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NOAA Special Report

MEASUREMENTS OF WIND PROFILER EMC CHARACTERISTICS

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ABSTRACT

This report provides the results of measurements that were conducted on a 404.37 MHz wind profiler located in Platteville, Colorado. These measurements included: radiated spectra (both high and low mode), radiated harmonic and subharmonic power measurements, characterization of the antenna frequency response, determination of the radiated antenna gain values near ground level, susceptibility of profiler performance to interference from selected emission waveforms, and the effects on a typical land mobile/amateur operation from wind profiler emissions. In addition, the report presents a detailed wind profiler system description including operations/functions, system hardware, digital signal processing, as well as an analytical estimation of the interference effects on profiler performance. The information contained within this report can serve as an aid in conducting electromagnetic compatibility (EMC) analysis to determine compatibility between wind profilers and other systems.

KEY WORDS

Wind Profiler Characteristics
Wind Profiler Interference Susceptibility
Wind Profiler Radars
Wind Profiler Radiated Measurements
Wind Profiler System Description

PRODUCT DISCLAIMER

Measurement and radio equipment are mentioned in this report to adequately explain the wind profiler system and the measurement procedures. In no case does such identification imply recommendation or endorsement by the National Telecommunications and Information Administration or National Oceanic and Atmospheric Administration, nor does it imply that the equipment identified is necessarily the best available for these applications.

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