Harris Corporation
FCC Form 442
Modification Request
WF2XNW
File No. 0203-EX-ML-2012

EXHIBIT I
DESCRIPTION OF EXPERIMENT

Harris Corporation ("Harris") hereby requests modification of its experimental authorization issued under Call Sign WF2XNW.

The existing experimental authorization provides application support and testing for fielded equipment in connection with the development efforts pursuant to the United States Army for the Warfighter Information Network – Tactical ("WIN-T") and Future Combat Systems ("FCS") programs.

The experimental license as previously issued under call sign WF2XNW[1] authorizes experimental operations at the five fixed station locations and one mobile station referenced below in the frequency range of 4.94-4.99 GHz with an authorized ERP of 79.4 W. This request proposes to modify the authorization to include the frequency ranges of 14500-14714.5 MHz and 15136.5-15350 MHz (operating at a maximum ERP of 112.2 W) for the five fixed locations. This request also proposes to modify the authorization to include the frequency range of 14714.5-15136.5 MHz (operating at a maximum ERP of 112.2 W) for mobile operations.[2]

The testing consists of 6 Highband Network Radio ("HNR") nodes, operating at various facilities located on the Harris Palm Bay campus. Five HNR nodes will utilize fixed temporary mounted masts at the following Harris Palm Bay campus locations: Building 5- located at 1000 Perimeter Drive, Palm Bay, FL; Building 15- located at 1369 Troutman Blvd, NE, Palm Bay, FL; Building 19- located at 1335 Troutman Blvd, NE, Palm Bay, FL; Cafeteria- located at 2426 Palm Bay Road, NE, Palm Bay, FL; and a fixed office trailer located at 1400 Robert J Conlan Blvd NE, Palm Bay, FL. The proposed temporary masts will not extend the overall height of the structures to which they will be mounted by more than 5 meters. The mobile node will be a High Mobility Multipurpose Wheeled Vehicle ("HMMWV") with an HNR mounted on an extendable (10 meter) mast. This node will be operating while in motion. It will operate at the same power and has the same emission characteristics as the base stations.

Equipment used in this experiment will consist of the HNRe2 Highband Network Radio, manufactured by Harris. The HNRe2 is comprised of four elements: 1) the Baseband Processing Unit; 2) the Highband RF Unit ("HRFU") (consisting of an upconverter, a High-Powered Amplifier ("HPA"), a Switched Beam Antenna ("SBA"), a Low-Noise Amplifier ("LNA"), and a downconverter); 3) an Inertial Navigation Unit ("INU"); and 4) a GPS device. The INU and GPS will be used only at the mobile node.

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[1] *See FCC File No. 0246-EX-RR-2012*

[2] These frequency ranges were previously approved by the Commission for the locations contained herein under Special Temporary Authority (*see FCC File No. 0344-EX-ST-2012*).

Contribution to radio technology includes delivering a mobile ad-hoc network to the U.S. Armed Forces. This mobile ad-hoc networking capability will greatly increase the functionality of the military by providing true Networked Communications On The Move to facilitate the timely availability of sophisticated Situational Awareness to the commanders as well as individual ground troops.

Harris acknowledges that its operations will be on a non-interference basis.

Because the equipment is technically incapable of providing station identification, Harris respectfully requests a waiver of the station identification provisions of Section 5.115 of the Commission's rules, 47 C.F.R. § 5.115.

All network traffic will be simulated traffic only, solely for evaluation purposes and not for the purpose of providing network data communications services to user stations.

Harris acknowledges that it will adhere to all Special Conditions as authorized under the original authorization for WF2XNW, namely:
"Licensee must coordinate with all public safety licensees within 80 km prior to operation to avoid interference."

Further, owing to the additional frequency additions requested herein, Harris will adhere to the conditions placed on the previously issued Special Temporary Authorization under File No. 0344-EX-ST-2012. These are:

- ***"Operation is subject to prior coordination with the Associated Public Safety Communications Officers, Inc. (APCO); ATTN: Director of Frequency Coordination; 351 North Williamson Blvd.; Daytona Beach, FL 32114-1112; Telephone: (386) 322-2500."***
- ***" In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above."***
- ***" Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down."***
- ***"Operation is NOT permitted in the frequency 14714.5 - 15136.5 MHz for fixed operations."***
- ***" Operation is NOT permitted in the frequency 14500 - 14714.5 MHz and 15136.5 - 15350 MHz for mobile operations."***

Harris submits that a grant of this application is necessary and in the public interest because it will advance national security efforts.

The **stop buzzer contact** for this project is Jim Roesch, Test Lead Engineer at Harris, tel: 321-727-5605, mobile: (321) 506-9930, e-mail: jroesc01@harris.com.