Unmanned Surface Vehicle (USV) Request Special Temporary Authority (STA) Portsmouth R.I.

1. Purpose of Operation

To test of the Qirsh Unmanned Surface Vehicle
Raytheon will Participate in Demonstration of the Unmanned Surface Vehicle Location: Raytheon Integrated Defense Systems (IDS) Portsmouth, R.I., Integration laboratory coordinates are; 41-37-35 North Latitude, 071-18-18 West Longitude, and the area, also include St. Petersburg, Florida off shore and coastal areas. Frequency Stop: 4.680 Type: GHz Emission Bandwidth: 6 Mhz Emission: COFDM using; BPSK, QPSK and 16QAM modulations Supplementary Details: Intended Use: Integration testing of a Maritime Unmanned Surface Vehicle (USV) mission equipment.
Description of Requirement: demonstrate reliable RF communications between Unmanned Surface Vehicle (USV) and Base Station.
Comments:
A radius of operation of 10,000 meters around above listed coordinates is desired for integration and testing purposes.
It should be noted that a small public airfield, Montgomery Field is located 500 meters to the south of the EWC integration lab location.
Point of Contacts
Requester Name: Mr. Daniel Salazar, (858) 522-4087, Daniel.Salazar@raytheon.com
Requester Organization: Raytheon Company
Files Number: 0753-EX-ST-2016
_ _ Class of Station: FIXED/ Mobile
_ _ Station Location: FIXED/ Mobile
_ _ Effective Date:6/06/2016
_ _ Expiration Date:12/06/2017

2. Experimental Explanations

Raytheon will conduct developmental testing and evaluation on the Unmanned Surface Vehicle (USV). Additional Information:
Program / Project Name: Qirsh Unmanned Surface Vehicle (USV)
Security Classification; Unclassified, Raytheon Company Proprietary
Equipment Transmitter: NETNode-MIMOR-440500, Manufacturer; Cobham Tactical Communications Ltd
Number of Equipment: 2 transceivers and 8 antenna units
Radar Tunability: N/A
Power: 2 Watts
Antenna Type: Gain: 9 dBi
Antenna part number; OA9-4.6V/1701
Elevation, 25 ft: Antenna Distance: 50 ft
Feed Point Height: 22 ft Orientation: Vertical and horizontal pairs Polarization:
Beam Width: _____TBD____
Receiver: NETNode-MIMOR-440500 Sensitivity, - 98 dBm
Antenna Type: Gain: 9 dBi
Feed Point Height: 22 ft Orientation: Vertical and horizontal pairs Polarization:
Beam Width: ___TBD_____ Elevation 25 ft
Antenna Type: Gain: 9 dBi

Antenna part number; OA9-4.6V/1701
Elevation, 25 ft: Antenna Distance: 50 ft
Feed Point Height: 22 ft Orientation: Vertical and horizontal pairs Polarization:
Beam Width: _____TBD____
Receiver: NETNode-MIMOR-440500 Sensitivity, - 98 dBm
Antenna Type: Gain: 9 dBi
Feed Point Height: 22 ft Orientation: Vertical and horizontal pairs Polarization:
Beam Width: ___TBD_____ Elevation 25 ft

4400 - 4940 MHz CHANNEL PLAN

4 GHz Channel Bandwidths	Lower Band ← 4.400 GHz … 4.640 GHz →															Upper Band ← 4.700 GHz … 4.940 GHz →												
40.00 MHz (A)	A1		A2		A3		A4		A5		A6					A1′		A2′		A3′		A4′		A5′		A6′		
30.00 MHz (B)	B1		B2		B3		B4		B5		B6		B7		B8	B9		B10		B1′		B2′		B3′		B4′		B5′		B6′		B7′		B8′	
20.00 MHz (C)	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C1′	C2′	C3′	C4′	C5′	C6′	C7′	C8′	C9′	C10′	C11′	C12′						
10.00 MHz (D)	(D1-D4)		(20) 10 MHz (D5-D24)										25	26	27	28	29	30	(D1′-D4′)		(20) 10 MHz (D5′-D24′)													
5.00 MHz (E)	(8) 5 MHz		(40) 5 MHz* (E9-E48)										(12) 5.00 MHz (E49-E60)						(8) 5 MHz		(40) 5 MHz* (E9′-E48′)													
2.50 MHz (F)	(16) 2.5 MHz		(80) 2.5 MHz* (F17-F96)										(24)2.50MHz (F97-F120)						(16) 2.5 MHz		(80) 2.5 MHz* (F17′-F96′)													
1.25 MHz (G)	(32) 1.25MHz		(160) 1.25 MHz* (G33-G192)										(48)1.25MHz(G193-G240)						(32) 1.25MHz		(160) 1.25 MHz* (G33′-G192′)													
													One-Way Applications																					