Motorola Solutions, Inc.
FRN: 0002861649
Request for Part 5 Experimental
Special Temporary Authority
ELS File No. 0956-EX-ST-2019

NARRATIVE STATEMENT

Pursuant to Section 5.3(a) and (e) and Section 5.61 of the Federal Communications Commission ("FCC") rules, 47 C.F.R. §§ 5.3(a), (e), 5.61 (2016), Motorola Solutions, Inc., hereby respectfully requests a 6 month special temporary authority ("STA") from **June 1, 2019 through December 1, 2019**, to operate on one CBRS (3650-3700MHz) channel per location at 2 locations to demonstrate the functionality and performance of prototype equipment and collect propagation data, partner customer data, and technical information required to perfect equipment to be offered for sale at a later date in support of CBRS technology.

A. Purpose of Operation and Need for STA:

Motorola Solutions is a leading manufacturer of mobile radio equipment for the critical infrastructure and public safety community and is continually engaged in the design and development of new and innovative communications systems. The experimental authority requested herein will allow the company to support evaluation of the functionality and reliability of base station and client systems under development with customer trials needed to collect coverage, throughput, and other data that allows MSI to further understand specific requirements and trial equipment offering that would support the requirements of potential users within the CBRS allocations.

Specifically, Motorola Solutions proposes to demonstrate prototype equipment to partner customers in Garland, Texas and Moorseville, North Carolina. To accommodate set-up requirements as well as to ensure all operations up to demonstration and tear-down are covered by FCC authorization, Motorola Solutions respectfully requests that the FCC grant the STA for the period June 1 through December 1, 2019.

Grant of an STA will allow Motorola Solutions to demonstrate the prototype system to the partner customers at their respective facilities thereby obtaining critical technical data and feedback so that it may enhance the efforts to design, develop and improve its equipment to meet the communications needs of potential users within the CBRS service.

B. Locations of Proposed Operation:

A limited number of temporary fixed and portable would be operated within a radius of 1.0 kilometers of the test sites located at 4009 Distribution Drive, #200 Garland, Texas 75041 (coordinates N 32 53' 31.5"; W096 41' 21.8" Datum: NAD83) and 128-D Talbert Rd. Mooresville, NC 28117 (Coordinates N35 35' 49.9"; W080 50' 52.8" Datum: NAD83).

C. Technical Specifications:

1. Frequencies Desired

Motorola Solutions requests authorization to operate within the CBRS allocation of 3550-3700MHz utilizing up to 20MHz wide TDD channels and utilizing an LTE waveform, as specified in the accompanying application.

2. Effective Radiated Power

All power levels will comply with the limits set forth in the FCC's rules, including those relating to human exposure to radiation.

The base radio units will operate at +25dBm TPO units utilizing antennas, during various phases of testing, exhibiting +8dBd omni-directional radiation pattern. The systems will, therefore, be deployed and configured to operate with a mean effective radiated power ("ERP") of no more than 2 Watts (+33dBm). The subscriber units will operate at power levels not to exceed 250mW ERP (+23dB) mean. Motorola Solutions will reduce the actual powers to the minimum power needed for successful operation, based on set-up and testing at the site of the exercise.

3. Modulation and Emissions

Motorola Solutions proposes to operate using TDD OFDMA LTE modulation on the downlink and TDMA/TDD LTE modulation of the uplink. Uplink and Downlink will operate on the same channel utilizing bandwidths of 5MHz, 10MHZ, and 20MHz. The representative emission designator shall be 5M00W7W, 10M0W7W, and 20M0W7W for the Downlink period of operation upon the channel and 5M00WXW, 10M0WXW, and 20M0WXW for operation during the Uplink period of the TDD LTE channel in use. Other emission modes may be utilized, but in no event will the emissions extend beyond the frequency bands requested.

Prior to operation, MSI will determine the exact center frequency of operation utilizing spectrum scans at each location, use of the FCC database to determine the existence of prior licensed services, and the FCC database to determine if any licensed Earth stations reside within the test area requested. Additional channel quality methods will also be utilized during the each test activation.

4. Antenna Information

No antennas will be installed in a fashion that will require approval under FAA and FCC rules and regulations.

5. Equipment To Be Used

Motorola Solutions expects to conduct the demonstration by deploying up one (1) base station units per channel outdoors and up to one (1) base station units indoors at the Indianapolis location. Motorola will also utilize up to five (5) subscriber units per specified location. Moreover, Motorola Solutions will limit the power, area of operation, and transmitting times to the minimum necessary to support an effective demonstration and collection of data.

D. Protection Against Interference:

Motorola Solutions understands that it must accept interference from any other users of these bands and that all operations by Motorola Solutions will be on a secondary basis and must not cause interference to operations approved to operate in the band. Motorola Solutions will also coordinate with and obtain required consent from existing licensees authorized in the band.

In addition, Motorola Solutions recognizes that multiple STAs might have been requested and granted for operation in the same area to other entities, that these entities must effectively coordinate their operations, and that failure to do so may result in immediate suspension of STA. Motorola Solutions has established a point of contact ("POC") identified below with "kill switch" authority, and it agrees to cease operations immediately upon receipt of request to the kill switch POC.

Motorola Solutions does not expect the proposed operation to cause interference with any licensed operation. Should interference occur, however, Motorola Solutions will take immediate steps to resolve the interference, including if necessary arranging for the discontinuance of operation.

E. Restrictions on Operation:

Motorola Solutions is not seeking authority to perform a market study of unapproved devices under the requested STA. Moreover, the operation will not involve live-duty operations by first responders or others to protect life, property, or safety. In addition, no fees will be charged to entities using the equipment during this test. After the test is completed, Motorola Solutions will disassemble the test facilities.

Entities will be advised in accordance with Section 2.803 of the Commission's rules, 47 C.F.R. §2.803 (2017), that any unapproved devices which have not been authorized as required by the FCC are not being offered for sale or lease, or sold or leased, until authorization is obtained.

F. Public Interest:

Motorola Solutions submits that issuance of an STA as requested is in the public interest, convenience, and necessity. Grant of an STA will help Motorola Solutions to support the development of innovative equipment that will accommodate the communications needs of potential users.

G. Contact Information:

Technical Point of Contact ("POC") and "Stop Buzzer/Kill Switch:"

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