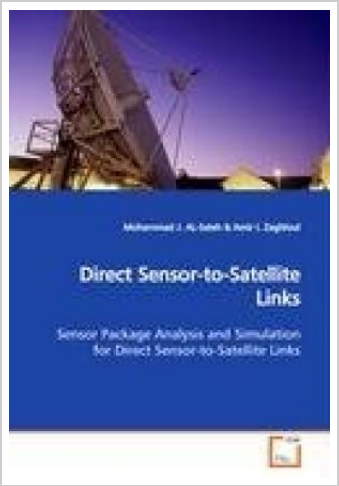

Direct Sensor-to-Satellite Links

By Saleh, Mohammad J. Al

Condition: New. Publisher/Verlag: VDM Verlag Dr. Müller | Sensor Package Analysis and Simulation for Direct Sensor-to-Satellite Links | This book investigates the design and the performance of low-power microsensors that communicate directly to a satellite or a constellation of satellites. Information is spread using pseudo noise (PN) or Barker codes. The sensors use a single circular microstrip patch element with a wide beamwidth or a miniature phased array antenna that continuously scans to access the satellite(s). The array beam is controlled with a beam-forming network (BFN), which contains 3 or 4-bit phase shifters, which can be made in micro-electro-mechanical systems (MEMS) or in monolithic microwave integrated circuits (MMIC). The antennas are designed using array simulation program called ARRAY and the results are used in another simulation program called Advanced Design System (ADS) to simulate the whole sensor package that uses one of the antennas. The simulation results show that a sensor as small as 2.35 cm in diameter is able to send information with data rate of 1 kbps at bit error rate less than 0.00001 to low-earth orbit (LEO) satellites with a transmitted power of 27.5 microwatts (-15.6 dBm). | Format: Paperback | Language/Sprache: english | 96 pp.

Reviews

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