

나노 금속산화물을 이용한 유단말용 환경 모니터링 서브 시스템

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Environmental Monitoring Sub-System for Ubiquitous Terminal Using Metal Oxide Nano-Material Gas Sensor

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Abstract : Environmental monitoring sub-system has been developed using gas sensor module, Bluetooth module and PDA phone. The gas sensor module consists of NO₂ or CO gas sensor and signal processing chips. Gas sensor is composed of the micro-heater, sensing electrode and sensing material. Metal oxide nano-material was selectively deposited on a substrate with micro-heater and was integrated to the gas sensor module. The change in resistance of the metal oxide nano-material due to exposure of oxidizing or deoxidizing gases is utilized as the principle of this gas sensor operation mechanism. This variation detected in the gas sensor module was transferred to the PDA phone by way of Bluetooth module.

Key Words : metal oxide nano-material, gas sensor, environmental monitoring