

Master 2020

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Design and Characterization of 20 W Ultra-Wideband Power Amplifier for the Frequency Range 0.35 to 8 GHz.

ABSTRACT - Masterthesis

In this master thesis, a broadband power amplifier for the frequency range of 0.35 to 8 GHz is designed and characterized. Different transformation methodologies are implemented and characterized for GaN transistors CG2H80015D and CGHV1J025D from CREE manufacture using single ended circuit topology. The hybrid-MIC assembly technology is implemented for 25 Ω and 50 Ω output transformation networks for the proof of concept. The prototypes delivers minimum 10 W of saturation power with gain greater than 10 dB throughout the bandwidth. Stable and thermally balanced prototypes using short bond wires working broadband are manufactured and assembled.