

Usman Mehfooz

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RF/Microwave System Design Engineer

I'm an Electrical Engineer with specialization in Aviation Electronics and RF/Microwave Systems. I have 9 years of experience in research and development of these systems. I have been a part and lead of R&D teams for development of specialized equipment pertinent to following areas of research:

Electronic Warfare

- Direction Finding Systems
- Signal Analysis Systems
- High Power Jammers
- Airborne EW systems

Antenna Design and Development:

- HF/UHF/S/X-Bands
- Smart Antennas
- Phased Array Antennas
- FMCW Radar High Gain Antenna Arrays
- Spiral, AMOS, Horn Antennas, Helical
- Microstrip/Stripline Antennas

Radar Module Design and Development:

- GRIFFO 7 IQ/ Analog-Digital Tester
- High Power Switches
- Stripline to Waveguide Transitioned Power Divider
- Low/ High Power Limiters
- Low Noise Amplifiers
- Filters

Other Systems/Technologies:

- Neural Network based Classifiers
- Mutual coupling analyzer module
- Long range wireless diagnostic and remote control systems
- Radar Decoys

- Flight Data Recorders
- Inertial Navigation and GPS Systems

Skills & Expertise

- EW Systems
- RF and Microwave Systems
- Antenna Design
- Telemetry and Wireless Communication
- System Integration

Education

National University of Science and Technology, Islamabad, Pakistan

Master of Science (M.S. Electrical Engineering), Majors: Telecommunications Engineering, 2011 - 2013

National University of Science and Technology, Islamabad, Pakistan

Bachelor of Engineering (BE Electrical), Majors: Avionics System Design, 2003 - 2008

Experience

a. Consultant (Freelance/ Vortex Technologies Pvt Ltd, Pakistan)

April 2017- Current

-Development of RF/Microwave modules (General purpose over wideband)

b. Manager Technical at Government of Pakistan

September 2008 – April 2017 (9 years 11 months)

-Feasibility on inclusion of latest Technologies -Design and Development of Communication systems for various Govt. sector Orgs.

-Research and Development of Defense Technologies.

- Design and development of latest Microwave Transmitter and Receiver systems

-System/Hardware integration & planning

c. Design Engineer at NexTek Service March 2008 - September 2008 (7 months)

-Designed PCB using Cadence ORCAD for GRIFFO 7 Radar IQ/AD Tester Module

Software Expertise:

-AGILENT ADS Momentum

-Ansoft HFSS

-NI LABVIEW

-CST Microwave Studio

-FEKO

-Mentor Graphics IE3D

-Ansoft Designer

-Matlab

Publications

Design of a high gain pencil beam dipole antenna using parasitic elements in X-band

RADARCON, IEEE May 12, 2012

Authors: Usman Mehfooz, Adnan Rashdi

Interests

Research in Applied Engineering Sciences, Microwave Devices, Instrumentation, Organic Farming

Languages

English (Native or bilingual proficiency)

Urdu (Native or bilingual proficiency)