

**Motorola Solutions, Inc.  
Modification of XE Experimental License WK2XOZ  
ELS File No. 0124-EX-CM-2023**

**NARRATIVE STATEMENT**

Pursuant to Section 5.54 of the Commission's rules, 47 C.F.R. §5.54, Motorola Solutions, Inc. ("MSI") respectfully requests a modification of its conventional experimental license issued under call sign WK2XOZ, which authorizes MSI to conduct low power testing of base station and subscriber devices indoors within its production facilities. Its current license authorizes such operations at MSI facilities located in Elgin, Illinois. By this application, MSI seeks a modification of its license to conduct operations almost identical to those authorized under its current license (with some changes in bands, as discussed below) at its production facilities located in Allen, Texas. In addition, MSI seeks to operate in the band 851-862 MHz and add flexibility to test different emissions at both locations.

In support of this request, the following is shown:

**1) Applicant's Name, Address, and FCC Registration Number ("FRN"):**

Motorola Solutions, Inc. (FRN: 0002861649)  
Attention: Frank Korinek  
1455 Pennsylvania Avenue, N.W., Suite 900  
Washington, DC 20004

**2) Contact Information:**

**Technical Point of Contact ("POC") and "Stop Buzzer POC:**

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**FCC Contacts:**

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**3) Description of Operation and Purpose of Test:**

MSI requests authority to perform very low power testing of two-way mobile radio systems designed to operate under the TETRA and Project 25 (P25) standards at a second location, at Allen Texas. The purpose of these transmissions is to test, calibrate and perform proof of performance certification of production equipment prior to shipment. As noted above, MSI also seeks to operate on 851-862 MHz and add flexibility to test different emissions at both locations.

Equipment to be operated will include both base station infrastructure equipment and subscriber devices. All of the tested devices are being manufactured to be exported out of the United States or for U.S. Federal Agencies so the requested frequency bands include allocations that are not normally available for non-government users in the United States. Grant of this application will enable MSI to continue pursuing global market opportunities while generating US-based employment opportunities. Grant of this application will also allow MSI to continue to develop and produce equipment for Federal system deployment.

Equipment utilized during these tests will operate at low power levels. All base station equipment will terminate into RF attenuators to ensure that conducted RF output levels will be reduced to a maximum level of 0dBm/1mW. Tests will be conducted indoors at the Elgin. MSI will limit the power, area of operation, and transmitting times to the minimum necessary to support an effective indoor, immediate area demonstration and collection of data. MSI proposes to limit emissions levels at the physical confines of the building to -90dBm or lower.

**4) Classes of Stations and Number of Units:**

Fixed: Up to 10 units at any given time per location, not to exceed 20 units in the aggregate under the license at both locations.

Mobile: Up to 25 units at any given time per location, not to exceed 50 units in the aggregate under the license at both locations.

**5) Address of New Location and Proposed Operations:**

A limited number of temporary fixed and portable would be operated indoors only within a radius of 0.25 kilometers of the additional test site located at:

415 E Exchange Pkwy  
Allen, Texas 75002

Coordinates: N33° 07' 01.0"; W096° 39' 39.0" (NAD83)

**6) Equipment To Be Used:**

During the term of this license, the equipment to be utilized will include, among other devices:

- GTR8000 Base Station radio
- APX-family of subscriber units including APX8000, APX7000, APX6000, APX4000 devices, and APX3000.
- MTS1, MTS2, and MTS4 Tetra Base Stations
- ST7000, MTP8000EX, ST7500, MTP3000, MTP6650 Tetra subscribers

**7) Frequencies Requested at New Location:**

- 406.1-420 MHz (for U.S. Federal agency use)
- 410-430 MHz (TETRA; export only)
- 380-400 MHz (P25 for U.S. Federal agency use)
- 440-450 MHz (P25; export only)
- 440-470 MHz (P25 and TETRA; export only)
- 806-817 MHz/851-862 MHz (P25 and TETRA; export only)

MSI notes that its current experimental license authorizes it to conduct tests on 255 MHz and in the band 350-380 MHz. MSI continues to need a license to operate on those frequencies at its location in Elgin, Illinois. It does not seek a license to operate on 255 MHz and in the band 350-380 MHz. bands at its facilities located in Allen Texas. MSI also notes that its current license does not authorize the use of the 851-862 MHz band paired with 806-817 MHz. Accordingly, it seeks to add the 851-862 MHz band to both its new location at Allen, Texas, and its current location at Elgin, IL.

**8) Power Levels:**

All devices, FX and MO, will be attenuated to a conducted power level not to exceed 1 mW transmitter power output (“TPO”) and a mean effective radiated power (“ERP) of 10 uW.

**9) Type of Emission, Modulation Technique, and Bandwidth Required:**

MSI proposes to operate using APCO Project 25 phase 1 and phase 2 waveforms on the downlink and up link allocations. In addition, MSI also proposes to utilize TETRA waveforms on downlink and uplink allocations. Emission designators requested are listed below. 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 the Allen, TX 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 each test activation.

- TETRA: 21K0D1W
- P25: 8K10F1D, 8K10F1E; 8K10F1W
- P25 phase 2: 9K80D7W, 9K80F1D, 9K80F1E, 9K80F1W

**10) Overall Height of Antenna(s) Above Ground/Orientation:**

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

Antennas utilized will be located indoors with an efficiency not to exceed 0dBi. Antennas will be located no higher than 2 meters above floor level on the ground floor of the interior of the building. No outdoor antenna placements will be utilized.

**11) Protection Against Interference:**

MSI understands that it must accept interference from any other users of these bands and that all operations by MSI will be on a secondary basis and must not cause interference to operations approved to operate in the band. MSI has established a point of contact ("POC") identified above with "stop buzzer" authority, and it agrees to cease operations immediately upon receipt of request to the POC.

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

MSI will coordinate its experimental operations with licensees in the 454-459 MHz band and the 809-824/854-869 MHz band within 1 mile of the contours of the testing location, as the proposed operations are low power.

**12) Restrictions on Operation:**

MSI is not seeking a license to perform a market study of unapproved devices. All tested equipment will remain under control of MSI.

**13) Public Interest Statement:**

MSI submits that issuance of a modified experimental license as requested is in the public interest, convenience, and necessity. Grant of such modification will help support MSI's efforts to develop innovative equipment that will accommodate the communications needs of potential users. In addition, grant of an experimental license would allow MSI to utilize U.S. labor to produce equipment for export purposes.