

Serial Number	Company / Educational Institution Name	delivered in which year	Course Description	Design Tools Used	Number of Participants
1	Industry Event - Honeywell, Sankhya Labs, CDAC, MACOM, BEL, Medha Servo	Nov-14	RF Circuit and System Design	ADS	14
2	Robert Bosch Engineering Ltd	Dec-14	ISM band RF Transceiver Design - RF Circuit and System Design Basics	ADS	15
3	Industry Event - ISRO, CDAC, NARL, BEL, TatapowerSED, NARL, Telimart, CYIENT, LRDE	Mar-15	RF Circuit and System Design & Simulation	ADS, SystemVue	16
4	Industry Event - NIT, DARE, SRM, BEL, TatapowerSED, Larsen & Toubro, KLB Instruments, Chipware	Jun-15	RF Circuit design and simulation	ADS	13
5	Vishnu College of Engineering, Bheemavaram	Jun-15	RF Circuit and System design and simulation	ADS	30
6	IIT-Chennai	Jul-15	RF Circuit and System Design & Simulation	ADS, SystemVue	13
7	NIT-Trichy	Jul-15	RF Circuit and System design and simulation	ADS	50
8	BEL-Bangalore	Aug-15	Customised Topics covering linear, non-linear circuit design, system design	ADS, SystemVue	12
9	Indian Institute of Space Science and Technology, Thiruvananthapuram	Sep-15	RF Circuit and System design and simulation	ADS	15
10	Keysight Technologies	Oct-15	Training for Field Application Engineers	ADS, SystemVue, EMPro, Genesys	15
11	Industry Event - BEL, TatapowerSED, Mistral, Vihaan Networks, Altiostar Network, Cambium Networks	Dec-15	RF Circuit design and simulation	ADS	9
12	Industry Event - BEL, Dexcel Electronics	Dec-15	RF System design and simulation	SystemVue	7

13	Graphic Era University-Dehradun	Jan-16	RF Circuit and System design and simulation	ADS	15
14	Babaramdeo College of Engineering and Technology, Nagpur	Feb-16	RF Circuit and System design and simulation	ADS	15
15	GLA University - Mathura	Feb-16	RF Circuit and System design and simulation	ADS	15
16	Bhartiya Vidyapeeth-Pune	Apr-16	RF Circuit and System design and simulation	Genesys	15
17	BN College of Engineering	May-16	RF Circuit and System design and simulation	ADS	15
18	CET-Bikaner	Oct-16	Customised Topics covering linear circuit design and antenna design	ADS, EMPro	15
19	IIIT-New Delhi	Dec-16	RF System design and simulation	SystemVue	15
20	DTU-New Delhi	Feb-17	RF Circuit and System design and simulation	ADS	15
21	Landis+GYR	Feb-17	ISM band RF Transceiver Design - RF Circuit and System Design Basics	ADS	15
22	VSSC-Thiruvananthapuram	May-17	RF Circuit and System design and simulation	ADS	24
23	MNNIT, Allahabad	May-17	RF System design and simulation	SystemVue	15
24	Shri Mata Vaishno Devi University-Jammu	Jun-17	RF System design and simulation	SystemVue	10
25	NIT - Surathkal	Jun-17	RF Circuit and System design and simulation	ADS and SystemVue	10



#### RF Circuit and System Design Training, Total duration of 2 Days

RF Circuit Design Fundamentals, Linear Circuit Simulation Examples, Power Amplifier - Different classes of operation, Power Amplifier - Simulation Examples with GaN HEMT device in CW and Pulsed Mode, RF Measurements, Power Amplifier - Efficiency and Linearity Enhancement Techniques, Power amplifier with linearizer simulation examples, DPD and Doherty, RF Systems Overview, System Simulation using ADS and Interactive Session

Delivery Date: 8-Nov-2014 to 9-Nov-2014  
Time Duration: 9:30am to 5:00pm  
Location: IETE-Bangalore  
Participants 14

#### 1-Day, RF Circuit and System Design Basics Training

Refer to details attached sheet

##### Description:

RF Fundamentals (3 hours), Introduction and overview to RF System architecture – Transceiver (1.5 hours), RF Propagation (1 hour) and PCB based RF antenna design (1 hour). Each Session was interactive answering Questions from Participants. The program covered practical aspects of RF design topics as mentioned above.

Delivery Date: 17-Dec-2014  
Time Duration: 9:30am to 5:00pm  
Location: Robert Bosch-Coimbatore  
Participants 15

#### RF System Design & Simulation Training, Total duration of 2 Days

Overview of RF System design, RF system simulation using ADS, GaN HEMT based PA simulation using non-linear models in ADS, PA circuit design in CW / Pulse mode, Doherty PA Configuration using GaN devices

Delivery Date: 12-Mar-2015 to 13-Mar-2015  
Time Duration: 9:30am to 5:00pm  
Location: Keysight Technologies-Bangalore  
Participants 16

3-Day workshop addressed the following key areas: Practical hands on how to “RF design simulation using ADS”, Linear circuit design covering LNA and Filter, Non-linear circuit design covering PA.

PA design using High power LDMOS Transistors in CW / Pulse mode operation and High efficiency / Broadband Doherty PA.

Date: 24-June-2015 to 26-June- 2015  
Day Wednesday to Friday  
Time Duration: 9:00am to 5:00pm  
Location: Bangalore  
Venue: Keysight Technologies office  
Participants 13



3-Day workshop addressed the following key areas: RF Circuit design and simulation using ADS with Introduction to Modern wireless communication systems, Linear circuit design covering LNA and Filter, Non-linear circuit design covering RF Power Amplifier

Date: 21-Dec-2015 to 23-Dec- 2015  
Day Monday to Tuesday  
Time Duration: 9:30am to 5:00pm  
Location: Keysight Technologies, Bangalore  
Participants 9

2-Day workshop addressed the following key areas: Practical hands on how to “RF design simulation using SystemVue”, RF system design covered Analog and digital modulation schemes, Architectures, Multiple Access methods, TDD and FDD schemes, System-level specifications, transmitter and receiver parameters, analog and digital functional blocks, RF system architecture examples. Critical block-level specifications and impairments (e.g. noise, P1dB, IIP3, IIP2, gain, bandwidth, phase noise and spurs), system level performance metrics (e.g. BER, EVM, modulation type, sensitivity and selectivity)

Date: 28-Dec-2015 to 29-Dec- 2015  
Day Monday to Tuesday  
Time Duration: 9:00am to 5:00pm  
Location: BEL-Bangalore  
Participants 7

2-Day ADS Fundamentals Hands on workshop covering Day-1 Workspaces and Simulation Tools and Day-2 Layout in ADS as per Keysight Training material

Date: 17-June-2015 to 18-June- 2015  
Time Duration: 9:00am to 5:00pm  
Location: Bhimavaram  
Venue: Vishnu college of Engineering  
Participants 30

3-Day customized advanced ADS Schematics, Layout and EM Simulation + RF Circuit and system Design Hands on workshop covering active and passive components, system level simulation with Workspaces and Simulation Tools and Layout in ADS as per FtA Training material

Date: 20-July-2015 to 22-July- 2015  
Time Duration: 9:00am to 5:00pm  
Location: Chennai  
Venue: IIT  
Participants 13



2-Day ADS Fundamentals with RF Circuit and system Design Hands on workshop covering active and passive components, with Workspaces and Simulation Tools and Layout in ADS as per Keysight Training material

Date: 23-July-2015 to 24-July- 2015  
Time Duration: 9:00am to 5:00pm  
Location: Tiruchirappalli  
Venue: NIT  
Participants 50

2-Day ADS Fundamentals Hands on workshop covering Day-1 Workspaces and Simulation Tools and Day-2 Layout in ADS as per Keysight Training material

Date: 10-Sep-2015 to 11-Sep- 2015  
Time Duration: 9:00am to 5:00pm  
Location: Trivandrum  
Venue: Indian Institute of Space Science and Technology  
Participants 20

2-Day ADS Fundamentals Hands on workshop covering Day-1 Workspaces and Simulation Tools and Day-2 Layout in ADS as per Keysight Training material

Date: 29-Feb-2016 to 1-Mar- 2016  
Time Duration: 9:00am to 5:00pm  
Location: Nagpur  
Venue: Babaramdeo College of Engineering and Technology  
Participants 30

1-Day ADS Fundamentals Hands on workshop covering Workspaces and Simulation Tools and Layout in ADS as per Keysight Training material

Date: 3-May-2016  
Time Duration: 9:00am to 5:00pm  
Location: PUSAD  
Venue: BN College of Engineering  
Participants 20

1-Day Genesys Fundamentals Hands on workshop as per Keysight Training material

Date: 6-April-2016  
Time Duration: 10:00am to 5:00pm  
Location: Pune  
Venue: Bhartiya Vidyapeeth-Pune  
Participants 20



- a. Introduction to EESoF tools and features covering ADS, SystemVue, Genesys and EMPro
- b. ADS – Key features using program examples
- c. SystemVue - Key features using program examples
- d. Genesys - Key features using program examples
- e. EMPro - Key features using program examples

Handouts:

- a. Program examples as project files for all the 4 EESoF tools were provided in soft copy form to all participants

Date: 14-June-2016 to 16-June- 2016  
Time Duration: 9:30am to 4:30pm  
Location: Bangalore  
Venue: Keysight Technologies  
Participants 8

2 Days, Module 1 – ADS as per Keysight training slides and lab exercises  
1 Day, Module 2 – EMpro as per Keysight training slides and lab exercises  
2 Days, Module 3 – SystemVue as per Keysight training slides and lab exercises

Date: 5-Oct-2015 to 9-Oct- 2015  
Time Duration: 9:00am to 5:00pm  
Location: Bangalore  
Venue: Keysight Technologies  
Participants: 15 to 19

2 Days, Module 1 - Linear Circuit - Passive and active component design using ADS

2 Days, Module 2 - Linear Circuit - Tuning and optimization of small signal active and passive components using ADS along with EM analysis for passive components

2 Days, Module 3 - Non-Linear circuit design & simulation - Large signal Amplifier design using Harmonic balance simulator of ADS

2 Days, Module 4 – Non-Linear circuit design, simulation and Tuning - Large signal Amplifier using Harmonic balance simulator of ADS....Continued from Module-3

2 Days, Module 5 - RF System design using ADS  
Budget analysis of down converter chain

Date: 10-August-2015 to 14-August- 2015 and 17-August-2015 to 21-August- 2015  
Time Duration: 9:00am to 5:00pm  
Location: Bangalore  
Venue: Keysight Technologies  
Participants 12



ADS-2-Days, Post-Sales Training with Hands on workshop covering on Day-1 Workspaces and Simulation Tools and on Day-2 Layout in ADS as per Keysight Training material and lab exercises

Delivery Date: 8-Jan-2016 to 9-Jan- 2016  
Time Duration: 9:00am to 5:00pm  
Location: Dehradun  
Venue: Graphic Era University  
Participants 15

ADS-2-Days, Post-Sales Training with Hands on workshop covering on Day-1 Workspaces and Simulation Tools and on Day-2 Layout in ADS as per Keysight Training material and lab exercises

Delivery Date: 26-Feb-2016 to 27-Feb- 2016  
Time Duration: 9:00am to 5:00pm  
Location: Mathura  
Venue: GLA University  
Participants 15

Customised RF Training using ADS and EMPro-3-Days in Oct-2016, as per topics listed out by your customer CET Bikaner

Delivery Date: 24-Oct- 2016 to 26-Oct-2016  
Time Duration: 9:30am to 5:00pm  
Location: CET-Bikaner  
Participants 15

Basic RF Training using SystemVue, as per Keysight standard material

Delivery Date: 27-Dec-2016 to 28-Dec-2016  
Time Duration: 9:30am to 5:00pm  
Location: IIIT-New Delhi  
Participants 15

ADS-2-Days, Post-Sales Training with Hands on workshop covering on Day-1 Workspaces and Simulation Tools and on Day-2 Layout in ADS as per Keysight Training material and lab exercises

Delivery Date: 15-Feb- 2017 & 16-Feb-2017  
Time Duration: 9:30am to 5:00pm  
Location: DTU-New Delhi  
Participants 15

Delivery of 2-Day workshop: Practical training on how to “RF circuit\_System design for ISM band application using RF Transceiver system with RF Fundamentals”



Delivery Date: 9-Feb-2017 to 10-Feb-2017  
Time Duration: 9:30am to 5:00pm  
Location: Landis+GYR-New Delhi  
Participants 10