Abstracts

Imaging RFID system at 24 GHz for object localization

M.M. Kaleja, A.J. Herb, R.H. Rasshofer, G. Friedsam and E.M. Biebl. "Imaging RFID system at 24 GHz for object localization." 1999 MTT-S International Microwave Symposium Digest 99.4 (1999 Vol. IV [MWSYM]): 1497-1500 vol.4.

A new RFID system for the ISM band at 24 GHz employing quasi-optical beam forming is presented. Active integrated antennas are used as transmitters resulting in exceptionally small size of the ID-tags. Identification codes are transmitted via a spread-spectrum modulated subcarrier that allows for very simple free running microwave oscillators as well as simple but highly selective receiver concepts. A dielectric lens and a 5/spl times/5 rectenna array comprise an imaging receiver that not only identifies but also localizes the tags with an angular resolution better than 3/spl deg/ at a distance up to 14 meters.

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