Archith Venukumar

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OBJECTIVE

Seeking a challenging full time position in the field of RF/Wireless communication

EDUCATION

The University of Texas at Dallas, Richardson, Texas December 2016

Master of Science in Electrical Engineering **GPA 3.425/4.0**

Relevant courses: Random Processes, Wireless Communication, Digital Signal Processing, Microwave Design and Measurement, Wireless Communications Laboratory, RF and Microwave Circuits, RF and Microwave Systems Engineering, Digital Communication Systems, RF and Microwave Amplifier Design

Amrita Vishwa Vidyapeetham, Bangalore, India May 2012

Bachelor of Technology in Electronics and Communication Engineering **GPA 7.73/10**

TECHNICAL SKILLS

Tools: MATLAB, LabVIEW, Advance Wireless Revolution (AWR), AWR-Microwave Office (MWO), AWR-AXIEM, AWR VSS

Hardware: Spectral Analyzer, Vector Network Analyzer, Signal Analyzer, Power meter, Oscilloscope, Signal generator

WORK EXPERIENCE

Engineer **Akon Inc., San Jose** Mar 2017 – Present

- Tuning and testing of microwave subsystems such as log amplifiers for military and space applications in a clean room environment to meet stringent specifications like MIL-STD-883, MIL-STD-202 and MIL-STD-810
- Fine-tuning components to ensure conformance to low tolerance specifications for transfer response, frequency flatness and switching time over a wide range of temperatures

Product Support Specialist **Practo, Bangalore** Sep 2015 – Dec 2015

- Helped doctors utilize Practo's product 'Practo Feed' which promoted a healthier lifestyle for their patients

Senior Systems Executive **Cognizant Technology Solutions, Bangalore** Dec 2012 – Dec 2013

- Worked with an American client to setup real time infrastructure monitoring of over 1500 infrastructure devices, resulting in immediate reaction to issues and zero downtime, saving the client time and money.

PROJECTS

Two-stage Narrow band RF Amplifier Aug 2016 – Nov 2016

- The amplifier was designed to have gain > 18dB and NF < 2dB at the center frequency of 10 GHz and gain < -2dB outside the 2dB bandwidth. Output return loss was > 12dB at 10 GHz
- Designed input, interstage and output matching network to achieve given gain and noise figure targets
- Designed bias networks for the amplifier
- Stability was maintained across all frequencies

Design of an optimized transceiver block for a fire detecting drone system Jan 2016 – May 2016

- Designed a RF transceiver system for a 'Fire Detection' drone which could proactively detect fires and deliver a fire extinguishing payload to reduce the loss of property and life caused to due to fires in urban and wild scenarios
- Used AWR VSS to find P1dB, IP3, cascaded gain, noise figure and perform link budget analysis

Microwave Design and Measurement Laboratory Projects Aug 2014 – Dec 2014

- Designed and simulated various RF circuits to meet a given set of specifications. Fabricated and tested these components in the laboratory, observed the results and made comprehensive compliance matrices.
- Microstrip Resonator - Designed two 3 GHz resonators on FR-4 substrate, first using single open circuit shunt stub of quarter wavelength and second using 2 open circuit shunt stubs.
- Wilkinson power divider – Designed an FR-4 substrate, 3dB Wilkinson power divider
- Directional Coupler – Designed a 3dB quadrature branch-line coupler and 20dB edge-coupled directional coupler
- Bandpass and Chebyshev filters – Designed 0.5dB ripple Chebyshev filter on FR-4 substrate and maximally flat Butterworth filter on Duroid substrate with 3GHz cut off frequency
- Amplifier – Designed single stage amplifier having high linear gain and good return losses. Input and output matching network for the amplifier using transmission lines used to ensure unconditional stability.

Design of a two stage Amplifier Aug 2014 – Dec 2014

- Designed an octave-bandwidth feedback MMIC amplifier on GaAs substrate to meet a given set of gain and return loss metrics. The final design had an average gain of 22 dB across a frequency range of 2 GHz.
- The amplifier was tested for stability as well and had a return loss above 10dB in the given bandwidth.
- The final layout was designed to minimize area and cost while having a high figure of merit.

Physical Layer Simulation of an OFDM System Jan 2014 – May 2014

- Implemented simplified version of WLAN modulation and demodulation techniques in MATLAB.
- Built an OFDM transmitter and receiver using parameters from IEEE 802.11a
- Simulated AWGN channel, Multipath channel, calculated BER for given channel data and executed BPSK, QPSK, 16 QAM, Adaptive modulation and MIMO-OFDM