

Abstract Submitted  
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**Recent progress in developing a 170 GHz, 500 kW gyrotron for testing ITER transmission line components** KEVIN FELCH, MONICA BLANK, PHILIPP BORCHARD, PAT CAHALAN, STEVE CAUFFMAN, Communications and Power Industries — A 170 GHz, 500 kW CW gyrotron has been developed for testing ITER transmission line components. Although specified as a 500 kW source, the electrical design has been conceived with the goal of generating up to 1 MW of continuous output power. The design employs a double-anode electron gun, an interaction cavity operating in the  $TE_{31,8}$  cavity mode, a three-mirror internal converter to produce a fundamental Gaussian output beam, a CVD diamond output window and a depressed collector to safely dissipate the spent electron beam power. Fabrication of the gyrotron is nearly complete and initial high-power tests will soon be carried out. Details of the gyrotron design, results of low-power tests on the internal converter and initial high-power tests will be presented.

Kevin Felch  
Communications and Power Industries

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