Abstracts

A new millimeter-wave step-frequency radar sensor for distance measurement

Joongsuk Park and Cam Nguyen. "A new millimeter-wave step-frequency radar sensor for distance measurement." 2002 Microwave and Wireless Components Letters 12.6 (Jun. 2002 [MWCL]): 221-222.

A new compact millimeter-wave distance-measurement sensor prototype has been developed. The sensor is a step-frequency radar implemented using coherent heterodyne technique. It operates in Ka-band (26.5-40 GHz) and is realized using MICs and MMICs. The sensor transmits sinusoidal signals of incremental frequencies and demodulates the received signals into base-band I/Q signals for processing. Experimental results show that the sensor is capable of measuring distance with less than 0.2 inch of absolute error and a low transmitted power of only -20/spl plusmn/3 dBm.

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