

Rana Azhar Shaheen

Co-founder & CEO

RF / mmWave IC design · Satcom · Beamforming

CONTACT

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EDUCATION

D.Sc. (Electrical Eng.)

University of Oulu, Finland — mmWave receiver ICs

M.Sc. (Electrical Eng.)

Tampere University of Technology — RF electronics

CORE SKILLS

- RFIC/mmWave design, 3.6–100 GHz
- LNA, PA, VGA, phase shifters, beamforming
- RF passives & EM verification
- Full-custom layout, DRC/LVS/PEX, tape-out
- Post-silicon characterisation

TECHNOLOGIES & TOOLS

45 nm CMOS SOI · 28 nm CMOS · 130 nm SiGe BiCMOS · Cadence Spectre/Virtuoso · Calibre · ADS · Momentum · EMX

LANGUAGES

English (excellent) · French (intermediate) · Punjabi

PATENTS & SELECTED PUBLICATIONS

- Patent: Configurable antenna arrangements — US Patent App. 16/824,745 (with M. Leinonen, A. Pärssinen, R. Akbar, A. Sethi)
- Patent: Attenuation circuit — US20230170871A1
- mmWave frequency-reconfigurable LNAs for 5G — IEEE TCAS-II, 2020
- A 37-to-62 GHz LNA with wideband beamforming combiner — IEEE ESSCIRC, 2020
- Fully integrated 4 × 2 element CMOS RF phased-array receiver — AICSP, 2018
- + 7 further journal and conference papers

PROFILE

Senior RF/mmWave IC designer with hands-on experience from 3.6 to 100 GHz in CMOS, RF-SOI and SiGe BiCMOS. Covers active and passive front-end blocks (LNA, PA, VGA, phase shifters, combiners, transformers) and the complete development cycle, from architecture and layout through EM verification and tape-out to post-silicon characterisation. Ku/Ka-band satcom receivers and phased-array experience.

EXPERIENCE

Co-founder & CEO — 2026 – now
SkyBand Semiconductors, France
- Technical strategy, RFIC/MMIC architecture definition, customer engagement and business development.
- Heterogeneous CMOS/SiGe and III-V concepts, incl. GaN power-amplifier and multiband front-ends for satellite and space.
- Technical proposals, project planning, foundry and partner collaboration.

Senior RF/mmWave IC Designer — 2023 – 2026
Satixfy / MDA Space, UK
- Ku- and Ka-band satcom receiver front-ends (LNA, VGA).
- Evaluation of 45 nm and 65 nm CMOS SOI technologies.
- Full-custom layout to tape-out: DRC, LVS, electromigration, sign-off (Virtuoso, Calibre, EMX).

Senior RF/mmWave IC Designer — 2019 – 2022
NXP Semiconductors, France
- 5G/6G transmitter and receiver front-ends in SiGe BiCMOS, complete design flow.
- Silicon passives: Wilkinson combiners, reflection-type phase shifters, quadrature hybrids, transformers.
- Sub-6 GHz multi-watt power amplifiers.

Doctoral researcher, RF/mmWave IC design — 2015 – 2019
University of Oulu, Finland
- Complete 4 × 2 Ku-band phased-array receiver in 45 nm SOI: design, layout, characterisation.
- Narrowband, wideband and multiband LNAs from 24 to 70 GHz (28 nm CMOS, 45 nm SOI).

EDA Application Engineer — 2013 – 2014
Renesas Mobile / Broadcom
- RFIC EDA flows (Virtuoso, ADS, Calibre), post-silicon validation support.



Amine Lazhar

Co-founder & Executive Director

RFIC / MMIC design · Switches, attenuators, LNA, PA · Packaging

CONTACT

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EDUCATION

M.Sc. Integrated Circuits & Systems

INSA Lyon, France

Engineering diploma, Microelectronics

ENIS Sfax, Tunisia

CORE SKILLS

- RFIC/MMIC design, sub-GHz to mmWave
- Switches, attenuators, equalizers
- LNA and PA design
- Laminate package design
- Full EM co-simulation: die, package, PCB
- RF measurement up to 40 GHz

TECHNOLOGIES & TOOLS

RF-SOI (TowerJazz, GF) · SiGe · CMOS (TSMC 40 nm, 130–180 nm SOI) · GaN

LANGUAGES

French · English

PATENT

- US20260095164A1 — Low-loss voltage-controlled variable attenuator

PROFILE

Analog and RFIC/MMIC designer with 15+ years of experience from sub-GHz to mmWave in CMOS, RF-SOI, SiGe and GaN. Track record of released catalogue products (wideband switches and voltage-variable attenuators), Wi-Fi and Bluetooth power amplifiers and LNAs, laminate package design and full die–package–PCB EM co-simulation. Inventor on a US patent.

EXPERIENCE

Co-founder & Executive Director — 2026 – now
SkyBand Semiconductors, France

- Design and optimisation of GaN power amplifiers.

Founder — 2025 – now
RF Test Laboratory

- DC, small-signal (S-parameters up to 40 GHz) and large-signal (P1dB, compression) characterisation.

RF IC Engineer — 2022 – now
MACOM, USA (contractor)

- Wideband voltage-variable attenuators (DC–8 GHz; 5 MHz–3 GHz 75 Ω; 2–60 GHz) and reflective SP4T switches (up to DC–44 GHz) in RF-SOI — released products incl. MAAV-011017, MAAV-011018, MASW-011199.
- Wideband variable equalizer (0.1–8 GHz); laminate package design; full EM extraction of die, package and PCB.

Analog RFIC Engineer — 2021
Faurecia, France (contractor)

- Radio receiver subsystems (LNA, mixer, PLL/LO, filters, ADC) in TSMC 40 nm LP.

RF IC Engineer — 2019 – 2021
NXP, Caen (contractor)

- Wi-Fi 6/6E and Bluetooth power amplifiers in SiGe and RF-SOI.

RF IC Engineer — 2015 – 2019
X-FAB France (ex-Altis)

- RF switches (SPST to SP6T), Wi-Fi and LTE LNAs, analog blocks; SOI technologies; customer design and layout support.

Analog IC Design Engineer — 2010 – 2013
Intel · NXP Caen

- SRAM power management (20/28 nm), PMU analog blocks, layout and tape-out verification.



Hamza Najjari

Co-founder · Power amplifier specialist

PA design · RF & mmWave IC · Electro-thermal design

CONTACT

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EDUCATION

PhD in Electronics — PA design

University of Bordeaux / IMS lab, with NXP

M.Sc. Analog / RF / mmWave circuits

University of Bordeaux

CORE SKILLS

- Power amplifier design & optimisation
- Electro-thermal analysis, PA reliability
- Pout / PAE / linearity / bandwidth trade-offs
- RF switches, couplers, matching, passives
- RF layout, EM simulation, post-layout
- Silicon characterisation: SP, Pout, P1dB, PAE, EVM

TECHNOLOGIES & TOOLS

GaN (feasibility) · 22FDX RF-SOI · SiGe BiCMOS · 28 nm CMOS · Cadence Virtuoso, SpectreRF · ADS, ADS thermal · EMX · MATLAB

LANGUAGES

French · Arabic · English (professional)

PUBLICATION & PATENT

- Power amplifier with adaptive biasing for improved DEVM — IEEE RFIC Symposium, 2018
- Temperature correction circuit for a power amplifier — patent application, 2019

PROFILE

Principal analog/RF/mmWave IC design engineer with a PhD in power-amplifier design and 10 years of industrial experience. Focus on power amplifiers, RF switches, directional couplers and integrated passives, from architecture definition and circuit design to layout, EM simulation and silicon validation. Specialist in electro-thermal design and PA reliability.

EXPERIENCE

Co-founder · PA specialist — 2026 – now
SkyBand Semiconductors, France

- GaN PA feasibility study for Ku/Ka band: state of the art, ADS test benches, DC, S-parameter, load/source-pull and harmonic-balance simulations (simulated targets: Pout 30 dBm, Psat 37 dBm).

Principal Analog / RF / mmWave IC Design Engineer — 2016 – 2026
NXP Semiconductors, France

- 60 GHz power amplifier in 22FDX RF-SOI for a high-data-rate, low-power wireless interface: architecture, bias network, EM/RC partitioning, layout, design reviews, lab characterisation, trimming and calibration.
- Wi-Fi 6 / 6E power amplifier (5–7 GHz) in SiGe BiCMOS, from concept to layout, with electro-thermal simulation and thermally compliant floorplan.
- Integrated directional coupler at the PA output: directivity, coupling, insertion loss, area.

PhD researcher — 2016 – 2019
IMS Laboratory (Univ. Bordeaux) & NXP

- Thesis: PA design based on electro-thermal considerations — junction-to-die thermal model, self-heating and thermal coupling, floorplan optimisation for lower Tj, robustness and reliability.

RF IC design intern — 2014
NXP Semiconductors, France

- RF switch design and layout (Ron / Coff / area trade-off).



Gérard Caille

Advisor · Antenna & satellite systems specialist

Active antennas · AESA · Satellite payloads · SAR

CONTACT

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EDUCATION

Engineer

École Polytechnique, Paris

Engineer & 3rd-cycle diploma, microwaves & antennas

ENSEEIHT, Toulouse

CORE SKILLS

- Active arrays / AESA, multibeam antennas
- Reflectarrays, mesh reflectors
- Satellite payloads: telecom, observation, navigation
- Digital beamforming, reconfigurable payloads
- MMIC/ASIC needs of active antennas
- Teaching: active antenna design

TECHNOLOGIES & TOOLS

Telecom (Ku/Ka), SAR (C/X), LEO/GEO constellations, user terminals

LANGUAGES

French · English (proficient) · Russian (basic)

PATENTS & PUBLICATIONS (SELECTION)

- 16 patents on antennas and satellite user terminals, e.g. array antenna with irregular mesh; distributed feeding circuit for beamforming; near-field calibration of active antennas
- Conformal array antenna for LEO observation platforms — IEEE AP Magazine, 2002
- Very large reflectarray with unfoldable panels, L to C band — CEAS Space Journal, 2013

PROFILE

Antenna and satellite-systems expert with 27 years at Alcatel Space / Thales Alenia Space, where he led the Active Antennas group and then Advanced Antennas Research, as a member of the Thales experts pool. Designed active phased-array antennas up to flight models for telecom satellites and spaceborne SAR. Author of 16 patents and numerous tutorials at EuCAP, EuMC, JINA and ESA workshops.

EXPERIENCE

Active antennas & space systems — 2015 – now

Independent expert consultant

- Missions for Thales Alenia Space (large contribution to 3 proposals retained by ESA), CNES (multibeam AESA base stations), Safran (AESA prototype receiving several LEO satellites) and New Space SMEs, incl. a beamforming IC with true time delay.
- Expert evaluator for the European Commission (H2020, Horizon Europe).
- Board member of SEE Occitanie; EuCAP short courses on user-terminal antennas.

Antenna engineer → Head of Active Antennas → Advanced Antennas Research Manager — 1987 – 2014

Alcatel Space → Thales Alenia Space, Toulouse

- Active phased arrays up to flight models: STENTOR and SKYBRIDGE telecom satellites, ASAR (ESA ENVISAT) and French SAR programmes, high-rate data transmission from LEO.
- Technical manager of CNES, ESA and EC studies (MULTIKARA, ARASCOM, conformal arrays for GAIA); led the array-antenna activity of the EU ACE network.
- Managed teams of 5 to 30 engineers.

New technologies & processes — 1970 – 1986

Thomson-Espace and SMEs

- Evaluation and implementation of new technologies for mechanical equipment and antennas.