Job Description

Position Title	Power Electronic Research Engineer

A. Position Purpose & Summary:
Power Electronic based product and system design, verification and qualification

	B. Primary Duties & Responsibilities:
1	Understand product / project specifications and realize requirements to design using calculations, modeling and simulations
2	Engage in sizing, product hardware design / loss budget calculation / filter & protection circuits.
3	Design system / product to meet reliability, testing standards, manufacturability, material and cost guidelines
4	Verify functional performance of prototype hardware under all specified operating conditions.
5	Prepare & validate design documents - configurations, principles of operation, application guidelines, specifications, BOM, schematics & drawings as per requirement.
6	Conduct functional test plan, requirements and documentation according to applicable standards (UL /IEC etc.…).
7	Coordinate with lead engineer and team manager on product / project execution on a continuous basis.
8	Support product / system manufacturing at factory / vendor facility.
9	Responsible to produce IP's (if any) from novel design for patent submissions, journal, conference papers

C. Accountability & Authority
1. Successful design, verification, qualification of power electronic based product and system
2. Improve on the Power Electronic Lab's personnel technical skills
3. Grow Intellectual Property Profile: IP Filed, Trade Secret, Commercialized IP

Position Requirements

C. Academic Qualification:

■ Phd ■ Master's ☐ Degree Others (Pls specify)_____

■ Engineering ☐ Information Technology ☐ Science ☐ Marketing / Business

☐ Finance / Management ☐ Others (Pls specify) _____

D. Experiences:

☐ Fresh ■ 3 years ☐ 5-10 years ☐ More than 10 years

■ R&D ☐ Information Technology ☐ Manufacturing ☐ Oil & Gas ☐ Finance / Admin

☐ Sales / Marketing ☐ Others (Pls specify)

D. Technical Skills	E. Soft Skills
Background in Power Electronics topologies and applications that implement Silicon Carbide, Gallium Nitride, or Silicon Devices	Excellent written and oral communications skills
Experienced in using oscilloscopes, power meters, DC & AC loads, programmable PS, and other	Able to work independently on complex technical and/or engineering tasks
Minimum of 2 years of technical engineering experience in industrial power electronic based designs	Flexible to respond to dynamic work and customer needs environment
Proficient in electrical design / simulation tools like Matlab/Simulink, PLECS, PSCAD, PSIM tools etc.	Must be willing to work in an unstructured environment
Familiar with PCB design including using Altium and other PCB design tools	Excellent hands on debug skills, ability to get things to work
Knowledgeable in magnetics in transformers, motors and generators	
Able to perform thermal analysis for power electronics components, subsystems and converter systems	
Knowledge of control and protection algorithms and firmware for power converters	

Additional Preferences
Preferably a Master's or PhD candidate
Experience in Product level Testing, Characterization and Qualification
Experience in Embedded Design