Job Reference Number	VAC-E14 FY18

Job Description

Job Title:	Principal RF Design Engineer
Responsible to:	Engineering Manager
Department (s):	Engineering

JOB PURPOSE

To take a key design role in the RF & Microwave design team proactively working on commercial projects as well as the R&D work, covering both passive and active circuit designs.

ROLE DIMENSIONS

The role is best suited to passionate individuals with a strong background and knowledge in the fields of RF design and technologies.

KEY RESPONSIBILITIES AND ACCOUNTABILITIES

To lead the hands-on RF design and development of a range of RF & Microwave products over the spectrum of IF, L-Band, C-Band, X-Band, Ku-, K- and Ka-Bands.

To produce a high standard of documentation to accompany the above designs, for example; technical documentation and datasheets, requirements, design documents, test reports, technical briefings, and other documents required for gate reviews.

To perform RF system analysis and simulation of RF line up (cascade analysis, gain and frequency planning). This requires excellent understanding of interaction and relationships between key parameters including gain, power levels, linearity, VSWR, NF, signal related spurii etc.

To deliver successful RF designs to time and budget and be accurate in the estimating, and costing, of the effort and materials required for projects.

To liaise closely with Engineers from other disciplines (e.g. Mechanical, PCB, Electronics, Software, Test) to ensure products meet the requirements.

To liaise closely with colleagues from across the business (e.g. Production, Operations, Sales and Marketing etc.) and other Project Stakeholders to ensure the timely delivery of customer deliverables.

To lead the RF design aspects of projects and/or product lines, or to lead small teams and/or mentor junior colleagues.

To contribute to the expansion of RF/Microwave knowledge, processes and techniques within the company.

To commit to continuous improvement of self, team and ETL.

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COMPETENCIES REQUIRED FOR THE ROLE	
Qualifications and Experience	**Essential (E) or Desirable (D)**
A degree in Engineering (Electronics, Electrical), Computer Science, Physics or a related discipline	E
Extensive experience in RF and microwave design of active and passive circuits, especially over DC-6GHz (IF, L-, S-, C-Bands) and ideally to 40GHz (covering X-, Ku-, K- and Ka-Bands)	E
Extensive knowledge of, and experience in, the use of commercially available CAD tools (ideally NI/AWR Microwave Office) for circuit and system design and simulation	E
In depth knowledge of, and experience in, specifying, designing and characterising RF equipment including Amplifiers, Splitters & Combiners, Switches, Frequency Converters and passive networks such as Couplers, Filters, Bias Tees etc.	E
Extensive knowledge of RF circuit theory, transmission lines, PCB layout techniques, substrate materials	E
Experience of interfacing RF circuits and sub-systems to analogue and digital electronics, such as; bias circuits, power supplies, digital control circuits (Microcontrollers, CPLD, FPGA etc.), ADC, DACs, DDS etc.	D
A working knowledge of other Engineering disciplines such as PCB, Mechanical, Software, Digital Electronics, Power Supplies and Test	D
Experience in Design for Manufacture and Design for Test techniques	D
Experience in Design for Compliance such as EMC for CE marking	D
Knowledge and experience in system simulation and analysis tools	D
Knowledge of RF, Microwave and Millimetric product assembly techniques	D
Awareness of the Satellite Communications industry, technologies and techniques	D
Skills	
Effective communicator, both written and oral, targeting all levels of knowledge or seniority	E
Ability to work effectively as part of a team, or autonomously, to meet scheduled project goals and deadlines	E
RF and Microwave circuit design and simulation using CAD	E
System analysis and excellent understanding of all key parameters	E
Ability to supervise both Engineers within the RF discipline, for example; peer-reviewing a colleague's design, and outside of the discipline, for example; guiding a PCB Design Engineer in the layout of an RF card	E
Strong IT skills; Office applications such as Outlook, Excel, Word, PowerPoint	E
Autonomous in the use of test equipment such as VNAs, Spectrum Analysers, Signal Generators, Noise Figure meters etc.	E
Technical documentation	D
Soldering and Prototyping	D
Personal Qualities	
Professional business attire	E
Professional and approachable manner	E
The ability to develop excellent working relationships, including mentoring of junior colleagues	E
Self-motivated	E
Positive, confident and enthusiastic attitude at all times	E

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Innovative and solutioneering engineer and leader	E
Other Factors	
Flexible and adaptable to fast-paced changing environments	E
Ability to attend conferences, exhibitions, seminars, networking events outside of working hours	D
Commercially minded and driven to deliver to agreed costs and timescales	D

JOB DESCRIPTION AGREEMENT

We confirm that this conveys a full and accurate description of the job as at December 2017

Job Holder's Signature: Date:

Manager of Department Signature: Date:

Director of Department Signature: Date: