

JOB DESCRIPTION

Dated: 17th Sep 2021

No	Job Title	Job Description	Required qualifications
1	RU High Level Designer	<ul style="list-style-type: none">• To understand system level requirements (such as DU interfaces and RF/environmental specifications) for Radio units (RU), and develop RU HW high level design (HLD) to meet the given requirements• Responsible for RU HW high level design including• To define external and internal interfaces, and make internal block requirements to meet the unit specifications.• To communicate with block designers and adjust the requirements to make product to have competency over market.• To estimate power consumption and size/weight of the unit (via thermal analysis).	<ul style="list-style-type: none">• More than 3 ~ 8 years of relevant experience in communication infrastructure industry, or equivalent, is required• Requires in-depth knowledge, both theoretical and practical, on Radio architectures, and 3GPP and regional specs (such as FCC or Telec), and key components such as AMP, Filter, and RFIC's

2	Base Station Filter Designer	<ul style="list-style-type: none"> To design and develop RF Filter and Front-End Unit as a part of / to be used in a Commercial Base Station RF System such as radio head Responsible for defining specifications, design, simulation, implementation and test of filters and front-end units for base station transceiver and radio unit. Expected to carry out design and development, design/production outsourcing, transfer to production, and production support 	<ul style="list-style-type: none"> More than 5 ~ 10 years of relevant experience in communication infrastructure industry, or equivalent, is required. Requires in-depth knowledge on filter technologies, design, simulation, test method, for example: Cavity Filter, Dielectric Resonator, TM-mode, Multi-mode Resonator
3	Power Amplifier Designer	<ul style="list-style-type: none"> To design and develop highly efficient power amplifier as a part of / to be used in a Commercial Base Station RF System such as radio head. Responsible for circuit design, PCB design, simulation, implementation and test of base station Power Amplifier. Expected to carry out design and development, transfer to production, and production support. 	<ul style="list-style-type: none"> More than 2 ~ 5 years of relevant experience in communication infrastructure industry, or equivalent, is required. Requires in-depth knowledge on power amplifier circuits and key components, for example: Driver / Main Amp, Doherty Amp, Impedance Matching, Isolator, Bias Circuit, etc.

4	Algorithm Developer (DPD)	<ul style="list-style-type: none"> To design and develop key algorithms such as Crest Factor Reduction (CFR) and Digital Pre-distortion (DPD) to be used in a Commercial Base Station RF System such as radio head. Responsible for design, simulation, coding, and test of algorithm, such as Crest Factor Reduction (CFR) and Digital Pre-distortion (DPD), for base station radio unit. 	<ul style="list-style-type: none"> More than 3 ~ 8 years of relevant experience in communication infrastructure industry, or equivalent, is required. Requires in-depth knowledge on digital algorithm theory and DSP programming/simulation skill. Proficiency in Matlab and programming language is desired.
5	Transceiver RF Designer	<ul style="list-style-type: none"> To design and develop RF Transceiver as a part of / to be used in a Commercial Base Station RF System such as radio head. Responsible for high level design, circuit design, PCB design, simulation, implementation and test of base station transceiver and radio unit. Expected to carry out design and development, transfer to production, and production support. 	<ul style="list-style-type: none"> More than 2 ~ 5 years of relevant experience in communication infrastructure industry, or equivalent, is required. Requires in-depth knowledge, both theoretical and practical, on transceiver architecture, circuits, and key components, for example: Gain Budget, Noise Budget, Frequency Planning, LNA, PLL

6	Power Development Designer	<ul style="list-style-type: none"> • Development of power for RRH. - Architecture/Circuit design of power unit for RRH including Line filter & Surge protection. - Power PCB design & power circuit simulation. - Test of power circuits. - Fault analysis of analog circuits. 	<ul style="list-style-type: none"> • Over 3 ~ 8 year-experience. of power circuit design. Development experience of low input voltage (36~60V, 48V_nominal). • On-Board power & discrete power circuit (AC/DC, DC/DC) • Knowledge of analog components. • Safety & EMI/ESD standard. • Thermal analysis, Power PCB design.
7	LTE & 5G NR Radio Unit FW Design/Implementation Expert	<ul style="list-style-type: none"> • This job is to design and implement CPU based software in the Samsung R&D center. This task includes design and implementation of RU device driver, design and implementation of RU application software. This requires understanding of Radio Unit software in wireless communication, work experience on Linux and ARM based Radio Unit control software, and experience on multi-core based platform development. • Modem control software design and implementation • MAC software design and implementation 	<ul style="list-style-type: none"> • 1 year or more embedded software development experience • Experience in C/C++ programming • Experience in embedded Linux, Uboot development and debug • Experience in developing Radio Unit device driver. • Experience in developing Radio Unit control software • Experience in developing LTE & 5G NR L-Phy software.

8	4G/5G RU/MMU FPGA Design and Implementation Engineer	<ul style="list-style-type: none"> This job is to design and implement FPGA function blocks in RU. It includes design and implementation of function blocks as below. <ul style="list-style-type: none"> - Interface: CPRI, eCPRI, ORAN and JESD204B/C. - Low PHY: DLFE(IFFT), MU weight generation, ULFE(FFT), RAFF, MRC, Beamforming and antenna calibration. - DFE: DUC, DDC, CFR, DPD and PIM. - Etc: RU/MMU control. FPGA Device resource estimation and power estimation. Specification definition and documentation. Digital logic design for control/interface and digital signal processing. Handling for RTL IP or Library. RTL design and simulation, synthesis, timing analysis and Place & Route. FPGA function verification and debugging. 	<ul style="list-style-type: none"> Minimum 1 ~ 3 years of experience in developing FPGA for wireless communication. Minimum 1 ~ 3 years of experience in RTL (Verilog, VHDL, System Verilog). Minimum 1 ~ 3 years of experience in simulator and Place & Route tool such as Mentor, Synopsys, Cadence, Vivado and Quartus. Experience in developing RU/MMU FPGA function blocks as below <ul style="list-style-type: none"> - Interface: CPRI, eCPRI, ORAN and JESD204B/C. - Low PHY: DLFE(IFFT), MU weight generation, ULFE(FFT), RAFF, MRC, Beamforming and antenna calibration. - DFE: DUC, DDC, CFR, DPD and PIM. Experience in Matlab and C-code. Knowledge in LTE/NR air specification. In-depth knowledge in FPGA device structure.
9	Development Verification	<ul style="list-style-type: none"> System Development Verification Setup and test to find out potential risk and weakness of the system Verification with standard, design target, design documents and system requirements Report issues, check and verify the root cause of the issues Responsible for design quality 	<ul style="list-style-type: none"> Must have basic understand with Electronics and network communications engineering General understanding of process of mass production. General understanding of quality, statistics. RF & modem technology experience in high volume products is a plus. Familiar with measuring instruments like Signal Analyzer and signal generator, is a plus.

10	PCB CAD Engineer	<ul style="list-style-type: none"> • Circuit Design and PCB Design/Layout (RF, Analog) • Circuit Design and PCB Design/Layout <ul style="list-style-type: none"> . Circuit Design . PCB Design/Layout: RF, Analog Circuits • ECAD Operation/Management <ul style="list-style-type: none"> . CAD Tool Installation/Setup, Environment Setup for Users, Source Data Management • PCB production, Mounting Issue analysis and response 	<ul style="list-style-type: none"> • More than 3 ~ 8 Years of Experiences on PCB Layout/Design: Should Be Eligible to Layout/Design PCB on RF, Analog Circuits • More than 2 ~ 4 Years of Experiences on Mentor Graphics's Xpedition VX Tool • Knowledge on Electronic Circuits and Components • SI / PI Basic Knowledge • PCB production process understanding ability
11	Mechanical Engineer	<ul style="list-style-type: none"> • Mechanical design of RRU(Remote Radio Unit) • Thermal Design (Thermal Analysis, Test) for RRU • Seeking for cost effective vendors focused on low price • Devise cost effective and competitive design of RRU • Mechanical 3D drawing with NX • Verifying and resolving mechanical problems of RRU • Thermal design for natural/forced convection system. • Thermal simulation using CFD tool 	<ul style="list-style-type: none"> • More than 2 ~ 5 years experience in mechanical design of the telecommunication equipment and its installation bracket • Experience in mechanical design of mold part (Die-casting or Injection) • Knowledge and experience of Thermal & Fluid engineering • Thermal simulation using CFD tool • Understanding of telecomm system's structure and configuration • Knowledge of material engineering and its manufacturing process • Skillful in mechanical CAD such as NX • Knowledge and experience of Thermal & Fluid engineering • Understanding of thermal simulation using CFD tool (Flotherm, 6Sigma ET) • Knowledge of Thermal & Fluid engineering and experience of thermal test • Ability to operate MS Office and MS-Windows proficiently