

1. Record Nr.	UNINA9910456615703321
Autore	Ghannouchi Fadhel M. <1958->
Titolo	The six-port technique with microwave and wireless applications // Fadhel M. Ghannouchi, Abbas Mohammadi
Pubbl/distr/stampa	Boston : , : Artech House, , ©2009 [Piscataqay, New Jersey] : , : IEEE Xplore, , [2009]
ISBN	1-60807-034-4
Descrizione fisica	1 online resource (246 p.)
Collana	Artech House microwave library
Altri autori (Persone)	MohammadiAbbas
Disciplina	621.381/3
Soggetti	Microwave circuits - Design and construction Microwave communication systems - Design and construction Wireless communication systems - Design and construction Electronic books.
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 index.
Nota di contenuto	The Six-Port Technique with Microwave and Wireless Applications; Contents; Chapter 1 Introduction to the Six-Port Technique; 1.1 MICROWAVE NETWORK THEORY; 1.1.1 Power and Reflection; 1.1.2 Scattering Parameters; 1.2 MICROWAVE CIRCUITS DESIGN TECHNOLOGIES; 1.2.1 Microwave Transmission Lines; 1.2.2 Microwave Passive Circuits; 1.2.3 Fabrication Technologies; 1.2.3.1 Microwave Solid State Devices; 1.2.3.2 MIC Technology; 1.2.3.3 MHMIC Technology; 1.2.3.4 MMIC Technology; 1.3 SIX-PORT CIRCUITS; 1.3.1 Microwave Network Measurements; 1.3.2 Wireless Applications; 1.3.3 Microwave Applications ReferencesChapter 2 Six-Port Fundamentals; 2.1 ANALYSIS OF SIX- PORT REFLECTOMETERS; 2.2 LINEAR MODEL; 2.3 QUADRATIC MODEL; 2.4 SIX- TO FOUR-PORT REDUCTION; 2.5 ERROR BOX PROCEDURE CALCULATION; 2.6 POWER FLOW MEASUREMENTS; 2.7 SIX-PORT REFLECTOMETER WITH A REFERENCE PORT; 2.8 MEASUREMENT ACCURACY ESTIMATION; References; Chapter 3 The Design of Six-Port Junctions; 3.1 DESIGN CONSIDERATION FOR SIX-PORT JUNCTIONS; 3.2 WAVEGUIDE SIX-PORT JUNCTIONS; 3.3 FREQUENCY COMPENSATED OPTIMAL SIX-PORT JUNCTIONS; 3.4 FREQUENCY COMPENSATED QUASI-

OPTIMAL SIX-PORT JUNCTIONS

3.5 A SIX-PORT JUNCTION BASED ON A SYMMETRICAL FIVE-PORT RING JUNCTION
3.6 HIGH POWER SIX-PORT JUNCTION IN HYBRID WAVEGUIDE/STRIPLINE TECHNOLOGY;
3.7 WORST-CASE ERROR ESTIMATION; References;
Chapter 4 Calibration Techniques;
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4.2 LINEAR CALIBRATION USING FIVE STANDARDS;
4.3 NONLINEAR CALIBRATION USING FOUR STANDARDS;
4.4 NONLINEAR CALIBRATION USING THREE STANDARDS;
4.5 SELF-CALIBRATION BASED ON ACTIVE LOAD SYNTHESIS;
4.6 DYNAMIC RANGE EXTENSION;
4.7 DIODE LINEARIZATION TECHNIQUE;
4.8 POWER CALIBRATION TECHNIQUE;
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5.2 CASE OF A RECIPROCAL TWO-PORT DUT;
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5.6 CALCULATION OF THE ERROR-BOX PARAMETERS;
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5.8 TRI-SIX-PORT NETWORK ANALYZER;
5.9 N-SIX-PORT NETWORK ANALYZER;
5.10 A SINGLE SIX-PORT N-PORT VECTOR NETWORK ANALYZER;
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Sommario/riassunto

One of the main issues in microwave and wireless system design is to ensure high performance with low cost techniques. The six-port technique helps allow for this in critical network design areas. This practical resource offers you a thorough overview the six-port technique, from basic principles of RF measurement based techniques and multipoint design, to coverage of key applications, such as vector network analyzers, software defined radio, and radar. The first book dedicated to six-port applications and principles, this volume serves as a current, one-stop guide offering you cost-effective solutions for your challenging projects in the field.

2. Record Nr.	UNINA9910787373903321
Autore	Field Simon (Simon Quellen)
Titolo	Electronics for artists : adding light, motion, and sound to your artwork // Simon Quellen Field
Pubbl/distr/stampa	Chicago, Illinois : , : Chicago Review Press, , [2015] ©2015
ISBN	1-61373-015-2
Descrizione fisica	1 online resource (210 p.)
Classificazione	ART028000TEC008000
Disciplina	621.38102/47
Soggetti	Art and electronics Art - Technique
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Sommario/riassunto	"With today's modern technology--LEDs, servomotors, motion sensors, speakers, and more--artwork can incorporate elements of light, sound, and motion for dramatic effects. Author and educator Simon Quellen Field has developed a primer for creative individuals looking for new ways to express themselves though electronically enhanced art"--