

Microwave backscatter modulation systems

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Backscatter modulation is frequently used in microwave tagging or sensor systems for interrogating remote devices. This paper describes, in the first part as an overview, three commonly used interrogator setups for backscatter modulation systems. In the second part, a novel interrogator topology is presented which is part of an active read/write microwave tagging system. A combination of backscatter modulation with frequency hopping methods is applied in the presented tagging system in order to cope with multiple reader multiple tag environments. Measured results of an experimental tagging system setup operating in the 2.4-GHz ISM band are presented which show the performance of the proposed interrogator.

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