

Printed Electronics at Western Michigan University

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Abstract

Recent research in printed electronics from our group is reviewed. Functional materials are being developed and optimized for various printing methods, such as ink-jet, gravure and flexographic printing. In particular, flexography and rotogravure printing have been employed to print RFID antennae using metallic inks. Other materials under study include conductive, semiconductive, dielectric and resistive materials for printing integrated circuits used in RFID chips on paper and paperboard substrates. Effects of printing process parameters and in depth study of paper properties are in the progress. New testing procedures and application of known testing methods are used to predict ink performance during printing, ink-paper interactions and final performance. Antenna and tag performance have been extensively characterized in our RFID testing laboratory.