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VINMES Special Issue – Novel Trends in Electronics Technology

EDITORIAL

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The topic of this edition is *VINMES Special Issue - Novel trends in electronics technology* with a focus on the latest trends, developments and future applications in the field of the microelectronics appliances. Electronics technology is one of the most rapidly progressing fields of engineering science. In this multidisciplinary field, new materials and technological processes appear year by year, immediately becoming an important and indispensable part of the electronics assemblies. The innovations in electronics increasingly demand precise, fast and cheap production technologies. Therefore, picking up the new solutions of the field is more important than ever. The aim of this special issue is to give a brief overview about the latest researches in electronics technology which can become important innovations in the near future.

The corresponding authors of this special issue are young researchers from the V4 Visegrad countries. They participate in numerous significant international R&D projects sponsored by the European Union and collaborate with industrial partners who can utilise the new innovations directly. This special issue focuses on electronics technology in the following fields:

- designing high resolution metallization on Low Temperature Co-fired Ceramic (LTCC) substrate for an experimental 3-D antenna in sub-THz scanner;
- designing and realizing a planar inductive sensor system used for proximity sensing based on Low Temperature Co-fired Ceramics (LTCC);
- analysing nano-ink layer structures on different polymer substrate surfaces deposited by inkjet printing technology;
- investigating the effect of topologies and ionic liquid electrolytes on the performance of organic electrochemical transistors;
- using vacuum and ultrasound waves in order to enhance the activation process of the electrolytes during through-hole copper plating process of Printed Circuit Boards (PCBs);
- summarizing the research results of BME-ETT about the advances in producing functional electronic devices on environmental friendly Printed Circuit Boards (PCBs);
- using electroanalytical tests to investigate the corrosion behavior of various lead-free solder alloys in 3.5 wt% NaCl bulk solution under room temperature;
- application possibilities of Failure Mode and Effect Analysis (FMEA) and Design of Experiments (DOE) optimization methods to improve experimental research processes in soldering.

The papers of this special issue reflect on the major trends and results in modern engineering science which are chiefly engaged with: (i) different application possibilities of LTCC technology (ii) inkjet printing technology; (iii) organic electrochemical transistors; (iv) innovations in the field of PCB technology; (v) reliability problems and optimization of lead-free soldering. These topics may serve the interest of the readers of Periodica Polytechnica Electrical Engineering and Computer Science (PP EECS).

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