**< Microwave Technology for Smart IoT/5G > Course Description**

Course: Microwave Technology for Smart IoT/5G

Course No.:

Credit / Course Hours: 3/48

Preparatory Course: Electromagnetic Fields and Waves, Circuit Analysis

Course Description:

This course is based on microwave transmission line theory, Smith chart, microwave network theory and practical applications of transmission line, and will introduce: the equivalent circuit model and parasitic circuit model analysis of actual microwave components, microwave device basis, microwave low noise amplifier and power amplifier theory and design, electromagnetic radiation, antenna theory and design, and RF & microwave system level test and demonstration. This course takes intelligent IoT and 5G antenna and core critical circuit as example, and will introduce its design process and method with theoretical analysis, simulation, fabrication, and test. This course will also introduce calibration methods for microwave measuring instruments (vector network analyzer, spectrum analyzer), measurement and analysis of antennas, passive devices (filters, splitters, couplers), active devices (oscillators, amplifiers, and low noise amplifiers), design and measurement of systems (receiving links, transmitting links).