

**The State of Texas
Application on FCC Form 442
for an Experimental License
OET File No. 0636-EX-PL-2011**

NARRATIVE STATEMENT

Pursuant to Sections 5.51 and Section 5.53 of the Commission's rules, 47 C.F.R. §§ 5.51, 5.53 (2010), The State of Texas, hereby respectfully requests an experimental license for a period of nine months from date of grant to operate in the 763-768/793-798 MHz band for the purpose of testing and optimizing broadband Long-Term Evolution ("LTE") coverage for public safety in the Harris County, Texas and College Station, Texas areas.

The submission of this application also serves to replace and extend the existing special temporary authority ("STA") held by the State of Texas granted under File No. 0423-EX-ST-2011 and issued under call sign WE9XZS, which is currently scheduled to expire on January 15, 2012. This application incorporates the same six sites and associated technical parameters previously authorized under that STA, and adds eight new proposed sites to conduct additional tests. The State understands that the extension applies only to the operations authorized (and as conditioned under that STA) and that it must wait action on this application for a regular license before it may operate at the new sites proposed in this application

A. Purpose of Operation and Need for an Experimental License:

The State of Texas is a leader in new and innovative communications solutions for public safety. The Commission granted a conditional waiver to the State for the use of the 763-768/793-798 MHz band, the State and the Public Safety Spectrum Trust ("PSST") have entered into a spectrum lease agreement, and the Commission has approved that lease.¹ The Commission has not yet approved the State's interoperability showing, however. Thus, an experimental authorization is required to support coverage testing and optimization. Specifically, the experimental authority requested herein will allow the State and its constituent jurisdiction, Harris County, to test and optimize the coverage and functionality of broadband operations in the Harris County area.

B. Locations of Proposed Operation:

The State of Texas and Harris County, TX propose to conduct testing using fourteen fixed base station transmitter antennas located on existing communications towers at the following locations, communicating with portable units. The radius of

¹ See *Requests for Waiver of Various Petitioners to Allow the Establishment of 700 MHz Interoperable Public Safety Wireless Broadband Networks*, PS Docket No. 06-229, Order (rel. May 12, 2011) (granting the waiver); see also Public Notice, DA 11-1074 (rel. June 17, 2011) (approving a long term *de facto* transfer lease agreement filed by the State of Texas).

coverage for the portable units is one of the parameters to be determined through the testing. The addresses and approximate coordinates (in NAD83 Datum) where the fixed stations will be deployed are:

Interstate 10 @ South Lynchburg Road Baytown, TX 29° 47' 25" North Latitude 95° 03' 38" West Longitude 365 Watts ERP; 100 feet AGL	Choate Road, Pasadena, TX 29° 37' 11" North Latitude 95° 02' 46" West Longitude 365 Watts ERP; 120 feet AGL
Pasadena Freeway Frontage Road at Fred Hartman Bridge Pasadena, TX 29° 42' 06" North Latitude 95° 01' 16" West Longitude 365 Watts ERP; 130 feet AGL	14350 Wallisville Road Houston, TX 29° 48' 19" North Latitude 95° 11' 33" West Longitude 365 Watts ERP; 150 feet AGL
6900 North Gessner Drive Houston, TX 29° 52' 06" North Latitude 95° 32' 31" West Longitude 365 Watts ERP; 150 feet AGL	12230 West Road Houston, TX 29° 54' 15" North Latitude 95° 35' 56" West Longitude 365 Watts ERP; 155 feet AGL
198 Joe Routt Blvd College Station, TX 30° 36' 34" North Latitude 96° 20' 30" West Longitude 422 Watts ERP; 230 feet AGL	8190 N Main Street Baytown, TX 29° 49' 13" North Latitude 94° 57' 51" West Longitude 394 Watts ERP; 120 feet AGL
4309 West Baker Road Baytown, TX 29° 46' 15" North Latitude 95° 00' 43" West Longitude 394 Watts ERP; 120 feet AGL	10155 Pinehurst Drive Baytown, TX 29° 48' 02" North Latitude 94° 54' 23" West Longitude 422 Watts ERP; 100 feet AGL
6500 Sheldon Road Channelview, TX 29° 49' 02" North Latitude 95° 07' 28" West Longitude 394 Watts ERP; 120 feet AGL	Matthew Lane Baytown, TX 29° 42' 39" North Latitude 94° 56' 12" West Longitude 422 Watts ERP; 100 feet AGL
6922 Katy Road Houston, TX 29° 46' 58" North Latitude 95° 26' 27" West Longitude 422 Watts ERP; 100 feet AGL	17611 Smooth Rock Falls Drive Spring, TX 30° 01' 56" North Latitude 95° 31' 39" West Longitude 394 Watts ERP; 120 feet AGL

C. Technical Specifications:

1. Frequencies Desired

The State of Texas requests authorization to operate in the band the 763-768/793-798 MHz public safety block licensed on a nationwide basis to the Public Safety Spectrum Trust ("PSST").

2. Effective Radiated Power

The base stations will be configured to operate at a maximum peak power levels as shown in the table in Section B above. The portable units to be deployed are configured to operate at a maximum peak power level of 2.5 Watts ERP.

All power levels will comply with the limits set forth in the FCC's rules, including those relating to human exposure to radiation. The State will evaluate environmental considerations to ensure compliance with Section 1.1306 of the FCC's rules, 47 C.F.R. § 1.1306 (2010), and, in particular, the human exposure requirements set forth in FCC OET Bulletin No. 65.

3. Modulation and Emissions

The State proposes to operate using OFDM modulation. The primary emission designators are 5M0G7D, 5M0W7W, 5M0G2D and 5M0D7D. Other emission modes may be utilized, but in no event will the emissions extend beyond the frequency bands requested.

4. Antenna Information

The fixed base station transmitter antennas will be located outdoors at the fourteen sites specified above. The antenna elevation above ground level for each site is noted in the table in Section B.

The mobile/portable antennas will be installed at a height not greater than six meters above ground when used outdoors or at various locations as needed for testing when used indoors. No antennas will be mounted in a fashion that will require approval under FAA and FCC rules and regulations.

5. Equipment To Be Used

The State of Texas and Harris County will conduct its testing with fourteen LTE eNodeB base units (one per location) and up to ten mobile/portable units per location, but not more than 100 mobile/portable units in the aggregate for all locations.

D. Protection Against Causing Interference:

As noted above, the State of Texas has requested authority to operate in the 763-768/793-798 MHz public safety block licensed on a nationwide basis to the Public Safety Spectrum Trust ("PSST"). The State already has a spectrum lease with the PSST that has been approved by the FCC.

The State's technical advisor searched the Commission's TV database to determine what if any licensed Low Power TV stations are in the area. No licensed co-channel or adjacent channel LPTV stations were found within interference range of the proposed operation. LPTV station KOAB-LP is licensed for operation on channel 69 in Beaumont, TX, approximately 50 miles away from the closest point of Harris County. In addition, Channel 69 (800-806 MHz) is 2 MHz away from 798 MHz, the topmost frequency for the proposed operation. No interference should result from the proposed operation. A translator station application to operate on channel 62 (758-764 MHz) in Vidor, Texas was listed in the FCC's data base, however, there is no indication that any authority to operate has been granted. Vidor is over 60 miles from the closest point of Harris County where the proposed testing will be conducted, so even if the Vidor translator application were granted during the term of the requested experimental license, no interference should result.

Furthermore, under the Commission's rules all LPTV stations must vacate the 700 MHz band by December 31, 2011, prior to the operations proposed in this application.

The State's technical advisor also conducted a search of the Commission's Universal Licensing System ("ULS") database to determine if there are any potential interference conflicts with other public safety operations. While Harris County obtained a waiver from the Commission to operate narrowband 700 MHz operations under the former bandplan, there are no current operations that overlap the 763-768/793-798 MHz public safety broadband spectrum. No other co-channel public safety authorizations were found with which the proposed experimental operation would conflict.

E. Restrictions on Operation:

The State of Texas recognizes that the operation of any equipment under experimental authority must not cause harmful interference to authorized facilities. Should interference occur, the State will take immediate steps to resolve the interference, including if necessary arranging for the discontinuance of operation.

F. Public Interest:

The State of Texas submits that issuance of an experimental license as requested is in the public interest, convenience, and necessity. Grant of an experimental license will help the State and its constituent jurisdiction, Harris County, to test innovative equipment that will accommodate the communications needs of the public safety community.

G. Contact Information:

For questions about this application, please contact:

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In the unlikely event interference concerns should arise during the license period of authorization, please contact:

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