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## ON THE INVESTIGATIONS OF CHIP-ON-BOARD ULTRA-VIOLET SENSOR BY SCREEN PRINTING OF GaN POWDER

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**ABSTRACT-** In this work, the characteristics of a chip-on-board screen printed GaN UV sensor was investigated. On the sensing material, GaN powders were obtained through ammonolysis of Ga<sub>2</sub>O<sub>3</sub> at 1000°C under NH<sub>3</sub> flow. The XRD result revealed the polycrystalline nature of hexagonal wurtzite GaN. For the fabrication of the UV sensor platform, soft-lithography was employed in patterning a copper clad board. About 20 pairs of interdigitated electrodes with 127 μm spacing were produced. For the screen printing process, GaN powder is mixed with PVP binder, subsequently deposited on the electrode pairs. The overall UV sensor showed three times of changes in sensing current upon illumination. The preliminary works showed the possibility of simple designing and fabricating process of a GaN based UV sensor.

**Keywords:** GaN powder, UV sensor, chip-on-board.