

1. Record Nr.	UNINA9910780042803321
Autore	Vandenameele Patrick
Titolo	Space division multiple access for wireless local area networks [[electronic resource] /] / by Patrick Vandenameele ; contributions by Liesbet Van Der Perre, Marc Engels
Pubbl/distr/stampa	Boston, : Kluwer Academic Publishers, 2001
ISBN	1-280-20805-8 9786610208050 0-306-47324-0
Edizione	[1st ed. 2002.]
Descrizione fisica	1 online resource (250 p.)
Collana	The Kluwer international series in engineering and computer science ; ; SECS 631
Altri autori (Persone)	PerreLiesbet van der EngelsMarc
Disciplina	004.6/8
Soggetti	Wireless communication systems Broadband communication systems Local loop (Telephony)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 219-228) and index.
Nota di contenuto	The Indoor Propagation Channel -- Array Processing Basics -- Spectrally Efficient Wlan -- SDMA for Multi-Carrier Modulation -- SDMA for Single-Carrier Modulation with Cyclic Prefix -- Towards a Practical SDMA System -- Integration of SDMA in a MAC Protocol -- Conclusions.
Sommario/riassunto	Wireless Local Area Networks (WLANs) are experiencing a growing importance recently. Whereas WLANs were primarily used for niche applications in the past, they are now deployed as wireless extensions to computer networks. The increase of the datarates from 2 Mbps up to 11 Mbps for roughly a constant price has played a major role in this breakthrough. As a consequence, an even greater success can be envisioned for the more recent OFDM-based WLAN standards in the 5 GHz band that offer up to 54 Mbps. At IMEC we have realized this potential already several years ago and have established a successful research program on OFDM-based WLAN. The program resulted in an operational prototype of a 5 GHz OFDM system. The longer term goals

of this program are to extend the indoor range of the WLAN systems up to 100 m and to increase the capacity above 100 Mbps. Driven by these goals, Patrick embarked on the usage of multiple antenna techniques and, more in particular, Space Division Multiple Access (SDMA) for WLAN as the topic for his doctoral research. During this research, key contributions were made towards making SDMA for WLAN a reality. To name a few: A basic scheme for combining OFDM and SDMA was proposed. Also realistic non-linear detection methods were developed. These methods achieve a high implementation efficiency, by exploiting the sparsity of the data model and the frequency-selectivity of the propagation channel.
