

Michael E. Ports would like to experiment with short antenna design and transmitter design and testing in the following frequency bands, 135.7 kHz to 137.8 kHz and 472 kHz to 479 kHz.

The purpose of this experiment is:

- I. Investigate radio propagation in the LF/MF wavelengths over a portion of the solar cycle as well as day and night communication possibilities.
- II. Create an effective short antenna design that is effective radiating RF energy on a small lot and easily installed.
- III. Investigate cost effective transmitters for narrow band communications in the LF/MF range.
- IV. Possible communications with other experimental stations using narrow band modulation such as A1A (CW), QRSS 3, JT-9, JT-65, WSPR and PSK31.

The transmitter designs will meet all FCC spurious and harmonic requirements with no interference to primary users of this spectrum. The transmitter power is expected to be in the 250 watt range with no more than 30 dBm ERP. The preliminary power is expected to be 17 to 20 dBm ERP. The antenna highs would be less than 15 meters.

The goal is to provide free technical information to the Amateur Radio community once LF/MF frequencies are made available for normal narrow band communications.

Respectfully submitted,

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Owner/Operator