Record Nr. UNINA9910254192303321 Singh Hema Autore Titolo EM Design and Analysis of Dipole Arrays on Non-planar Dielectric Substrate / / by Hema Singh, R. Chandini, Rakesh Mohan Jha Singapore:,: Springer Singapore:,: Imprint: Springer,, 2016 Pubbl/distr/stampa **ISBN** 981-287-781-9 [1st ed. 2016.] Edizione Descrizione fisica 1 online resource (88 p.) Collana SpringerBriefs in Computational Electromagnetics, , 2365-6239 Disciplina 621.3824 Soggetti Microwaves Optical engineering Mathematical physics Electrical engineering Microwaves, RF and Optical Engineering Theoretical, Mathematical and Computational Physics Communications Engineering, Networks 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 and indexes. Nota di contenuto Introduction -- Single Dipole on Planar Ground Plane -- Dipole Array Design -- Planar Dipole Array -- Conclusion. This book presents a simple and systematic description of EM design of Sommario/riassunto antenna arrays. Printed dipole antennas are known to be simple yet more efficient than wire antennas. The dielectric substrate and the presence of ground plane affect the antenna performance and the resonant frequency is shifted. This book includes the EM design and performance analysis of printed dipole arrays on planar and cylindrical substrates. The antenna element is taken as half-wave centre-fed dipole. The substrate is taken as low-loss dielectric. The effect of substrate material, ground plane, and the curvature effect is discussed. Results are presented for both the linear and planar dipole arrays. The

performance of dipole array is analyzed in terms of input impedance, return loss, and radiation pattern for different configurations. The effect of curved platform (substrate and ground plane) on the radiation behaviour of dipole array is analyzed. The book explains fundamentals of EM design and analysis of dipole antenna array through numerous

illustrations. It is essentially a step-to-step guide for beginners in the field of antenna array design and engineering.