

REQUEST FOR 5-YEAR EXPERIMENTAL AUTHORITY
TO CONDUCT INDOOR TESTING OF EQUIPMENT FOR EXPORT-ONLY

Pursuant to Section 5.3 (j) and (m) of the Federal Communications Commission's ("FCC") rules, 47 C.F.R. § 5.3 (j) and (m) (2019), Motorola Solutions, Inc., respectfully requests export only, station code "XE," experimental authority to support its indoor testing of prototype equipment under development for use outside of the United States that will operate in selected UHF bands listed below. Grant of the requested authority will allow Motorola Solutions to return certain business activities associated with the testing of such equipment from locations outside the United States to its company facilities located in Elgin, Illinois.

In addition, Motorola Solutions respectfully seeks an experimental license with a term of five years so that it may conduct tests that are expected to be performed on an on-going basis for at least 5 years and likely 10 or more years, as discussed further below.

The following information is provided in support of this request:

A. Purpose of Operation:

Motorola Solutions, Inc. (FCC Registration Number ("FRN") 0002861649) 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 authority to test, calibrate and perform proof of performance compliance review of equipment prior to export. It does not propose to test equipment for domestic use under the requested authority. Moreover, Motorola Solutions does not propose to market, sell, or lease prototype equipment under the requested authority for operation within the United States.

B. Justification for 5-Year License Term:

Motorola Solutions, together with its predecessor company Motorola, Inc., has been involved in the research and development of radio equipment since 1928. As noted above, it is continually engaged in the design and development of new and innovative solutions. Given the long-term nature and evolution of its research and development activities, Motorola Solutions respectfully requests an experimental license with a term of five years so that it may conduct tests that are expected to continue be performed on an on-going basis for at least 5 years and likely 10 or more years.

Such extended authority will reduce the administrative burdens imposed upon both the FCC and the company related to the processing and costs of multiple renewal applications. Grant of a five-year license would also be in the public interest, as it would

allow the company to focus its resources on its research and development activities rather than on the administrative tasks associated with FCC experimental licensing and renewal application activities.

Moreover, grant of a five-year license would not create undue risks of interference, as the company and its predecessor have conducted operations under the FCC's experimental licensing program for decades with little, if any, instances of interference. Indeed, Motorola Solutions understands that its operations under experimental authority granted by the FCC must be conducted on a secondary, non-interference basis, and Motorola Solutions has implemented numerous safeguards that have been successful in helping ensure against such interference over the years.

C. Proposed Location:

Motorola Solutions proposes to conduct experimental tests indoors at company facilities located at 2540 Galvin Drive, Elgin, Illinois, within a 0.25-kilometer radius of the coordinates 42-05-52 N; 88-20-40 W (NAD 83).

D. Technical Specifications:

Application Type/Classification:	XE (Experimental Export Only)
Frequency Bands:	380-400 MHz, 406.1-430 MHz, 440-470 MHz 806-817 MHz, 851-862 MHz

Motorola Solutions has coordinated its experimental operations with licensees in the 454-459 MHz band and the 809-824/854-869 MHz band in the area of the test location that might be affected by its experimental operations.

In addition, prior to commencing any testing, Motorola Solutions will take steps to avoid any interference from its operations. For example, it will research the FCC's licensing databases to determine the existence of any licensed operations on the spectrum it proposes to use during its testing and will select channels that will not interfere with such operations. It will also perform spectrum scans on the channels it proposes to deploy during its tests and restrict its use of any channels that might cause interference to existing operators. Other interference avoidance methods will also be utilized during each experimental test.

Modulation:	QPSK, Quadrature Phase Shift Keying
Bandwidth / Emissions Designators:	8K10F1D, 8K10F1E; 8K10F1W 9K80D7W, 9K80F1D, 9K80F1E, 9K80F1W, 21K0D1W

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

Power Levels:

All temporary fixed units will operate with a mean effective radiated power of 100mW. All mobile units will also operate with a mean ERP of 100mW.

Motorola Solutions will limit the power, area of operation, and transmitting times of these units to the minimum necessary to conduct its tests.

E. Equipment To Be Used:

Motorola Solutions proposes to deploy a limited number of units during its experimentation. It expects that it will be able to complete its experimentation and with a maximum of 10 fixed devices and 25 mobile devices during any test. Moreover, as noted above, Motorola Solutions will limit the power, area of operation, and transmitting times of these units to the minimum necessary to conduct its tests.

F. Antenna / Antenna Structure Heights:

The antennas to be installed under this authority will operate indoors at the company's facilities. Thus, no antennas will extend more than six meters above the ground or, if mounted on an existing building, extend more than six meters above the building. Moreover, all antennas will be installed in accordance with FAA and FCC rules and regulations.

G. Restrictions on Operation:

As noted above, 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 all operations under the requested authority must not cause harmful interference to authorized facilities. It does not anticipate that such interference will occur, but should such interference occur, Motorola Solutions will immediately take steps to resolve the interference, including if necessary discontinuing operation. Motorola Solutions has designated Greg Buchwald (contact information provided below) as a point of contact ("POC") with "kill switch" authority, and it agrees to cease operations immediately upon receipt of request to the kill switch POC.

In addition, Motorola Solutions would advise users of the equipment that permission to operate the equipment has been granted under experimental authority issued to Motorola Solutions, is strictly temporary and may be canceled at any time.

H. 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. Moreover, as noted above, grant of the requested authority will allow Motorola Solutions to return certain business activities associated with the testing of such equipment from locations outside the United States to its company facilities located in Elgin, Illinois.

I. Contact Information:

Motorola Solutions Technical Point of Contact and "Stop Buzzer/Kill Switch:"

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