVIEW					
31 23 1 K3 III K2 V12 V	Unclas	ssified		7 of 7	
	NTIA GENERA	L INFORMATION			
1. APPLICATION TITLE L3 Communications Models V	NTXL-2A transmitter and VR	10LA receiver			
2. SYSTEM NOMENCLATURE Micro Air Vehicle (MAV)					
3. STAGE OF ALLOCATION (X one)					
a. STAGE 0F ALLOCATION (A GITE)	b. STAGE 2 - EXPERIMENTAL	c. STAGE 3 - DEVEL	OPMENTAL	X d. STAGE 4 - OPERATIONAL	
4. FREQUENCY REQUIREMENTS		0.0.000		3. J.	
a. FREQUENCY(IES) 17	00 - 18800 MHz				
b. EMISSION DESIGNATOR(S) 18	M0F9W				
5. PURPOSE OF SYSTEM, OPERATION	ONAL AND SYSTEM CONCEPTS	(WARTIME USE)	(X one)	X a. YES b. NO	
Scout reconnaissance, Ro	oute clearance, FOB secur	ity and EOD IED inv	estigation		
,	•	•	J		
6. INFORMATION TRANSFER REQUI	REMENTS 9600 bps				
7. ESTIMATED INITIAL COST OF THE	•				
	\$325 K				
8. TARGET DATE FOR			1		
a. APPLICATION APPROVAL April 2008	b. SYSTEM ACTIVATION 15 May 20		c. SYSTEM T	ERMINATION	
9. SYSTEM RELATIONSHIP AND ESS	_	00			
	7				
Support 25 th ID and Jo	oint EOD operations				
10. REPLACEMENT INFORMATION NA					
11. RELATED ANALYSIS AND TEST I	ΡΑΤΑ				
NA	ZAIA				
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 Mobile / Fixed 17. STATION CLASS(ES) FOR STAGE 4 MO / FX					
18. REMARKS					
Item 7: System consist of 2 Micro Air Vehicles and 1 Ground Control Station					
DOWNGRADING INSTRUCTIONS		CLASSIFICATION			
N/A		Unclassified			
		Uliciassilleu			