

TESTIMONY OF:

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RF COMMUNICATIONS DIVISION

HARRIS CORPORATION

BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES

COMMITTEE ON ENERGY AND COMMERCE

SUBCOMMITTEE ON COMMUNICATIONS AND TECHNOLOGY

HEARING ON:

OVERSIGHT OF FIRSTNET

AND THE ADVANCEMENT OF PUBLIC SAFETY WIRELESS COMMUNICATIONS

NOVEMBER 21, 2013

GOOD MORNING, MR. CHAIRMAN, RANKING MEMBER ESHOO, AND MEMBERS OF THE SUBCOMMITTEE. THANK YOU FOR INVITING ME TO TESTIFY TODAY ON FIRSTNET AND THE ADVANCEMENT OF PUBLIC SAFETY WIRELESS COMMUNICATIONS.

LET ME BEGIN BY INTRODUCING YOU TO HARRIS CORPORATION. HARRIS IS AN INTERNATIONAL COMMUNICATIONS AND INFORMATION TECHNOLOGY COMPANY SERVING GOVERNMENT AND COMMERCIAL MARKETS IN MORE THAN 150 COUNTRIES. HEADQUARTERED IN MELBOURNE, FLORIDA, THE COMPANY HAS APPROXIMATELY \$5 BILLION OF ANNUAL REVENUE AND ABOUT 14,000 EMPLOYEES — INCLUDING NEARLY 6,000 ENGINEERS AND SCIENTISTS. HARRIS IS A LEADING GLOBAL SUPPLIER OF SECURE RADIO COMMUNICATIONS PRODUCTS AND SYSTEMS FOR THE MILITARY, GOVERNMENT, AND PUBLIC SAFETY MARKETS. HARRIS IS A PIONEER IN THE DEVELOPMENT OF INTERNET PROTOCOL (IP) BASED NETWORKS FOR PRIVATE RADIO AND BROADBAND APPLICATIONS, AND SUPPLIES INDUSTRY-LEADING NARROWBAND, MULTIBAND, AND BROADBAND NETWORKS, SERVICES, AND DEVICES.

I PREVIOUSLY TESTIFIED BEFORE THIS COMMITTEE ON MAY 21, 2011 DURING THE HEARING ON CREATING AN INTEROPERABLE PUBLIC SAFETY BROADBAND NETWORK. AT THAT TIME, I WAS CHAIR OF THE FEDERAL COMMUNICATIONS COMMISSION'S (FCC) EMERGENCY RESPONSE INTEROPERABILITY CENTER (ERIC) PUBLIC SAFETY ADVISORY COMMITTEE (PSAC), SECURITY AND AUTHENTICATION WORK GROUP.

AT PRESENT, I SERVE AS THE CTO OF HARRIS CORPORATION'S RF COMMUNICATIONS DIVISION AND AS VICE PRESIDENT RESPONSIBLE FOR LTE SOLUTIONS FOR PUBLIC SAFETY. MY EXPERIENCE INCLUDES DEVELOPING MARKET-LEADING TECHNOLOGIES WITHIN OUR COMPANY FOR THE PUBLIC SAFETY INDUSTRY AND CONTRIBUTING EXTERNALLY TOWARDS THE DEVELOPMENT OF BOTH PUBLIC AND REGULATORY

POLICY AND TECHNOLOGY STANDARDS THAT SUPPORT THE MISSION CRITICAL NEEDS OF OUR NATION'S FIRST RESPONDERS.

LAST YEAR, I SERVED AS AN APPOINTED MEMBER OF THE TECHNICAL ADVISORY BOARD FOR FIRST RESPONDER INTEROPERABILITY AS ESTABLISHED BY THE SPECTRUM ACT. IN THAT ROLE, I JOINED LEADERS REPRESENTING STATE AND LOCAL GOVERNMENTS, PUBLIC SAFETY ENTITIES, WIRELESS SERVICE PROVIDERS, AND EQUIPMENT MANUFACTURERS, IN DEVELOPING THE RECOMMENDED MINIMUM TECHNICAL REQUIREMENTS TO ENSURE NATIONWIDE INTEROPERABILITY FOR THE NATIONAL PUBLIC SAFETY BROADBAND NETWORK. THESE REQUIREMENTS WERE CONVEYED BY THE FCC TO FIRSTNET, AND AS REQUIRED BY LAW, WILL BE INCLUDED IN FUTURE RFPs ISSUED BY FIRSTNET.

I AM HERE TODAY TO PROVIDE TO THIS COMMITTEE A TECHNICAL PERSPECTIVE ON FIRSTNET'S MISSION AND ACTIVITIES, WITH A GOAL OF INFORMING THE COMMITTEE ON AREAS OF PROGRESS SINCE PASSAGE OF THE LANDMARK LEGISLATION LAST YEAR, WHICH I WILL REFER TO AS "THE SPECTRUM ACT".

THERE ARE FOUR ACTIVITIES THAT I WILL DISCUSS:

- (1) PILOT PROJECTS
- (2) STANDARDS DEVELOPMENT
- (3) REGULATORY POLICY
- (4) RESPONSE TO FIRSTNET INQUIRIES

A COMMON CONNECTION AMONG THESE ACTIVITIES IS THE HARRIS PERSPECTIVE ON FIRSTNET'S NEED TO ENABLE A FULL SUITE OF MISSION CRITICAL SERVICES OVER THE NATIONAL PUBLIC SAFETY BROADBAND NETWORK (THE NPSBN). WE BELIEVE THIS IS CRITICAL TO THE SUCCESS OF FIRSTNET AND WILL ADVANCE IDEAS THAT

UNDERScore OPPORTUNITIES FOR FIRSTNET TO CONTINUE TO COLLABORATE WITH PRIVATE SECTOR ENTITIES THAT WILL PROVIDE THE TECHNOLOGIES, PRODUCTS, SERVICES, AND EXISTING FACILITIES THAT FIRSTNET NEEDS TO LEVERAGE.

SINCE JANUARY 2012, HARRIS HAS IMPLEMENTED PILOT LTE PROJECTS IN FIVE JURISDICTIONS. MOST RECENTLY, HARRIS CONDUCTED A LIVE DEMONSTRATION OF DEPLOYABLE SOLUTIONS IN A REMOTE AREA IN CALIFORNIA THAT IS NOT SERVED BY COMMERCIAL BROADBAND NETWORKS. THESE PILOT PROJECTS UTILIZED PUBLIC SAFETY BROADBAND SPECTRUM AND WERE IMPLEMENTED ALMOST ENTIRELY AT HARRIS' EXPENSE AND WITH THE SUPPORT WE RECEIVED FROM THE FCC AND THE FIRSTNET TEAM WHO FACILITATED AND APPROVED SHORT TERM SPECTRUM USE AUTHORIZATIONS FOR THESE PILOT PROJECTS.

WE HAD SEVERAL KEY OBJECTIVES FOR LAUNCHING THESE PROJECTS. FIRST AND FOREMOST, WE AIMED AT CREATING AN IMPORTANT LEARNING EXPERIENCE FOR PUBLIC SAFETY ENTITIES THAT WANTED FIRST-HAND KNOWLEDGE OF THE EXCITING PROSPECTS PROMISED BY THE EVENTUAL NPSBN. ADDITIONALLY, WE SOUGHT A LEARNING EXPERIENCE THAT WOULD ADVANCE OUR OWN UNDERSTANDING OF HOW TO APPLY THIS STATE-OF-THE-ART COMMERCIAL TECHNOLOGY IN A MISSION CRITICAL SETTING. OUR FINDINGS WERE SIMPLE BUT NONETHELESS PROFOUND. (1) WHILE THERE ARE MANY PUBLIC SAFETY ENTITIES THAT CURRENTLY USE COMMERCIAL BROADBAND NETWORKS IN DAY-TO-DAY OPERATIONS, THE PROSPECT OF A DEDICATED NETWORK OPTIMIZED FOR THEIR MISSION CRITICAL NEEDS IS HIGHLY VALUED. IN FACT, MANY OF THESE ENTITIES ARE ANXIOUS TO SUPPORT DEPLOYMENT OF THE NPSBN IN THEIR JURISDICTIONS. (2) COMMERCIAL LTE TECHNOLOGY CAN BE CONFIGURED, THROUGH RIGOROUS DESIGN PRACTICES, TO SUPPORT SOME MISSION CRITICAL NEEDS TODAY. THE KEY GAP THAT CURRENTLY EXISTS, AS MANY ARE WELL

AWARE, IS MISSION CRITICAL VOICE. NOTWITHSTANDING THAT, WE SUCCESSFULLY DEMONSTRATED TECHNOLOGY THAT PERMITS VOICE INTEROPERABILITY BETWEEN LEGACY MISSION CRITICAL RADIO SYSTEMS AND SERVICES THAT OPERATE OVER BAND 14 LTE. THIS TECHNOLOGY ENABLED FIRST RESPONDER PARTICIPANTS TO EXPERIENCE A CONVERGED SERVICE – JOINING THE CURRENT LMR SOLUTION WITH TOMORROW’S LTE SOLUTION – AS A PRECURSOR TO EVENTUAL MIGRATION TO THE NPSBN FOR ALL MISSION CRITICAL SERVICES.

THAT BRINGS ME TO THE SECOND TOPIC AREA, WHICH IS THE DEVELOPMENT OF STANDARDS THAT WILL SUPPORT MISSION CRITICAL VOICE ON THE NPSBN AND ENABLE NATIONWIDE INTEROPERABILITY OF THIS CRITICAL SERVICE. SEVERAL PARALLEL ACTIVITIES ARE UNDERWAY IN 3GPP, TIA, AND ATIS, THAT ARE ADDRESSING THIS NEED. UNDER THE SPECTRUM ACT, FIRSTNET MUST REPRESENT THE INTERESTS OF PUBLIC SAFETY USERS IN THESE STANDARDS DEVELOPMENT ACTIVITIES, AND TO DO SO IN CONSULTATION WITH THE DIRECTOR OF NIST, THE FCC, AND THE PUBLIC SAFETY ADVISORY COMMITTEE. ALTHOUGH NOT EXPLICITLY NOTED IN THE SPECTRUM ACT, WE ALSO BELIEVE THERE IS SIGNIFICANT BENEFIT FOR FIRSTNET TO CONSULT AND COLLABORATE IN THIS PROCESS WITH PRIVATE SECTOR ENTITIES LIKELY SUPPLYING THE REQUIRED PRODUCTS AND SERVICES THAT IMPLEMENT THESE EMERGING STANDARDS.

IN ADDITION TO THE DEVELOPMENT OF STANDARDS, CONTINUING EVOLUTION OF THE REGULATORY FRAMEWORK FOR FIRSTNET WILL BE FOUNDATIONAL TO FIRSTNET’S SUCCESS. AS A MANUFACTURER OF LTE USER EQUIPMENT, HARRIS IS PLEASED WITH THE SIGNIFICANT MILESTONE ACHIEVED WHEN THE FCC ISSUED THE FIRST RELEASE OF SERVICE RULES FOR THE NPSBN. THESE RULES ARE A SIGNIFICANT STEP AND ONE THAT IS REQUIRED FOR OEMs TO CONTINUE THEIR INVESTMENT IN PRODUCTS AND

TECHNOLOGIES THAT FIRSTNET WILL NEED IN ITS DEPLOYMENT AND THAT FIRST RESPONDERS WILL REQUIRE IN ORDER TO USE THE NPSBN. WE ENCOURAGE CONTINUED WORK BY ALL STAKEHOLDERS TO FINALIZE THIS REGULATORY FRAMEWORK THAT WILL ULTIMATELY ENABLE MULTI-VENDOR, INTEROPERABLE DEPLOYMENTS AT EVERY STAGE, AS REQUIRED BY THE SPECTRUM ACT. TOWARD THIS GOAL, IN ADVANCE OF THESE FINAL REQUIREMENTS, IT SHOULD BE NOTED THAT FIRSTNET HAS DONE SIGNIFICANT WORK TO REQUIRE THAT EARLY BUILD OUTS ARE INTEROPERABLE AND SHOULD BE LAUDED FOR SUPPORTING EFFORTS TO MAKE PROCUREMENTS FOR THESE PROJECTS COMPETITIVE AND MULTI-VENDOR.

FINALLY, WE COMMEND THE FIRSTNET TEAM ON THEIR SIGNIFICANT PROGRESS IN THE RELEASE OF THEIR REQUESTS FOR INFORMATION (RFI). THE RFI PROCESS HAS GIVEN THE PRIVATE SECTOR A SIGNIFICANT AND CLEAR WINDOW OF VISIBILITY INTO POTENTIAL REQUIREMENTS FOR EQUIPMENT AND SERVICES THAT FIRSTNET WILL PROCURE. AS FIRSTNET COMPLETES ITS STATE/LOCAL COLLABORATION AND BEGINS FINALIZATION OF THE TECHNICAL REQUIREMENTS FOR THE NPSBN BUILDING BLOCKS, WE ENCOURAGE FIRSTNET TO ENGAGE THE PRIVATE SECTOR AT EACH OPPORTUNITY. THIS IS AN ESSENTIAL STEP FOR CONTINUED INVESTMENT BY THE PRIVATE SECTOR IN FIRSTNET, WHICH IN TURN IS ESSENTIAL FOR TIMELY AVAILABILITY OF PRODUCTS AND SERVICES THAT FIRSTNET WILL NEED TO PROCURE.

IN CLOSING, I ONCE AGAIN THANK THE COMMITTEE FOR INVITING ME TO TESTIFY ON A MATTER OF SUCH GREAT IMPORTANCE TO THE AMERICAN PUBLIC. AS A PRIVATE SECTOR ENTITY DEDICATED TO THE DEVELOPMENT OF MISSION CRITICAL PRODUCTS AND SERVICES FOR THE U.S. MILITARY AND PUBLIC SAFETY FIRST RESPONDERS,

HARRIS REMAINS EAGER TO SUPPORT FIRSTNET AND THIS COMMITTEE TO MAKE AN INTEROPERABLE NPSBN A REALITY.

THANK YOU.