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Autore	Wang Jianqing
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction to body area communications -- Electromagnetic characteristics of the human body -- Electromagnetic analysis methods -- Body area channel modeling -- Modulation / demoludation -- Body area communication performance -- Electromagnetic compatibility considerations -- Summary and future challenges.
Sommario/riassunto	Miniaturization of electronic devices and recent developments in wireless communication technology are leading to the creation of a range of personal information appliances, or biotic sensors, which can be attached to or implanted in human bodies. The wireless networking of such devices is known as the wireless body area network (BAN). BAN can share information effectively and securely, reduce functional redundancies, and allow new conveniences and services. Moreover, it provides new possibilities for high-quality service from hospitals, by linking various biotic sensors to establish a body-area network of personal health information. In Body Area Communications: Channel Modeling, Communication Systems, and EMC, Wang and Wang provide a systematic introduction to body area networks leading readers from an introductory level to in-depth and more advanced topics. . Provides a concise introduction to this emerging topic based on classroom-

tested materials. Details the latest IEEE 802.15.6 standard activities. Moves from very basic physics, to useful mathematic models, and then to practical considerations. Covers not only EM physics and communications, but also biological applications. Topics approached include: link budget, bit error rate performance, RAKE and diversity reception; SAR analysis for human safety evaluation; and modeling of electromagnetic interference to implanted cardiac pacemakers . Provides Matlab and Fortran programs for download from the Companion WebsiteThis book is ideal for graduate students, engineers and researchers interested in body area networks, or those who would like to apply expertise in signal processing, application development and implementation, IC design, instrumentation, software framework, hardware/software optimization, distributed processing, and communications to BAN applications. Researchers and practicing engineers in biomedical engineering, who are interested in extending techniques to the wireless communications space, will also find this book to be a helpful reference.