

EE6128

RF CIRCUITS FOR WIRELESS COMMUNICATIONS

Acad Unit: 3
Pre-requisite: Nil
Effective: Academic Year 2013-2014
Last update: June 2012

LEARNING OBJECTIVE

To provide students good understanding of fundamental techniques for the analysis and design of a variety of passive and active RF and microwave circuits for wireless communications.

CONTENT

Microstrip Line and Network Parameters. Microwave Power Dividers and couplers. Microwave Filters. Amplifiers. Oscillators and Synthesizers. Detectors and Mixers. Frequency Multipliers and Control Circuits. RF Receiver Design

LEARNING OUTCOME

Students will be equipped with the knowledge provided in this course, and be able to participate in analysis, design, simulation and implementation of various RF passive and active circuits. They will also be able to analyse and assess the performance of RF receiver subsystems for wireless communications.

STUDENT ASSESSMENT

Continuous Assessment	20%
Final Examination	80%

TEXTBOOKS

1. D.M. Pozar, Microwave Engineering, John Wiley & Sons, USA, 2005.
2. .U.L. Rohde and D.P. Newkirk, RF/Microwave Circuit Design for Wireless Application. John Wiley, USA, 2009

REFERENCES

1. D.M. Pozar, Microwave and RF design of Wireless Systems, John Wiley, USA, 2001.
2. D. Razavi, RF Microelectronics, Prentice Hall, USA, 1998.
3. G. Gonzale, Microwave Transistor Amplifiers: Analysis and Design, Prentice Hall, USA, 1997.
4. K. Chang, Microwave Solid-State Circuits and Applications, John Wiley, USA, 1994