Ramesh M

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Synopsis:

M.Tech in (Advanced Communication system) graduate with ~2 years of professional experience mainly in Wireless semiconductor industry. Possessing good knowledge in Coding, Wireless Communication theory, RF Fundamentals and   Signal processing.

Professional Experience (2 yrs.)

Current company: Qualcomm, Hyderabad
Job Profile: ENGINEER I

- Trouble shooting and debugging the Transmitter and Receiver parameters of different Wireless - technologies like LTE, GSM, TDSCDMA, CDMA, WCDMA.
- Tx, Rx Parameters like Sensitivity, ACLR, SEM, EVM, OBW, Max Power etc.
- Impedance Matching and Load Optimization using Network Analyzer.
- Insertion loss (IL) measurements and optimization from Antenna port to wireless trans receiver (WTR).
- Aware of Noise Figure (NF) Analysis and Measurement Techniques.
- Link budget, Harmonics, Desense analysis.
- Aware of different characterization like APT, FBrx characterization.
- Familiar with 3GPP standards and terminologies.
- Experience in RF Calibration, testing and Measurement.
- Aware of GNSS L1(1575.42 MHz), L5(1176.42MHz) Validation, Testing.
- Experience in NBOIT module testing.
- Hands on Experience in handling RF equipment's such as Anritsu Call box MT8820C/8821C, Network Analyzer (R&S ZNB 9 KHz- 40 GHz, FSL 9 KHz-18GHz), Oscilloscope. Spectrum - -Analyzer (R&S FSV 10 Hz-7 GHz), Noise Figure Analyzer (AG N8973A) .

Tools Used: HFSS, MATLAB, ADS, QRCT, QXDM, QDART, QPST, EMAT.

Patent Filed: Interference Cancellation using Pilot contamination in channel aged Massive MIMO systems with Wavelet-Haar Transform Submitted to 5G-PRB 2020.

Wireless Physical Layer Projects:

- MATLAB implementation of Massive MIMO system. Estimating the channel coefficients, Enhancing the Data Throughput by mitigating the pilot contamination, Channel aging problem in MIMO based wireless system.
- MATLAB implementation of BER calculation of Basic communication system:

  At transmitter: Generated random bit stream, generated symbol from bitstream, mapped symbols to constellation, added AWGN noise.

  At Receiver: Demodulated symbols, converted symbols to bitstream and calculated BER.

- ➤ MALAB implementation of MIMO, Zero Forcing Receiver (ZF).
- ➤ MATLAB implementation of Maximum ratio Combining (MRC) in Wireless communication System.
- ➤ MATLAB implementation of channel coding such as Hamming, cyclic, linear, and convolutional code.
- ➤ Implementation of OFDM in MATLAB.

Journal Publications

M. Ramesh and prof. S Raghavan "Design and Implementation of Substrate Integrated Waveguide - Power Divider for X-band and KU- Band Application", Published in SAJREST vol.2,Issue 3, pp.623-627 *May2017*.

Projects

Designing of Substrate Integrated Waveguide and its Components for X-band applications [M.Tech]

The project is based on designing and simulation Substrate Integrated Waveguide and its Components like, 1×2 power divider,1×3 power divider, Circulator, Directional coupler and analyzing the scattering parameters like reflection coefficient S_{11}, transmission coefficient S_{21}, Coupling coefficient S_{31}, isolation coefficient S_{41} for these designs. Results have been executed using Tools HFSS & MATLAB.   *July 2016- May2017.*

Design and Verification of Asynchronous 8-bit UP/DOWN Counter [B. Tech]

The project is Designing an asynchronous 8-bit up-down counter by using HDL language Verilog. When the strobe bit is at logic 1, It starts up counting else down counting. Design has been verified by using System Verilog.   *Jan,2014 –April 2014.*

Technical Skills

- **HDL Languages:** Verilog. System Verilog.
- **Tools Used:** MATLAB, HFSS**.**ADS.
- **Programming Languages:** C, C++.
- **Operating Systems:** Linux, Windows.

Academic Record:

Level	Board/University	Year of Passing	%of marks obtained/CGPA
M.Tech	National Institute of Technology TRICHY	2017	7.58
B.Tech	Lovely Professional University	2014	6.65
Class XII	Sri Chaitanya Boys Jnr College	2010	90.10%
class X	Vashista High School	2008	80%

Academics Achievements & Co-curricular Activities

- Participated in the Seminar organized by IEEE antennas and Propagation Society Madras Chapter, at National Institute of Technology, Tiruchirappalli.   *Feb 2017.*
- Participated in the TEQIP short term course on "Substrate Integrated Waveguide (SIW) Technology" at I.I.T Kharagpur.   *De c 2017.*
- participated in GIAN course on „Advances in Wireless Communication and Antennas" organized by National Institute of Technology, Warangal.   *Nov 2016.*

Extra-Curricular Activities

- Silver medal in kabaddi competition held in National Institute of Technology, Tiruchirappalli 2017
- Won Bronze medal in kabaddi competition held in National Institute of Technology, Tiruchirappalli 2016.
- Won Bronze Medal at State level in Andhra Pradesh Cup Taekwondo Championship 2007.
- Won Silver Medal at District level in Andhra Pradesh Cup Taekwondo Championship 2007.