

## EXPERIMENTAL LICENSE APPLICATION

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The purpose of this Experimental License application is to get the opportunity to prove that The “white spaces” relevant to certain data and voice channels on HF can be used for effective data communications without interfering with existing communications.

It is proposed to use the very low power of one watt (1W erp) and a maximum of 40 hertz bandwidth. Proposed test frequencies are in the ITU Appendix 25 NBDB and voice channels in the 4, 6 and 8 MHz bands. Emission to be used is F1B. Consequently, the designator will be 040HF1D

NVIS technology will be used to limit the radiation to 300 Km. Hence, the potential for interference of any existing communications is extremely limited. Due to the simplicity and low cost involved this technology is of great interest to both government and private industry interested in the transfer of low volume sensor data.

The narrow bandwidth and low power involved makes this a very attractive spectrum efficient technology. The equipment and concept has already been tested on the HAM bands where the radiation was limited to 150 Km.

The low power SDR equipment (Syt Sdr-1) has been designed by Sytheros Communications LLC. Similar equipment is not currently available from any other manufacturer. There are no existing facilities and similar spectrum in use to accommodate the proposed tests

Communications on adjacent voice and NBDB channels will be monitored to ensure there is no detectable interference during periods of test transmissions.

### Frequency Summary:

4 MHz frequencies are between NBDB channels 406 and 407 and voice 405 and 406  
6 MHz frequencies are between NBDB channels 606 and 607 and voice 607 and 608  
8 MHz frequencies are between NBDB channels 806 and 806 and voice 824 and 825

Any evidence or reports of interference will result in immediate corrective action.

Subsequent to successful test and proof of concept, additional appropriate spectrum, below 10 MHz, might be sought in accordance with appropriate licensing.

For more information relative to this application, contact:

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