

# Yanhui Zhao

Senior Radio Developer in Ericsson AB

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## Summarize & Competences

- Over 13 years' experience with Matlab, familiar with DSP algorithm by Matlab implementation.
- Strong software skills with C#, VEE and language integration (external call with Matlab/C/C++), familiar with other languages like C++, C, Java, etc.
- Strong software skills with script language TCL, familiar with others like shell, python, etc.
- Expertize on automatic test platform development, with very loose coupling structure, support various interface and dynamically components loading.
- Familiar with latest Windows GUI technology WPF application.
- Experience with the Linux system administration.
- Familiar with 3GPP LTE/WCDMA/CDMA/GSM radio standard and Ericsson RBS6000 radio products.
- Familiar with communication theory, digital modulation, analog circuit.
- Familiar with RF instruments (Signal Generator, Spectrum Analyzer, Power Meter, Network Analyzer, etc.) operation and remote control (SCPI command control), also familiar RF measurement methodology.
- Familiar with 3GPP standard 36 series, especially 36.2xx with LTE physical layer (base station side).
- Familiar with radio transceiver structure, digital function of the radio, and interfaces with external devices.
- Familiar with core function fast digital AGC in the receiver, and core function DPD in the downlink.
- Familiar with CPRI and its Ericsson implementation, also familiar with I2C, SPI and SERIAL interfaces.
- Familiar with ADS RF simulation.
- Team leader and resource planning, very strong competence in the problem trouble shooting area.

## Working Experience

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|----|-----------------------|---|
| 1. | 2014.10 ~ Present     | Ericsson AB. <b>Gothenburg, Sweden</b>  |
|    | <b>Title</b>          | Senior Radio Developer  |
|    | <b>Responsibility</b> | Integration team leader of Ericsson <b>NGR (Next Generation Radio)</b> micro product. |
| 2. | 2012.01 ~ 2014.09     | Ericsson (China) Communication Co., Ltd. <b>Beijing, China</b>                        |
|    | <b>Title</b>          | System Integration Engineer   |
|    | <b>Responsibility</b> | Uplink integration leader of the Ericsson Radio products.                             |
| 3. | 2011.06 ~ 2011.12     | Ericsson AB. <b>Gothenburg, Sweden</b>  |
|    | <b>Title</b>          | System Integration Engineer   |
|    | <b>Responsibility</b> | Responsible for Ericsson platform 5 first radio product HW/SW integration.            |
| 4. | 2010.01 ~ 2011.05     | Ericsson (China) Communication Co., Ltd. <b>Beijing, China</b>                        |
|    | <b>Title</b>          | System Integration Engineer   |
|    | <b>Responsibility</b> | Responsible for the performance optimization of Ericsson Radio products.              |
| 5. | 2008.05 ~ 2009.04     | Agilent Chengdu Research Center, <b>Chengdu, China</b>                                |
|    | <b>Title</b>          | NPI (New product Input) Engineer  |
|    | <b>Responsibility</b> | Responsible for the production test SW development for the CXA N9000 Signal           |

Analyzer. C# is the primary language.

## Project Experience

- 1. 2014.10 ~ Present      NGR (Next Generation Radio) Micro B1 Development, Gothenburg, Sweden**  
Project description: 60% smaller and 70% lighter compare to the old one, but with better performance.
  - ✓ Integration team leader, to plan the integration activities and contact person between HW/SW.
  - ✓ All HW components access on the board. SPI low level communication debugging (waveform).
  - ✓ Responsible for the SW function structure DS, DL/UL integration between SW and HW.
  - ✓ Setup the automatic test system and implement the calibration test methods for the products.
  - ✓ Radio performance optimization and measurement. (Matlab, TCL, VEE)
  - ✓ AGC and DPD function tuning and optimization for the micro product (Matlab).
  - ✓ Drive and involved in several A-TRs, prime contributor to the root cause finder and final solution.
- 2. 2013.07 ~ 2014.09      RTP (Radio Test Platform) pre development project, Beijing, China.**  
Project description: Develop a general test platform for all the radio designers for their verification.
  - ✓ Leader of the RTP development team.
  - ✓ Build the SW structure with another colleague, plan resources for the test case development.
  - ✓ Author of digital signal processing external library (Matlab) for C# external calling.
  - ✓ Support various instrument interfaces, for example GPIB, LAN, Serial, COM, etc. new interface can be easily added if necessary.
  - ✓ Support run time test case dynamic loading, develop new test case is very flexible.
  - ✓ Training workshop to other colleagues and to other Ericsson sites (Kista, LN and EMC).
- 3. 2014.03 ~ 2014.09      RRUX 82 B40 TD-LTE Radio Unit Development, Beijing, China.**  
Project description: 1st Ericsson 8 TX and 10G RU designed for CMCC, developed in a very short time.
  - ✓ Leader of uplink integration (from components access to radio performance optimization).
  - ✓ Developed automatic test program for calibration and performance test (Matlab, VEE, C#).
  - ✓ Developed automatic test tools for FPGA designer to verify their function.
  - ✓ One of the authors for the uplink design specification for FPGA implementation.
  - ✓ AGC function debugging and performance calibration/optimization for the product (Matlab).
- 4. 2012.06 ~ 2012.11      Smart LTT test bench pre-development project, Beijing, China.**  
Project description: Develop a new smart test system for the radio robustness test, cost saving.
  - ✓ Leader of the SW development for this project.
  - ✓ Take approximately 90% of the coding work, lighter, and faster execution speed than the old one.
  - ✓ Improve the efficiency about 20 times and save cost approximately 2M RMB/year for Ericsson.
  - ✓ Real test platform demo showed in the Ericsson Technology Day 2012 in Beijing.
- 5. 2012.01 ~ 2014.02      mRBS, ACE and A2 project development, Beijing, China.**  
Project description: Ericsson platform 5 frequency variant products development for different Band.
  - ✓ Uplink integration responsible for all 3 platforms, and cover totally 15 products.
  - ✓ Responsible for the calibration and performance optimization. (Matlab + VEE + TCL)
  - ✓ TR trouble shooting for the various problems comes from all other team.
- 6. 2011.06 ~ 2011.12      Platform5 Jango B0 product development, Gothenburg, Sweden**  
Project description: 1<sup>st</sup> Ericsson Platform 5 product with better performance compare to the old one.
  - ✓ Responsible for the uplink integration of HW/SW, and also TR solving.
  - ✓ Calibration and performance optimization of the product (mainly uplink part).
  - ✓ New time alignment design specification for the product, new feature verification.

- ✓ Test program implementation for new features of the product (Matlab + VEE).
- 7. **2010.01 ~ 2011.05** RIR and Avatar project development, **Beijing, China.**  
 Project description: Ericsson 1<sup>st</sup> dual TX platform 4 products, and special repeater radio for Korea.
  - ✓ Responsible for all the uplink and downlink integration for these 2 projects.
  - ✓ Released RIR B5, and released Avatar B12 and B5.
  - ✓ Responsible for the calibration and performance optimization. (Matlab + VEE + TCL)
- 8. **2008.05 ~ 2009.04** CXA N9000A Signal Analyzer test program development. **SiChuan, China**  
 Project description: Build a production test system for Agilent CXA N9000A Spectrum Analyzer.
  - ✓ One of the authors builds the new production test platform (C#), to be used in the production line.
  - ✓ Developed an internal self-diagnostic program alone (inside the spectrum analyzer in factory mode), improve the fault finding efficiency dramatically during the production time.

## Honors & Achievements

- **Highest IPM score** within the team (totally 22 persons) in year 2011, 2012 & 2014.
- **Best Inventor** in Ericsson China R&D of year 2012.
- **Excellent Employee** in Ericsson China R&D of year 2012.
- **2 patents** published together with other colleagues.
  - ✓ 1 publication number is: **WO2014032209**
  - ✓ The other one is protective publish.
- **Best evaluation** from the foreign manager during **STA (Short Term Assignment)** in Gothenburg, Sweden.

## Education Experience

1. **2003.09 ~ 2010.06** University of Electronic Science and Technology of China, Chengdu, Sichuan, China.  
**BS and MS.**  
**Achievements:**
  - ✓ 1st average point within the whole department.
  - ✓ Highest class scholarship every year.
  - ✓ 3rd prize of Sichuan province for the Math Modeling competition and Program competition.
  - ✓ Recommended to the graduation school without examination.

## Language

Fluent spoken English, very little Swedish.

## Self-Evaluation

I am a very active person, and have very strong interest in the tele-communication technology. I have background with both HW (especially RF, digital, etc.) and also SW working experience. I have solid understanding about the radio system, and how it is built by HW components, and how it works in the real system. I also have rich experience with RF test instruments, and expertized on the Automation Test Platform build up, I can build up a complex automatic test system myself with both HW topology connection and SW implementation. I have passion on my daily work, and optimistic to the obstacles I encountered during my work. I am a very fast learner, and always prepared to learn new things in my daily work or even personal life, meanwhile I am also a very good team member and always willing to share knowledge and discuss with others to achieve improvement whenever possible.