

NARRATIVE STATEMENT

Pursuant to Section 5.3(e)-(h) and Section 5.53 of the Federal Communications Commission's ("FCC") rules, 47 C.F.R. §§ 5.3(e)-(h), 5.53 (2015), Motorola Solutions, Inc., respectfully requests an experimental license to replace its previous licenses granted under call signs WB2XIN and WE2XFT so that it may conduct additional tests and demonstrations of prototype equipment under development for export only operating in the 3300–3550 MHz band and for domestic use in the 3550–3700 MHz band.

The following information is provided in support of this request:

A. Purpose of Operation:

Motorola Solutions, Inc. is a leading manufacturer of mobile radio equipment and systems and is continually engaged in the design and development of new and innovative solutions. It is actively involved in particular with researching and developing wireless data and voice capabilities incorporated into not only enterprise products, but also into non-commercial communications systems.

By this application, Motorola Solutions seeks to test and demonstrate equipment and solutions designed for use outside of the United States in the 3300–3550 MHz band and for domestic use in the 3550–3700 MHz band. It does not propose to test equipment for domestic use in the 3300–3550 MHz band under the requested authority. The 3300–3550 MHz band is used outside the U.S., and Motorola Solutions seeks to research and design equipment and applications optimized in that band to remain competitive with other manufacturers.

Moreover, Motorola Solutions does not propose to market, sell, or lease prototype equipment under the requested authority for operation in the 3300–3550 MHz band within the United States. After the experimentation ceases, Motorola Solutions will recall and recover all test devices.

B. Proposed Locations:

Motorola Solutions proposes to place experimental base stations within a 20 km radius of its corporate facilities at the three locations listed below. Mobiles would operate within a 20 km radius of the base stations. Grant of an experimental license within these boundaries will allow Motorola Solutions to operate at its various test sites and buildings at those two locations.

Schaumburg, IL	NL 42° 04' 17"	WL 088° 03' 21" (NAD83)
Chicago, IL	NL 41° 52' 51"	WL 087° 38' 24" (NAD83)
Winter, WI	NL 45° 52' 37"	WL 090° 58' 00" (NAD83)

C. Technical Specifications:

Application Type/Classification:	XE (Experimental Export Only)
Frequency Band	3300–3550 MHz
Application Type/Classification:	XD (Experimental Developmental)
Frequency Band	3550–3700 MHz
Modulation:	OFDM, unmodulated carrier for reference only
Bandwidth / Emissions Designators:	20M0W7W, 10M0W7W, 7M00W7W, 5M00W7W, 10K0N0N
Antenna Data / Temp. Fixed Stations:	
Power Output (TPO):	4 Watts
Effective Radiated Power (ERP):	100 Watts
Antenna Data / Mobile Units:	
TPO:	2 Watts
ERP:	3.2 Watts

As the modulation bandwidth is scaleable, other emission modes may be utilized, but in no event will the emissions extend beyond the frequency bands requested. In addition, all power levels will comply with the limits set forth in the FCC's rules, including those relating to human exposure to radiation.

D. Equipment To Be Used:

Motorola Solutions proposes to deploy a limited number of units. It expects that it will be able to complete its experimentation and demonstration with a maximum of 12 temporary fixed stations (*i.e.*, 4 temporary fixed stations at each location) and 240 mobile units (*i.e.*, 20 mobile units in the vicinity of each temporary fixed base station location). Motorola Solutions will also limit the power, area of operation, and transmitting times of these units to the minimum necessary to evaluate the equipment.

E. Antenna / Antenna Structure Heights:

The antennas to be installed under this authority will not extend more than six meters (20 feet) above the ground or, if mounted on an existing building, will not extend more than six meters above the building. If an antenna is mounted on an existing structure other than a building, it will be installed in accordance with FAA and FCC rules and regulations.

F. Restrictions on Operation:

Motorola Solutions understands that the FCC permits: (1) companies to enter into agreements and contracts to manufacture products before they are approved; and (2) manufacturers to sell—but not deliver—unapproved products on a conditional basis to wholesalers and retailers. Motorola Solutions also understands that the FCC permits the operation of equipment for, among other things: (1) compliance testing; (2) demonstration at trade shows and other exhibitions with appropriate notices displayed; and (3) evaluation of product performance and customer acceptability at the manufacturer's facilities or at certain non-residential sites during the developmental, design and pre-production stages. See Marketing Rule Revisions, § 2.803; Part 15 Revisions, 6 FCC Rcd 1683, 1685 (1991).

Notwithstanding these general rules, the FCC requires parties to seek authorization to use unapproved devices that will be operated at non-commercial locations. Such authority may be granted under the FCC's experimental rules set forth in Part 5 of the Code of Federal Regulations, 47 C.F.R. Part 5 (2015). Accordingly, Motorola Solutions seeks this experimental license to conduct experimental operations at non-commercial locations, as permitted under Part 5 of the Commission's rules. Those rules permit such operation provided that: (1) participants are advised that the service or device is granted under experimental authority and is strictly temporary; and (2) the devices are owned by the licensee.

Motorola Solutions does not propose to market, sell, or lease prototype equipment to end users or conduct a market study in conjunction with this test. Moreover, no fees will be charged to entities using the equipment during this test. After the experimentation ceases, Motorola Solutions will recall and recover all devices that do not comply with FCC regulations. If any different treatment becomes necessary during the course of its experimentation, Motorola Solutions will seek separate and additional authority from the agency.

Motorola Solutions also recognizes that the operation of any unapproved devices must not cause harmful interference to authorized facilities. It does not anticipate that such interference will occur, as the prototype equipment will operate at low power. Should interference occur, however, Motorola Solutions will immediately take reasonable steps to resolve the interference, including if necessary discontinuing operation.

Motorola Solutions will also monitor the spectrum for amateur radio activities and, in particular, minimize any transmission in the 3450–3460 portion of the band, which is used for weak signal work (in particular 3456MHz). The equipment will utilize Transmit Power Control (“TPC”) capabilities, which will serve to control the RF power to the minimum required to support communications on the channel for the particular path involved.

In addition, entities using the equipment will be advised in accordance with Section 2.803 of the Commission's rules, 47 C.F.R. §2.803 (2015), 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.

G. Public Interest:

Motorola Solutions submits that issuance of an experimental license is in the public interest, convenience, and necessity, as it will permit Motorola Solutions to develop innovative equipment that will accommodate the communications needs of users.

H. Contact Information:

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