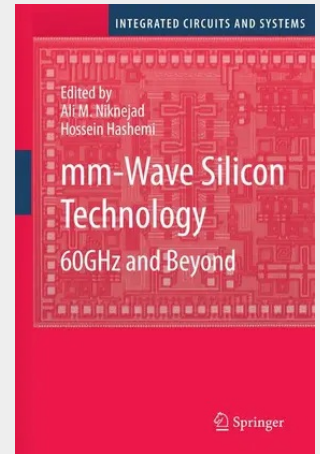


mm-Wave Silicon Technology

60 GHz and Beyond

Seven years ago research in the field of mm-wave silicon was virtually non-existent. Few people thought that operation at 60 GHz was even feasible in silicon technology. In the course of seven years the topic has transitioned from an obscure research topic to an exciting buzzword (60 GHz) that has generated much interest from industry and the venture community. To put things in historical perspective, seven years ago most commercial efforts were focused on the 1-10 GHz spectrum for voice and data applications for mobile phones and portable computers. Many people were actively seeking solutions to the "last mile" problem, or a way to deliver high speed data to users in their homes and offices through cable, telephone, or wireless infrastructure. At the same time, the explosive growth of wireless data such as WiFi spurred significant research into and development of new architectures for radio transceivers that could deliver very high data rates over short ranges, particularly for video and personal area networks. This problem can be viewed as the "last meter" or even the "last inch" connection that delivers high bandwidth multimedia content to devices. The growth of MP3 media devices, and now handheld video devices, and the rapid adoption of HDTV and flat screen televisions has created a healthy demand for technology that enables high speed wireless video transmission. For this reason, today we witness a very active interest in mm-wave silicon technology. Other important commercial applications include automotive radar for safety and improved driving experience. But these applications are only the tip of the iceberg.

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