"Communication System design using NI USRP and LabVIEW"

Introduction: The workshop shall focus on developing the basic skillset for working with National Instruments' Software Defined Radio Platform, **NI USRP** and **LabVIEW.** The workshop shall encompass the necessary topics required for an end to end communication system design. The participants will be exposed to the SDR and LabVIEW platform through a hands-on exercises.

Outcome of the Workshop: Here are the expected outcome of the workshop:

1. Basic understanding of graphical system design software LabVIEW for design & prototyping
2. Basic understanding of the NI USRP Hardware Architecture
3. Introduction to Modulation / communication system design suite in LabVIEW
4. Design methodology for an end to end communication system design

Agenda of the Workshop

Day 1 (1st Session)

- LabVIEW Basics, USRP Device Driver Programming, USRP RIO Architecture and Usage of Modulation Toolkit and Mathscript RT node.

Day 1 (2nd Session)

- 2. Implementation of Analog Modulation Scheme- Designing of an FM receiver to demodulate OTA FM signals (2 hr)
- 3. Implementation of a PSK transceiver using Pulse shaping and Matched filtering- Designing of an end 2 end Digital wireless link.

Resource Person:

Nilutpal Choudhury, MSc in Communications Engineering (TUM)
Founder and CEO - AvGarde Systems Pvt Ltd (NI Success Assurance Partner)

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Links

[1] https://www.mypadnow.com/sites/default/files/one_click_upload/31239/files/Profile.pdf