



COUNTY OF LOS ANGELES
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November 3, 2004

FEDERAL COMMUNICATIONS COMMISSION
Experimental Radio Service
P.O. Box 358320
Pittsburgh, PA 15251-5320

Dear FCC Application Processing Agent:

APPLICATION FOR EXPERIMENTAL LICENSE

The County of Los Angeles is applying Federal Communications Commission's Experimental License to conduct airborne video tests in the 4.9 GHz spectrums. The objective and description of the experiment are as follow:

DETAIL DESCRIPTION: Since the allocation of 4.9 GHz spectrums for Public Safety broadband application by the Federal Communications Commission, the County of Los Angeles has obtained a radio license under CallSign WPYL274 to operate on this band. The County of Los Angeles with support from the FCC 700MHz Regional Planning Committees for Southern and Northern California (RPC 5 & 6) has also obtained a letter of endorsement from National Public Safety Telecommunications Council (NPSTC) for the FCC Experimental License.

The purpose for the FCC Experimental License is to request authorization for the Los Angeles County Sheriff's Department to install a microwave transmitter in one of its helicopters to operate in the 4940-4990 MHz spectrums to participate in a series of tests to identify potential interference that may exist between Public Safety operators in the ground and in the air using the same radio frequencies. The venue for these tests will be held in the Greater Los Angeles Basin and will include the County of Los Angeles, Orange County, and San Bernardino County where the helicopter will transmit a narrowband video signal to remote site in a designated receiver location using a directional antenna. Other entities participating in these test events include NASA's Jet Propulsion Laboratory in Pasadena, California and NASA's Goldstone Tracking Facility near Barstow, California which will monitor for any potential interference to Radio Astronomy research frequencies. The Los Angeles County Emergency Operations Center located at 1277 North Eastern Avenue, Los Angeles, California will be the focal point where all 4.9 GHz ground and airborne signals will be viewed and evaluated for potential interference by using large projector screens and monitors available at this facility. The ground operators using 4940-4990 MHz spectrum will include point-to-point and point-to-multipoint distribution systems plus in-car video operations and SWAT video backpacks for transmission to a tactical command center. The logistic and detail of the experiment,

and relevant testing equipment specification can be viewed from the Internet Web Site at <http://publicsafetycommunications.org/Wi-Fi-1.php>.

The results obtained from these tests will benefit public safety agencies in the Los Angeles area and across the nation in spectrum planning and potential application of the newly allocated 4940-4990 MHz spectrum.

PARTICIPATING ENTITIES: The experimental tests will be conducted with joint efforts from Public Safety agencies and private equipment manufacturers. These entities included the Los Angeles County Sheriff's Department, Los Angeles County Emergency Operations Center, 4.9 GHz Public Safety Resource Center, Alvarion, CelPlan Wireless Global Technologies, IBM, Padcom Inc., Proxim, LPN Wireless, Motorola, Microwave Radio Communications, Global Microwave Systems, Western Technical Services, and Terabeam Wireless.

LOCATION AND DURATION: The test will be conducted in the Greater Los Angeles Basin including the County of Los Angeles, Orange County, and San Bernardino County. The primary airborne video downlink receiver will be at the County of Los Angeles' Rio Hondo Microwave Site located at N34-01-05 and W118-00-46 and San Bernardino County's Heaps Peak in the San Bernardino Mountains at N34-13-56 and W117-16-38 based on NAD 27 datum.

The tests will begin on January 20, 2005 and it will last one week duration.

CONTACT PERSONS: For questions on FCC Experimental License Application, please contact Mr. Gary Poon at (323) 267-3004. For questions involving the test events, please contact Mr. Mike Doble at (925) 735-9848 or Mr. Jesse Loera at (323) 267-2874.

RADIO MAKE & MODEL: There will be two manufacturers providing testing equipment for the airborne video – Global Microwave Systems (GMS) and Microwave Radio Communications (MRS).

GMS will provide two RF video links - one for a portable camera and the other for a helicopter down link. Both will use standard 100mW output COFDM transmitters but modified for narrow bandwidth modulation. The new envelope will occupy 2.5MHz bandwidth with 500 carriers rather than the standard broadcast 8MHz bandwidth with 2000 carriers. The Modulation on the carriers will be QPSK. For the portable video application, GMS will provide a 6dB gain antenna to keep the ERP below 30dBm. In the helicopter link, the antenna will be 10dB gain antenna to obtain a maximum ERP of 30dBm.

Similarly, MRS will provide video down link equipment to operate in 4.9 GHz Band. The microwave radio will use COFDM modulation with maximum output ERP of 30dBm. MRS will be using a 15dB gain antenna to achieve the required ERP output. The video bandwidth will occupy 6 MHz of spectrums with 2000 carriers modulated with QPSK.

OPERATING FREQUENCIES: The experiment will test various blocks of spectrums within 4940 to 4990 MHz band to evaluate potential interference and compatibilities between airborne and ground units. The tests will also be monitored by NASA's

Goldstone Tracking Facility in Barstow California for potential interference to Radio Astronomy research frequencies. The County has provided relevant test data to NASA's Jet Propulsion Laboratory in Pasadena, California for theoretical analysis.

Should the Commission have any questions or require additional information on the County of Los Angeles' Application for Experimental License, please contact my engineering staff, Mr. Gary Poon at (323) 267- 3004.

Very Truly Yours,

Richard Granado, Division Manager
Radio Systems Division