

RF CIRCUIT DESIGN COMMUNICATION TRAINERS

RFCT-2001



Description : Curriculum Outline :

1. Design and implementation of RF front end receiver module.
2. Design and implementation of RF front end transmitter module.
3. Design and implementation of voltage controlled oscillator and phase lock loop.
4. Design and implementation of IF demodulator and audio process circuit.
5. Design and implementation of wires transceiver module.

Features : Curriculum Objectives :

1. Training for wireless communication technicians.
2. To understand the applications and products measurements of communication instruments.
3. Design and implementation ability training for RF module circuit.
4. To shorten the gap between academic and industrial circles.

Specification : Chapter 1 Elementary Impedance Matching Network

Experiment 1: L-Type Matching Network

Experiment 2: PI-Type Matching Network

Experiment 3: T-Type Matching Network

Chapter 2 Impedance Matching Network

Experiment 1: Tapped Capacitor Matching Network

Experiment 2: Tapped Inductor Matching Network

Experiment 3: Low Quality Factor Matching Network

Chapter 3 One Stage Low Noise Amplifier

Experiment 1: Measurement of Frequency Response

Experiment 2: Measurement of Noise Figure

Experiment 3: Measurement of 1-dB Compression Point

Chapter 4 Two Stage Low Noise Amplifier

Experiment 1: Measurement of Frequency Response

Experiment 2: Measurement of Noise Figure

Experiment 3: Measurement of 1-dB Compression Point

Chapter 5 Two Stage Pre-amplifier

Experiment 1: Measurement of Frequency Response

Experiment 2: Measurement of Noise Figure

Experiment 3: Measurement of 1-dB Compression Point

Chapter 6 Power Amplifier

Experiment 1: Measurement of Gain Flatness

Experiment 2: Measurement of 1-dB Compression Point

Experiment 3: Measurement of OIP3

Experiment 4: Measurement of Harmonics

Chapter 7 Colpitts and Hartley Oscillators

Experiment 1: Measurement of Frequency and Output Power

Experiment 2: Measurement of Phase Noise

Experiment 3: Measurement of Gain Factor and Variable Bandwidth

Chapter 8 Common Collector Colpitts Oscillator

Experiment 1: Measurement of Frequency and Output Power

Experiment 2: Measurement of Phase Noise

Experiment 3: Measurement of Gain Factor and Variable Bandwidth

Chapter 9 Microprocessor for Phase Lock Loop

Experiment 1: LCD and Keypad Testing

Experiment 2: MB1503L Control Signal Testing

Chapter 10 Phase Lock Loop

Experiment 1: Measurement of Frequency Response for Loop Filter

Experiment 2: Measurement of PLL

Experiment 3: Measurement of FM Signal

Chapter 11 Diode Mixer

Experiment 1: Measurement of Conversion Gain

Experiment 2: Measurement of 1-dB Compression Point

Experiment 3: Measurement of Isolation

Chapter 12 Transistor Mixer

Experiment 1: Measurement of Conversion Gain

Experiment 2: Measurement of 1-dB Compression Point

Experiment 3: Measurement of Isolation

Chapter 13 Low-pass and High-pass Filters

Experiment 1: Measurement of Frequency Response

Chapter 14 Bandstop and Bandpass Filters

Experiment 1: Measurement of Frequency Response

Chapter 15 IF FM Demodulation Circuit

Experiment 1: Measurement of IF FM Demodulation Circuit

Chapter 16 Audio Signal Process Circuit

Experiment 1: Measurement of Pre-emphasis and Compression for Audio Signal

Experiment 2: Measurement of De-emphasis and Decompression for Audio Signal