



2-Day Workshop – IoT – Training Workshop for Design, Testing of RF module and antenna

Date: To be announced, once we have minimum participants
Time Duration: 9:30am to 5:00pm
Location: Bangalore

Course Description (Topics of interest customized as per customer's application)

- RF design engineers currently working in Wireless product design for GPS, GSM, Wi-Fi, ZigBee and Bluetooth Low Energy module, who requires hands on practical training for RF fundamentals, Modulation schemes and short range wireless technologies from 300MHz to 2.4GHz ISM bands

Pre-requisite

Engineers with Electronics Engineering background

Learning Objectives

- The training program will cover RF fundamentals, ISM band RF transceiver module for short range wireless technologies – key parameters and how to choose a module for a specific application, propagation, and antenna fundamentals, testing – VSWR, radiation pattern, matching and tuning for performance optimization
- The scope does not cover automotive / Industry standards / baseband design / RF Protocols / algorithm development specific to your application
- We will provide a pdf soft copy of course material
- We will ensure that engineers understand basics and can practically use the concepts

By taking this course, you will better understand

- Apply the application concepts for RF product design for Design, testing, validation and qualification

Deliverables for the training:

- customized training materials covering topics mentioned above
- demonstration of Software design tools and RF test equipment currently used by RF system designers for RF module design and testing

What we are not covering in this course

- Design for Digital baseband circuit and signal processing, software algorithms
- Protocols and stacks for any wireless standards

Workshop Sessions & Schedule

Date will be announced once minimum number of participants have enrolled

Finetuning Academy

A407, Shriram Srishti, SSA Road, Anand Nagar, Bangalore 560032. India

Phone +91 9343510805 / 70222 77805 / +91 80 4219 7333

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DAY-1

Session- 1

RF Fundamentals covering series and parallel resonant circuits, quality factor, conversion between series and parallel circuit, dB scale and conversion between dB, dBm, dBuV, etc. matching requirements, impedance transformation, rectangular and polar form and their conversions for electrical quantities.

Session- 2

TEM transmission lines, return loss, VSWR, S –Parameters and characterization of Linear RF systems using S Parameters, Smith Chart, lumped element matching on Smith Chart, conditions for maximum power match.

Session- 3

Introduction to transmission media such as Stripline, Micro-stripline and Coplanar waveguide etc., dependence of line impedance on geometric line parameters such as line width, dielectric constant and thickness, coupling effects of micro-stripline and stripline PCB traces.

Session- 4

Introduction to Antenna parameters such as gain, directivity and efficiency, various printed antenna types such as meander line, patch and Yagi antenna, radiation pattern and coverage areas of various antenna types.

DAY-2

Session- 5

Line of Sight propagation, system gain, transmission loss and received signal strength, Gaussian channel, received Signal to Noise Ratio

Session- 6

Non-Line of Sight Propagation and multipath effect, receiver noise and sensitivity, Noise Figure and dynamic range of receiver

Session- 7

Test Setup to measure Antenna tuning, match and mismatch effects, matching techniques to improve antenna match and efficiency using lumped elements, techniques to match antenna to a specific chipset.

Session- 8

Questions and Discussion

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Speaker

Bhupinder Singh received his Master's Degree in Microwave System Design from IIT- Kanpur, India. He has extensive experience in product design and development both in India and abroad. In his 25 years of experience he has designed, developed and tested numerous RF system / subsystem used by Govt, Military, and Cellular, VSAT industry.

He is currently Director-Technical at RF Specialities and Finetuning Academy. Previously he worked as a scientist at Aeronautical Development Establishment, Bangalore, from 1991-2001. Later, he was leading R&D team at HFCL, DMC-STRATEX in NZ, Blackbay in NZ, Technical Head-Telecom R&D at Astra MWP, Eminent Technology, Italy.

He is an advanced user of Simulation tools like ADS, SystemVue, EM Pro, MWO, ALTIUM and ACAD. He is skilled at using Spectrum Analyzer, NW Analyzer, Vector Signal Analyzers, signal generators.

Finetuning Academy LLP is focused in RF circuit and system design consulting and training services. Finetuning Academy is also training partner of Keysight Technologies (Agilent Technologies)

RF Specialities (RFS) is one of the leading companies in the design, development, servicing and maintenance of RF Equipment in India. RF Specialities is a leading supplier of customized RF Systems/ subsystems to Govt., military and commercial market. Boasting of a state-of-the-art RF laboratory at Bangalore and backed with experienced & well-trained manpower, it provides unique and cost-effective solutions in the shortest turn-around time for the satellite, broadcasting, telecom and military industry.

Fee payable

Rupees 15,000 per person (including Service Tax)

Please note that we plan to conduct this program only if there are minimum number of participants enroll or else, the dates will be rescheduled.

Electronic Funds Transfer

A/c Name Finetuning Academy

A/c Number 020405500429

Account Type Current

Bank Name ICICI BANK LTD

Branch R T NAGAR

IFSC Code ICIC0000204

Bank Address 5, P & T Colony, R T Nagar Main Road, BANGALORE, KARNATAKA-560032

Note: Please send us the funds transfer details to support@finetuningrf.com

Or

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Cheque / DD payable at Bangalore in favour of “**Finetuning Academy**” to
Kind attention: Nandakumar.S, A-407, Shriram Srishti, SSA Road, Anand Nagar, and Bangalore-560 032.
Karnataka. Phone 080-4219 7333

How to Register?

Please fill out registration form and email the form to support@finetuningrf.com

Registration Form

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1. Name of the Participant:
(In BLOCK Letters, only)
2. Company Name:
3. Contact Phone number:
4. Email id:

Optional information

5. Years of work Experience:
6. Briefly describe your work experience:
7. Areas of interest:
8. Topics of interest:
9. Simulation Tools familiar with:

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