

Ericsson

Exhibit to Experimental License Application, File No. 0064-EX-ML-2016

Date Filed: 4/4/2016

Description of the Experiment and Objectives to be Accomplished

In 2014, Ericsson sought, and was granted, an initial experimental license to conduct research and trials of new 5G radio access technologies at our main campus in Plano, Texas.¹ The present application seeks to modify our existing authorization so we can advance our 5G research.

In short, our major modification will be adding in 27.5-28.5 GHz to the operation. We will also be repositioning the base stations on the Ericsson campus: [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] The operation will remain within Ericsson grounds.

The purpose of modifying our test environment is to develop and validate outdoor and indoor 5G use cases for industries and consumers. We will develop test cases for multiple industries and understand/validate how 5G can improve the use cases as compared to current (e.g., 4G, broadband) systems. The specific industries are not yet fully defined, but, as an example, we plan to include deployment and connectivity to “Massive IOT”² devices, testing the impacts of bandwidth, latency, and many systems being connected.

We also plan to work with a number of industry groups (e.g., construction, security, manufacturing, medical, sports, automotive, robotics) to execute live proof of concept test cases that can improve the safety, security, and cost effectiveness for each industry segment. We also plan to move into consumer systems and we will test and demo suburban high capacity home delivery (dense housing fiber replacement), and validate rural broadband delivery capabilities. For critical communications infrastructure, we will test and show the impacts of intra and inter frequency handover and LTE to 5G interface handover.

The experiment will contribute to the expansion and utilization of the radio art by enabling the development of a new generation of wireless technology, which will be necessary to handle the increase in data traffic coming in the relatively near future.

¹ See Call Sign WH2XMQ, initially filed under File No. 0765-EX-PL-2014 and renewed under File No. 0551-EX-RR-2015.

² “Massive IOT” devices are low cost, low energy and low data volume, but that will be deployed in massive numbers. Some examples include smart buildings; Logistics, tracking and fleet management; smart meters; and capillary networks. This is in contrast to “Critical IOT” devices, which must be ultra reliable, have very low latency, and very high availability, such as traffic safety, industrial controls or smart grid automation.

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Use of Government Spectrum

The only change to our requested use of government spectrum is the direction the base stations will point. The base stations will still be mounted at one of the locations under our existing authorization. We requested authorization to transmit on 14.7-15.1 GHz because the experimental equipment was built to function on this spectrum for initial testing done in Sweden. Ericsson has no intention of requesting that this spectrum being repurposed for commercial use.

Because of the [REDACTED] tilt of the antennas and their location on the Ericsson campus, the experiment will not interfere with existing users. Out of an abundance of caution for the government systems in the requested band, we are nonetheless providing a 24 hour emergency contact to turn off any transmissions should interference be detected. The contact information is: Keith Shank, 214-679-4362.

Timing

We are requesting the license to start on May 1, 2016 and to run for 36 months.

Additional Technical Information

The maximum EIRP will be 47 dBm. The average EIRP will be 23 dBm.

Directional Antenna Information

The base stations, which have directional antennas, will be located on the Ericsson campus, at 33.075406, -96.831529.³ The antennas will have a [REDACTED], as denoted below.

The antenna parameters will be:

Polarization: [REDACTED]

Horizontal HPBW: [REDACTED]

Vertical HPBW: [REDACTED]

Antenna gain: [REDACTED]

EIRP: ≤ 47 dBm

Electrical tilt: [REDACTED]

Mechanical tilt: [REDACTED]

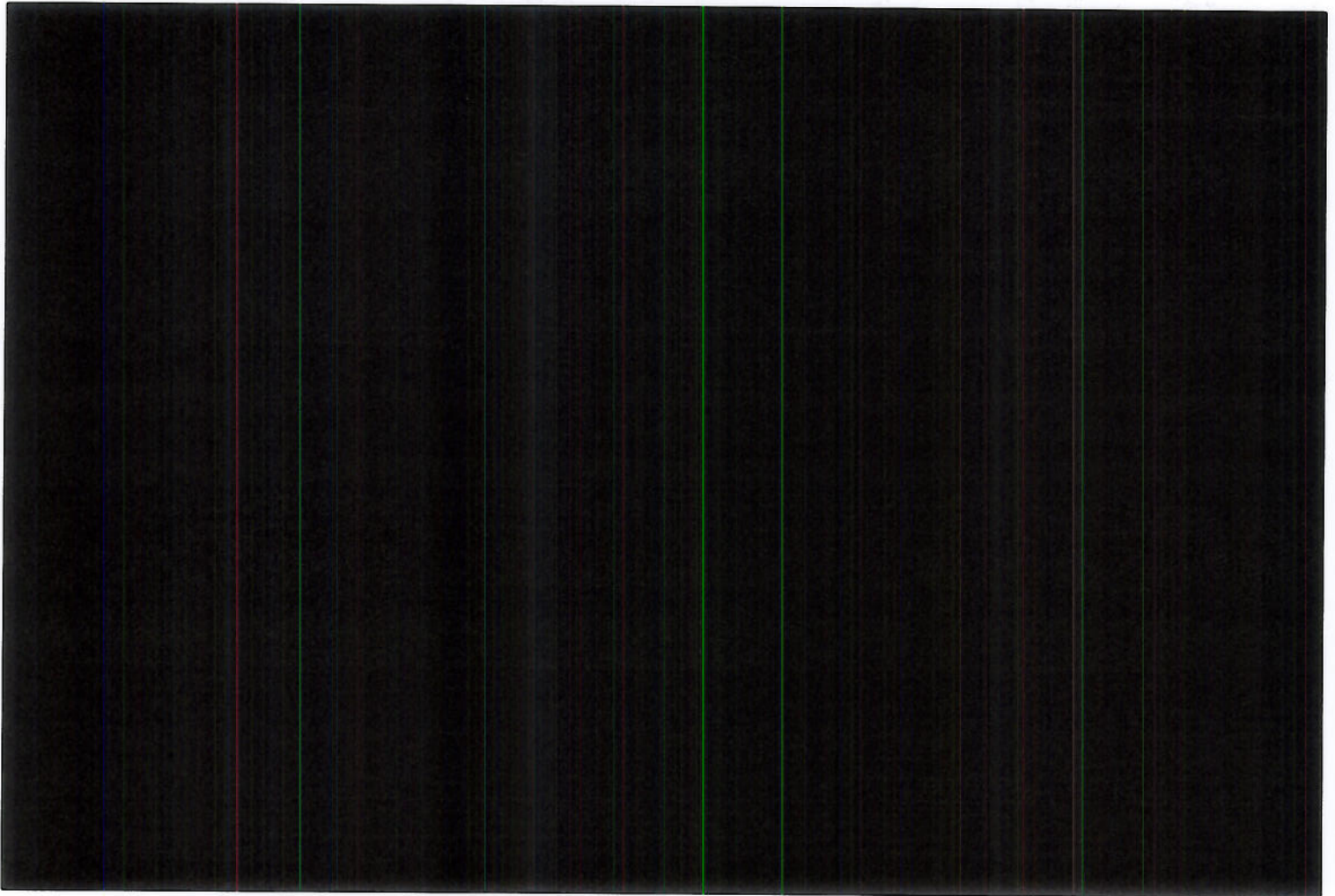
³ 33° 4' 31.4616", -96° 49' 53.5044".

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Diagram for the V-pol antenna elements: azimuth



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Diagram for the V-pol antenna elements: elevation.

