

# JANE MACK

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## SUMMARY

System Integration & Test engineer for wireless communication technologies. Extensive experience in system design, platform bring-up, integration, debug and verification of product requirements and complex prototype platforms. Hands-on professional closely involved with the development and test of emerging wireless technologies that includes 5G NR, 4G, 3G, LTE-Advanced, UMTS, WCDMA, TDD, FDD, GSM, 802.11 Wi-Fi, WiGig, TCP/IP

## SKILLS & EXPERTISE

Familiarity with Windows and Ubuntu operating systems and command line operations. Exposure to commercial test simulators and systems such as Anite, Rohde& Schwartz, Agilent and Anritsu for conformance and RF testing. Familiarity with SharePoint, JIRA, Github and Microsoft Office Tools.

## EXPERIENCE

InterDigital Inc | Melville, NY

### Member Technical Staff

2000 – Present

Member of the Research and Development division that innovates emerging wireless communication and advanced technologies. Responsibilities include developing effective Test Plans, Procedures, and Reports for the System integration and test of technology platform solutions. Created, developed and implemented strategies for all phases of cellular device product testing including conformance tests, network performance, field trials, drive testing, interoperability tests, live network tests and stress tests. Conducted performance analysis and characterization of the Air Interface for optimization studies. Participated in Field Trials, Test Beds and university collaborations around the world.

### mmW technology:

- Involved in the platform bring-up and verification of a 5G NR 28GHz platform system with beam management capability
- Responsible for the on-site delivery of the EdgeLink 60GHz solution to New York COSMOS Wireless PAWR testbed at Rutgers University
- Team lead in the successful on-site trial and demonstration of the millimeter wave (mmW) EdgeLink 60GHz WiGig solution with the CrossHaul testbeds in Berlin and Madrid. This effort included our successful integration with technology innovations from six partners in the H2020 5G CrossHaul consortium.

### Dynamic Spectrum Management (DSM) technology

- Responsible for the System Integration and Verification of the DSM platform which is a Wi-Fi based TV Whitespace (TVWS) platform. Performed field trials and performance characterization of the system.
- Demonstrated the DSM platform at conferences, tradeshow and Kings College, London

### 2G/3G technology

- Responsibilities include testing and verifying the physical layer and network protocol requirements for a 3G modem
- Lead for the Inter-Operability Testing (IOT) of 2G/3G reference design at Ericsson facilities in Plano and Montreal
- System Integration & Verification (SIV) lead for InterDigital's participation in the MUOS military project
- System Integration & Verification lead for the successful completion of GCF, PTRB & FCC certification effort of Interdigital 6071 SlimChip (with HSDPA & HSUPA) reference platform at 7 Layers Conformance Test facility.

Verizon Communication | Patchogue, NY

### Outside Plant Engineer

1998 – 2000

Responsible for the expansion, augment and maintenance of the copper and fiber optic network.

- Develop and define plans for the implementation or change of outside plant network that are most feasible and economical
- Maintains the security of the outside fiber plant (OSP) network, either aerial and/or underground, throughout area of responsibility by managing cable location, locating contractors and initiating protection activities

**Software Engineer**

1997 – 1998

Software development support for a flight control communication system utilizing MIL-STD 1553 command and control data bus.

- Developed software to support SATCOM communication over the MIL-STD 1553 bus for head-up display (HUD) on military planes.
- Developed and executed Unit Test Plan to validate software performed as designed.

## PUBLICATIONS

### IEEE Publications

- 5G NR LDPC Decoding Performance Comparison between GPU & FPGA Platforms  
(presented May 2019 for IEEE publication)
- Experiments and results of a mmW transport platform to enable 5G cloud RAN lower layer splits  
<https://ieeexplore.ieee.org/abstract/document/8378032>
- EdgeLink™ mmW Mesh Transport Experiments in the Berlin 5G-Crosshaul Testbed  
<https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8001984>
- Over-the-Air Performance Results of a Dynamic Spectrum Management Wi-Fi System in TVWS  
<https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=6578216>
- Field trial results for a Wi-Fi based spectrum sharing technology in TVWS  
<https://ieeexplore.ieee.org/abstract/document/6845207>

## PATENTS & APPLICATIONS

<https://patents.justia.com/inventor/jane-mack>

### USPTO Granted:

**Patent Number** 10050762 (Channel quality measurement and transmit power allocation in a dynamic spectrum management system)

### USPTO Applications:

**Publication number:** 20140341109 (Methods, Apparatus and Systems for Managing Converged Gateway Communications)

**Publication number:** 20140086081 (CHANNEL QUALITY MEASUREMENT AND TRANSMIT POWER ALLOCATION IN A DYNAMIC SPECTRUM MANAGEMENT SYSTEM)

## EDUCATION

NEW YORK UNIVERSITY – Tandon School of Engineering (formerly Polytechnic University) | Brooklyn, NY

**Bachelor of Science, Electrical Engineering**