Thomas Palumbo

Principal Mechanical Design Engineer - Cobham Defense Electronic Systems

Ambler, PA - Email me on Indeed: indeed.com/r/Thomas-Palumbo/34f844223fdb363f

Principal Mechanical Engineer performing design and analyses for a wide range of products including low and high power devices/subsystems/systems and low and high power antennas/antenna systems. Applies broad knowledge of mechanical engineering principles, theories, concepts, practices, and techniques to meet allocated program, system, and cost requirements. Provides technical expertise and leadership/mentorship to designers, junior engineers, and other program team members to ensure completion of programs on schedule and within budget. Performs CAM function including planning, scheduling, EVM evaluating and reporting, and ETC/EAC analyses. Collaborates with other disciplines including electrical/antenna engineering, manufacturing, program management, quality, procurement, R&M Engineering, and sub-contracts to ensure successful execution of programs.

WORK EXPERIENCE

Principal Mechanical Design Engineer

Cobham Defense Electronic Systems - Lansdale, PA - 2001 to Present

General Duties:

• Lead mechanical engineer / IPT lead for small to multi-million dollar programs. Responsibilities include bidding of required labor and material resources, project planning, earned value management evaluating and reporting, and ensuring program is executed on schedule and within budget while managing scope

• Involvement in a wide range of projects from initial concept to end use. Involvement includes proposal, bidding, earned value management, design, analysis, documentation, testing, production support, and failure analysis by working closely with customers, suppliers, and program team members (design/drafting, electrical engineering, manufacturing, program management, test engineering, quality engineering, etc.)

• Mechanical design of low and high power electronic systems, subsystems, and components (to include transmitters, receivers, and antennas) for US military ground, airborne, and shipboard environments

• Thermal (steady state and transient) and structural (static and dynamic (vibration, shock)) analyses of electronic systems, subsystems, and components for US military ground, airborne, and shipboard environments

• Computational Fluid Dynamics (CFD) analyses of liquid chill plates, heat exchangers, air flow, and liquid submersed bodies

• Creation of specification, detail, and assembly drawings for parts and subsystems of complex electronic attack/warning and antenna systems

• Collaborating with many different company sites (for BAE Systems and Cobham) across the country by providing mechanical engineering design and analysis assistance/guidance. Efforts include designing/specifying cooling systems, CFD analyses, and design services/support for electronic/antenna systems, assemblies, and components.

• Presenting at various design reviews and technical meetings for external and internal customers. Travel to customer and supplier locations to support programs

Highlighted Program Specific Experience:

• Lead mechanical engineer for solid state replacement of a TWT RF subsystem used in a high power transmitter on US military fighter/jammer platforms
• Lead Mechanical Engineer for the design of the power distribution system on a military armored mine protection vehicle
• IPT lead for the design/manufacture/integration of an equipment cooling system. This effort involved converting the environmental cooling system of a commercial airliner into an air cooling system for equipment racks that simulated the electronics of a next generation US fighter aircraft
• Lead mechanical engineer for various programs including the design of an optical/RF system to be installed into US aircraft; modification of existing US aircraft electronic attack/protection system to be installed into US Navy surface ships; design of various low and high power RF modules (hermetic and non-hermetic); design of various high and low voltage power supply modules, design of various high and low power receive/transmit antennas
• Lead mechanical engineer for various IRAD programs including the packaging of high power GaN amplifiers and associated power supplies into a VITA 48.3 liquid flow-thru module for use in military airborne environments; the design of a Pumped Liquid Refrigerant Flow-Thru Chill Plate Module for use in military shipboard applications; and the packaging of extremely high heat flux GaN/SiC discrete and MMIC amplifiers targeted for high reliability operation in harsh/military environments.

Control Systems Engineer
Automatic Control Systems - Norristown, PA - 2000 to 2001

Designed, programmed, installed, and serviced building automation systems employing digital and analog controls

Mechanical Engineer
Naval surface Warfare Center - Philadelphia, PA - 1999 to 2000

Mechanical Test Lab Assistant (Co-Op)
Greene, Tweed, and Co - Kulpsville, PA - 1996 to 1999

EDUCATION

BS in Mechanical Engineering
Temple University - Philadelphia, PA
1999

Engineering Mathematics I and
Temple University - Philadelphia, PA

Villanova University - Villanova, PA

SKILLS

Mechanical Design, FEA Analyses, CFD Analyses, 3D Modeling, Drawing Creation, GD&T, Cost Account Management

ADDITIONAL INFORMATION

Software Skills:
• Thermal (steady state and transient) and structural (static and dynamic (vibration, shock)) analyses using ANSYS Mechanical Release 15.0
• Computational Fluid Dynamics (CFD) using ANSYS CFX Release 15.0
• 3D modeling and drawing creation using PTC CREO Elements/Pro 5.0
• Microsoft 2010 office software including PowerPoint, Excel, Word, and MS Project
• Drawing and BOM release and change management using ENOVIA Product Lifecycle Management (PLM) software by Dassault Systèmes
• Quality Assurance activities using TIPQA software by TIP Technologies, Inc.

Other significant achievements:
• 2013 Sir Alan Cobham Technical Innovation Award for Band 5/6 TWT Replacement Program
• 2011 Sir Alan Cobham Team Work Award for Band 5/6 TWT Replacement Program
• Nominated for 2011 Sir Alan Cobham Innovation Award for Pumped Liquid Refrigerant Flow-Thru Chill Plate Module IRAD
• 2009 Sir Alan Cobham Team Work Award for Band 9/10 High Voltage Module Redesign
• 2008 BAE Systems E&IS Engineering Collaboration Award for MMPV Program
• 2008 BAE Systems Chairman's Silver Award for Innovation for MMPV Program
• 2007 BAE Systems Meerkat Award for MMPV Program
• 2007 BAE Systems Chairman's Bronze Award for Innovation for Band 9/10 High Voltage Module Redesign