

From: Charles Knoderer

To: Doug Young
Date: July 24, 2014

Subject: Request for Info - File #0562-EX-PL-2014

Message:

The emissions designator should be 12M7P0N. This is what this instrument was last designated as. The online form only had individual letters for me to use.

I tried uploading a couple of attachments, but I am not sure they were properly uploaded.

(Reference: Necessary Bandwidth Description)

Simple calculation using the minimum 400 nanosecond pulse/code cell durations yields:

Signal Level Bandwidth;

Below Peak;

-3 dB 2.2 MHz

-10 dB 3.7 MHz

-20 dB 12.7 MHz

These values have been confirmed by measurement.

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(Reference: Modulating Signal Description)

The pulse duration is adjustable from 400 nanoseconds to 12 microseconds.

Bi-phase (180°;)

modulation may be employed in minimum intervals of 400 nanoseconds.

The pulse repetition frequency is also adjusted to the mode of operation, but cannot

exceed 50 KHz.

This application is for a wind profiling radar system. This system was developed in a cooperative research and development agreement between the National Oceanic and Atmospheric Administration (NOAA) and the wind profiler business unit of Vaisala Inc. Wind profiling radar depends on the scattering of a transmitted signal by irregularities in the index of refraction of the air. The irregularities are caused by turbulent eddies created by the wind. By receiving the scattered signal and determining the Doppler frequency, the speed of the wind can be determined. The hardware involved will be a receiver/modulator, a final amp/preamp, a digital control and data processor, and an antenna system. These items were developed at NOAA and fabricated by Vaisala Inc. Data from the profiler under this license will provide hourly and sub-hourly profiles of low level wind between 100m and 5,000m.

The system to be owned and operated by Sonoma Technology, Inc. under this request will collect wind profiles of the atmosphere above Bena Landfill (35.346915°N, 118.757995°W) for the University of California (UCD). The purpose of the study is to provide upper-air meteorological data in the Tehachapi region of Southern California to support meteorological modeling and forecasting. These data will also be saved into the meteorological information database and used as input into future event prediction models.