K L UNIVERSITY
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Presents

Pulse *Trigger your thoughts*

CONVENOR :	Dr. Habibullah Khan
FACULTY CO-ORDINATORS:	K. Ch. Sri Kavya
	K. Uday Kiran
STUDENT CO-ORDINATORS:	Maniknata
	V. V. Vamsi Krishna
	Rahul Mehta
	Ch. Deepthi
	T. Ritesh Chowdhary
	Venkata Sai Krishna

Workshop on PRACTICAL RF CIRCUIT & SYSTEM DESIGN

PULSE is about to conduct a workshop with resource persons from ICON DESIGN AUTOMATION Pvt. Ltd. in the first or second week of September, 2011 to all final year B.Tech ECE students and M.Tech CR students. The proposed schedule is given below.

Schedule# for Hand's on Workshop in PRACTICAL RF CIRCUIT & SYSTEM DESIGN

DAY – 01

09:00 - 09:15 Schedule and Introduction

09:15 - 10:45 Fundamentals of RF

10:45 - 11:00 Break

11:00 - 11:15 Circuit Simulators Overview

11:15 - 12:30 The MWO Environment

12:30 - 01:30 Lunch

01:30 - 03:15 Design Methodology – Filter Design

03:15 - 03:30 Break

03:30 - 05:00 Design Methodology – Filter Design – EM simulation Approach

05:00 - 05:30 Q & A

DAY – 02

09:00 - 10:30 Linear Simulation – Low Noise Amplifier

10:30 - 10:45 Break

10:45 - 12:30 Non Linear Simulation – Power amplifier

12:30 - 01:30 Lunch

01:30 - 02:00 Non Linear Simulation – Power amplifier

02:00 - 02:30 Schematic to Layout Conversion

02:30 - 03:15 Introduction to System Simulator

03:15 - 03:30 Break

03:30 - 04:30 Communication System – A Practical approach.

04:30 - 05:00 Few Examples... (A/D conversion , Sampling theorem)

05:00 - 05:30 Q & A and Feedback

DAY – 03

09:00 - 10:30 System Design – Usage of RF components* -I

10:30 - 10:45 Break

10:45 - 12:30 System Design – Usage of RF components* -II

12:30 - 01:30 Lunch

01:30 - 02:30 Spurious analysis & Budget analysis.

02:30 - 03:15 Transmitter & Receiver Design (16 QAM)

03:15 - 03:30 Break

03:30 - 05:00 Transmitter & Receiver Design (16 QAM)

05:00 - 05:30 Q & A and Feedback

*components have mixers , filters , Amplifiers , couplers , Combiners , attenuators .

**This is a tentative agenda subjected to change.

What We Offer

1. Hand on workshop for 3 days covering the above agenda.
2. Certificate on the above course.
3. Software & License for training purpose.
4. Training manual & User Guides.
5. Support for the students who are interested to do a real time project using AWR .

Pre-requisites

Students must have fundamentals of S- Parameters , Smith chart , Signals & Systems & Basic Modulation Techniques

Arrangements form University side

1. LCD Projector with accessories.
2. All participants must bring their Laptop / Machines, Mouse is mandatory.

Subject to changes if required

The following students paprticipated in the workshop:

PARTCIPANTS LIST		
S.NO	**ID.NO**	**NAME OF THE STUDENT**
1	10102148	SURENDRA KUMAR BITRA
2	10102149	VENKATA RAVI TEJA K
3	10102151	SIVA RAMA KRISHNA KOSURI
4	10102154	JYOTHI BANDARUPALLI
5	10102155	NAGIREDDY VANGA
6	10102157	VENKATA RAJ GOPALA RAO
7	10102161	JOGA VENKATA SURESH
8	10102162	KOLASANI RAJKAMAL
9	10102163	HARIMANIKYAM RAMESH
10	10102164	SHALEM RAJ
11	10102165	K.NAGA HARSHA VARDHAN
12	10102167	P.CHAITANAYA BABU
13	10102168	A.KRANTHI
14	10102169	K.VENKATA KISHORE
15	10102170	B.SURENDRA BABU
16	10102171	K.VEERA VENKATA KUMAR
17	10102172	M.MALLIKHARJUN
18	10102173	N.ANAND RATNESH
19	10102175	Y.BHAVANI SANKAR
20	10102176	G.MANOJ KUMAR
21	10102177	B.HARISH
22	10102181	N.GOPALA KRISHNA
23	10102182	N.DURGA INDIRA
24	10102183	GALABA SAI RAJESH
25	10102185	BOMMAREDDYSREEDEEPTHI

26	10102186	D.UJWALA
27	10102187	RAYAVARAPU RAHUL
28	L8EC 341	G.SUDHEER KUMAR
29	L9EC 354	MALLELA SAMBASIVARAO
30	Y7EC 247	I.NAGARAJU
31	Y8EC 201	AKKIDAS VIKRANTH
32	Y8EC 203	ASHOK KUMAR YADAV
33	Y8EC 210	BHAVISHYA RAMINENI
34	Y8EC 212	CHAKKA SIVA SAI JYOTHIRMAI
35	Y8EC 214	CHERUKURI MOUNIKA
36	Y8EC 215	CHERUKURI RAJESH KUMAR
37	Y8EC 216	CHRUKURI RAJESH BABU
38	Y8EC 222	CHINNAM MURALIDHAR
39	Y8EC 224	DAMARLA BALAJI
40	Y8EC 227	DEEPTHI CHEDURUPALLI
41	Y8EC 231	DIVYA TEJA NANDIKOLLA
42	Y8EC 233	ENDREDDY NYMISHAREDDY
43	Y8EC 242	GURUJULA CHAITANYA SAGAR
44	Y8EC 250	K ABHISHEK JAIN
45	Y8EC 254	KANAMARLAPUDI U M KARTHIK
46	Y8EC 255	KANDRATHI SIREESHA
47	Y8EC 256	KANDULA BHAVANA
48	Y8EC 259	KAVURI SNEHALATHA
49	Y8EC 260	KOLISETTY GURU PAVANI
50	Y8EC 262	KONDASANI PRATAP REDDY
51	Y8EC 300	PURANAM RAGHUNADH
52	Y8EC 302	RAAVI SNEHA
53	Y8EC 308	SANTOSH THAPA
54	Y8EC 314	SINGU KRISHNA PRABHATH

55	Y8EC 316	SRUJANA ADUSUMILLI
56	Y8EC 330	VOONNA SRIRAM
57	Y8EC 331	VURA V VAMSI SIVAKRISHNA
58	Y8EC 333	YALLA NAGA SANDHYADEVI
59	Y8EC 335	YANDRAPRAGADA LAKSHMI HARITHA
60	Y8EC 208	BASAVARAJU GAYATRI P V KRISHNA RAO
61	Y8EC 226	DAYAL CHARAN VOLETI
62	Y8EC 236	GONUGUNTLA RAJA SEKHAR

Each participant has paid an amount Rs.1,500/- each. Printed certificates are given to all the participants.

Instructor in the Workshop:

G.DHARMENDRA NAYAK

Application Engineer - RF & uWave Division

ICON Design Automation Pvt. Ltd.,

#3016, 5th Cross, 12th 'B' Main,

HAL II Stage, Bangalore - 560 008

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dharmendranayak@gmail.com

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Concepts Learned By Students

No of days: 3

Time: 09:00 am to 05:30pm

Venue: IBM lab, CSE block

1st day schedule

- **Seminar on concepts of RF**
- **Introduction to Microwave office**
- **Explanation of each and every tool**
- **Design and simulation of a STUB**
- **Few other simulations such as filters**

2nd day schedule

- **Introduction to VSS**
- **2D, 2.5D, 3D modeling**
- **Discussion on X-band radar system**
- **Design and simulation of a transmit link**
- **Assignment on the simulation of a filter**

3rd day schedule

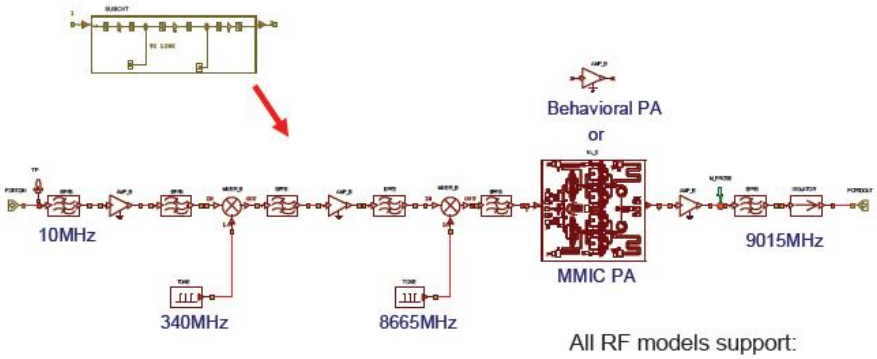
- **Introduction to CONCERTO**
- **Detailed explanation about each and every tool**
- **Demonstration of a simple example in CONCERTO**
- **Simulation of a STUB in CONCERTO**

SIMPLE SIMULATION EXAMPLE:

X-Band Radar System

Advancing the wireless revolution
www.awrcorp.com

- The transmit link



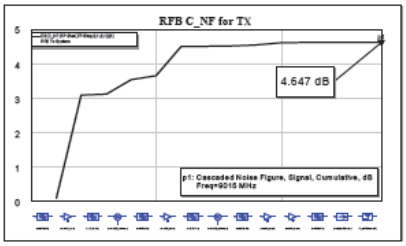
All RF models support:

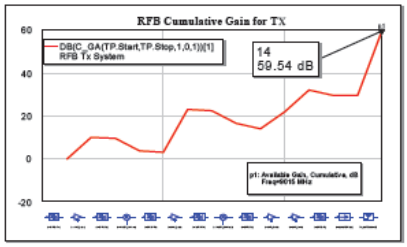
- NF
- Impedance mismatch
- Frequency dependency

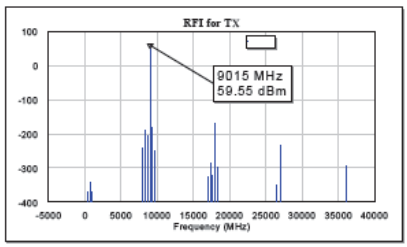
X-Band Radar System

Advancing the wireless revolution
www.awrcorp.com

- Cascade analysis of transmit link







Results:

- Cascaded NF = 4.65dB
- Available Gain = 59.5dB
- Power level at 9015MHz = 59.55dBm

PCB Design

Workshop Conducted on 9th & 10th Sept,2011

Under the guidance of :

N.Suresh,Asst.Prof

M.Ajay Babu,Assoc.Prof

Organised by :

Jitta Raghavender Rao (09100755)
Muppalla Prudhvi (09100754)
Jyothi swaroopa(09100731)

A Two-Day workshop has been conducted under the banner of "**PULSE**" on September 9th, 10th 2011.

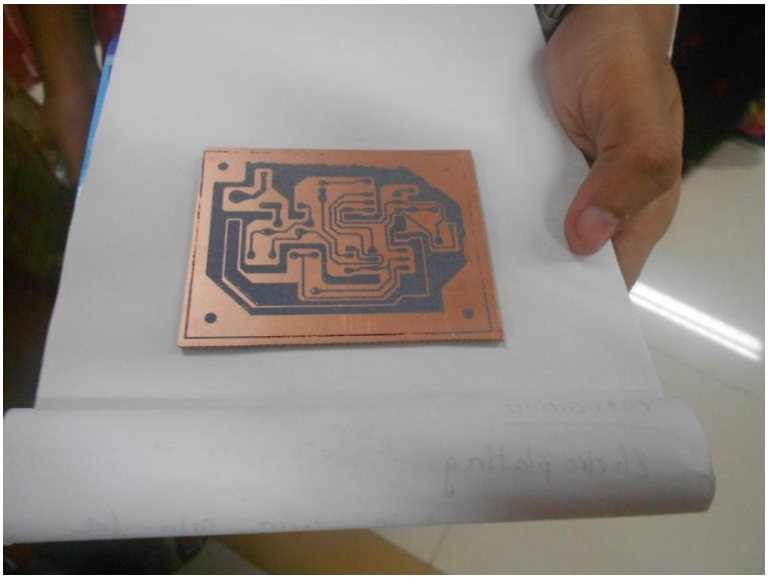
A total of **160** students have registered for the workshop. The schedule for the workshop is given below.

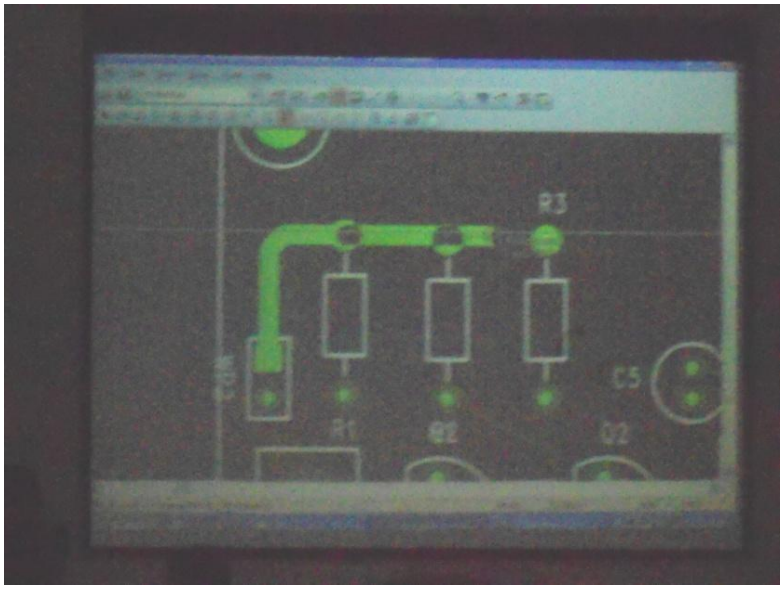
First Day: A lecture on Designing PCB Circuits using "Pads Layout Software". The lecture was given by Ms.K.Sireesha PCB layout designer from Efftronics Pvt.Ltd Vijayawada.

Second Day: An exhaustive list of circuits to experiment with. Hands-On Practice session follows.

A Kit has been provided to every participant which includes all the required components. All the students practiced how to transfer the designed lay out from photo paper to PCB and designing of the PCB layout.

Gallery:




R3
C5
R1
Q2
Q2