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QIP Short Term Course On Design of Microwave Filters and Passive Components

A Continuing Education Program of
Indian Institute of Technology
Kharagpur

May 02, 2016 – May 07, 2016



Coordinator

Dr. M. K. Mandal

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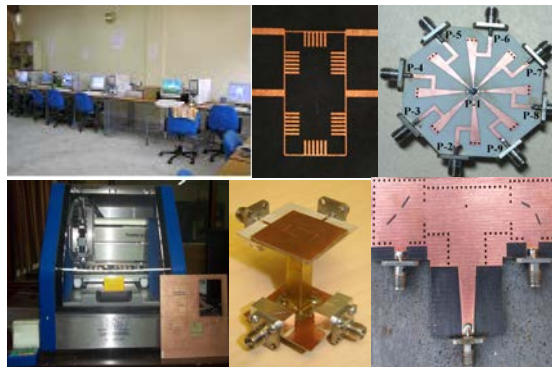
Organized by

**Department of Electronics and
Electrical Communication Engineering,
Indian Institute of Technology
Kharagpur – 721 302**

OBJECTIVES AND SCOPE

Microwave passive components are the backbone of any wireless communications system. Basic knowledge of microwave components is essential to microwave engineers. This course attempts to provide refreshing of the fundamentals as well as recent developments of microwave passive components. Detail design steps of the microwave passive components, starting from text book knowledge to implementation using commercial full wave simulators in different planar printed circuit board guiding structures will be discussed. Special emphasize will be given on microwave filter design. In addition, different measurement techniques of passive components, practical aspects such as co-design of different components, power handling capability, frequency range, fabrication complexity, and EMI/EMC problems will be covered. There will be special lectures on recent advances in this field such as substrate integrated waveguide technology, signal interference techniques, and use of metamaterials in component design etc. The course will include lectures and practical sessions. Broad topics are given below.

- Design of microwave passive components such as coupler, power divider, circulator, phase shifters etc. with special emphasize on microwave filter.
- Advantages and disadvantages of different wave guiding structures. Utilization of full wave simulators in component design.
- Recent advances in this field.
- Measurements of passive components.



COURSE FACULTY

Faculty members/experts from IIT Kharagpur and a few experts from other institutes.

WHO SHOULD ATTEND

Faculty members of University and engineering colleges, research scholars, M. Tech final year students, practicing RF and microwave engineers, professionals and functional managers, administrators in the mobile phone, satellite communication and radar industry who want a thorough guided tour on fundamentals, design & measurements of microwave passive components.

ELIGIBILITY

B.E. / B.Tech/ M.E. / M.Tech. or equivalent degree in Electronics/ Telecommunication / Electrical Engineering.

LOCATION

Kharagpur Railway Station is about 116 Km (2 hours) west of Kolkata. There are frequent train services from Howrah Railway Station and it is well connected to almost all parts of the country. The Institute is about 5 Km away from Kharagpur Railway Station. Taxis, Auto-rickshaws, are available as transport.

ACCOMMODATION

Limited shared accommodation in the guest house is available. However, efforts will be made to book accommodation in the guest houses on receipt of request from the participants by 25th April, 2016.

I. Registration for QIP Sponsored

Teachers from QIP approved Institutions: Participants should bring a letter of nomination from their head of institution stating that they are being deputed for the course.

There is no registration/ accommodation fee. However, a Demand Draft of Rs. 5,000/- (drawn in Favor of “**CEP–STC, IIT Kharagpur**”) should be enclosed with the application form which will be refunded to the participants attending the course. Total reserved seat for QIP candidates is 30 which will be awarded according to the date of applications received.

II. Registration for others

- (a) Scientists / Technologists / Engineers from industry or government institutions: **should apply by 25th April, 2016, course fee: 18,000/-.** (Course fee is Rs.17,000 for 3 or more participants from the same organization). Course fee is Rs. 20,000 per person after April 25, 2016.
- (b) Faculties from University & Engineering Colleges **should apply by 25th April, 2016, course fee: 15,000/-.** (Course fee is Rs.14,000 for 3 or more participants from the same organization). Course fee is Rs. 17,000 per person after April 25, 2016.
- (c) Registered students **should apply by 25th April, 2016 course fee: 10,000/-.** (Course fee is Rs.9,000 for 3 or more participants from the same organization) Course fee is Rs. 12,000 per person after April 25, 2016.

Candidates will be provided course materials, working lunch, tea & snacks during the course hours. Registration fees, boarding & lodging expenses will be waived for QIP sponsored candidates. To-and-fro travel cost (up to A/C 3-tier rail fare only) by the shortest route between the place of work and the venue of the course will also be reimbursed for Category –I. It should be borne by the other participants.

The registration fees in Bank Draft should be in favor of ‘**CEP - STC, IIT, Kharagpur**’ payable at Kharagpur along with completed registration form to be sent to Prof. M. K. Mandal, Kalpana Chawla Space Technology Cell, I.I.T., Kharagpur – 721 302, West Bengal, INDIA.

Certificate:

A certificate of participation would be issued to all the participants from the Office of Dean, Continuing Education, I.I.T. Kharagpur.

IMPORTANT DATES

Last date for receiving application: April 25, 2016
Intimation to the applicants: April 27, 2016.

Enquires should be addressed to:

Prof. M. K. Mandal,
 Department of Electronics and Electrical
 Communication Engineering, IIT Kharagpur
 Kharagpur – 721 302

E-mail : office@adm.iitkgp.ernet.in
mkmandal@ece.iitkgp.ernet.in

Phone : 91-3222-282298
Telefax : 91-3222-282299
Fax : 91-3222-255303

QIP Short term course on “Design of Microwave Filters and Passive Components”, May 02- 07, 2016

REGISTRATION FORM

Please complete the details below and mail it to the address overleaf along with the demand draft.

1. Name:.....
2. Designation:.....
3. Address (Office):.....

4. Phone (Mob.) :.....
 Phone (Res.) :.....
 E-mail (compulsory) :.....
5. Male/ Female:.....
6. Highest academic qualification:.....
7. Accommodation Required (Y/N):.....
8. Bank Draft No.....Date.....
 Amounting Rs.....drawn on.....Bank

For QIP Sponsored Candidates (Category-I):

Recommended and forwarded

Date: _____ Signature and Seal of the
 Head of the Organization

For others (Category-II)

Recommendation and forwarding letter from the organization where working.

Date : _____ Signature of the Applicant

Place :