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**Federal Communications Commission
Office of Engineering and Technology
Experimental Licensing Branch
445 12th St., S.W.
Room 7-A322
Washington, DC 20554**

To Whom it May Concern,

On behalf of ImSAR LLC I would like to apply for a modification of Experimental License Call Sign WE2XVR to further the development radio transmitter geo-location technology. Active transmitters using a simple QPSK transmission will be required and passive receivers will be used to perform estimates of transmitter location.

The transmitter will be operated on an occasional basis of a few times per month for roughly an hour each time it is used. The intended end user of these experimental systems will be predominantly the US agencies.

We have operated up to this point using experimental license call sign WE2XVR.

I hope the attached document has sufficient information to enable a favorable approval of an experimental license.

Sincerely,
Adam Robertson
Vice President
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Necessary Bandwidth Description:

The transmitter is QPSK modulated with modulations of 20, 10, 5, 2.5, and 1.25 M baud. Using NTIA Annex J, 'Guidance for Determination of Necessary Bandwidth', and the description of emission 'Phase Shift Keying', the bandwidth is calculated as,

$$B = 2 RK / \log_2 S$$

Where,

R = bits per second

K = 0.7 to 0.8 (typically)

S = signaling states

For the experimental system referred to in the experimental license application,

R = 20, 10, 5, 2, or 1.25 M baud

K = 4 for QPSK

K = 0.7 (estimated)