

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS AMERICA, INC.,
SAMSUNG ELECTRONICS CO., LTD.,
Petitioners,

v.

COBBLESTONE WIRELESS, LLC,
Patent Owner.

Case No. IPR2024-00316

U.S. Patent No. 10,368,361

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,368,361**

TABLE OF CONTENTS

| | | |
|-------|--|----|
| I. | Introduction..... | 1 |
| II. | Standing | 2 |
| III. | Identification of Challenge And Relief Requested..... | 2 |
| IV. | Level Of Ordinary Skill In The Art..... | 3 |
| V. | Background..... | 4 |
| | A. Frame Structure of Time-Frequency Resources | 4 |
| | B. Resource Allocation in TDD and Interference Concerns | 6 |
| | C. Interference Measurements | 8 |
| | D. Dynamic Frame Configurations and 3GPP’s eIMTA Functionality..... | 10 |
| VI. | The ’361 Patent..... | 12 |
| | A. Overview | 12 |
| VII. | Claim Construction..... | 16 |
| | A. “quality status module” | 17 |
| | B. “sub-optimal” | 18 |
| VIII. | Grounds of Rejection..... | 19 |
| | A. Ground 1: Gaal Renders Obvious the Challenged Claims..... | 19 |
| | 1. Overview of Gaal..... | 19 |
| | 2. Claim 10..... | 21 |
| | 3. Claim 11: The base station of claim 10, further comprising: a memory coupled to the processor and configured to store an uplink resource pool, a downlink resource pool, and the shared resource pool, wherein the processor is further configured to assign, based on the | |

| | | |
|-----|---|----|
| | determined quality status of the second frequency spectrum resource, the second frequency spectrum resource to one of the uplink resource pool or downlink resource pool. | 46 |
| 4. | Claim 12: The wireless base station of claim 10, wherein the updated directional allocation of frequency spectrum resources is based on one or more of: current resource requests from a wireless device serviced by the wireless base station, current resource requests from the wireless base station, a number of frequency spectrum resources scheduled from an uplink resource pool for uplink channels, and a number of frequency spectrum resource scheduled from a downlink resource pool for downlink channels..... | 48 |
| 5. | Claim 13: The wireless base station of claim 10, wherein the initial directional allocation of frequency spectrum resources is based on current resource requests from a wireless device serviced by the wireless base station, and current resource requests from the wireless base station..... | 49 |
| 6. | Claim 15: The wireless base station of claim 10, wherein the first frequency spectrum resource includes multiple subcarriers and multiple resource elements associated with each of the multiple subcarriers..... | 49 |
| 7. | Claim 17..... | 52 |
| B. | Ground 2: Gaal In View of Khoryaev Renders Obvious Claims 10-13, 15, and 17 of the '361 Patent. | 59 |
| 1. | Overview of Khoryaev..... | 60 |
| 2. | Motivation to Combine..... | 62 |
| 3. | Claim 10..... | 66 |
| 4. | Claim 17..... | 71 |
| 5. | Remaining Limitations of Claims 10, 11-13, 15, and 17..... | 71 |
| IX. | Discretionary Denial..... | 72 |

| | | |
|-----|---------------------------------------|----|
| A. | <i>Fintiv</i> | 72 |
| B. | 35 U.S.C. §325(d)..... | 73 |
| X. | Mandatory Notices And Fees | 73 |
| A. | Real Party-In-Interest | 73 |
| B. | Related Matters..... | 73 |
| C. | Counsel and Service Information | 74 |
| D. | Payment of Fees | 75 |
| XI. | Conclusion | 75 |

EXHIBIT LIST

| Ex. | Description |
|------------|--|
| 1001 | U.S. Patent No. 10,368,361 B2 (“the ’361 Patent”) |
| 1002 | Prosecution History of U.S. Patent No. 10,368,361 B2 |
| 1003 | Declaration of Mr. Proctor |
| 1004 | U.S. Patent Application Publication No. 2014/0341051 A1 (“Gaal”) |
| 1005 | LTE-Advanced: A Practical Systems Approach to Understanding 3GPP LTE Releases 10 and 11 Radio Access technologies by Ahmadi (“Ahmadi”) |
| 1006 | R1-142771, CR 0191 to TS 36.211, Inclusion of eIMTA, TDD-FDD CA, and coverage enhancements, 3GPP TSG-RAN WG1 Meeting #77, Ericsson (May 19-23, 2013) (“R1-142771”) |
| 1007 | R1-142772, CR 0158 to TS 36.212, Introduction of Rel 12 features of TDD-FDD CA and eIMTA, 3GPP TSG-RAN WG1 Meeting #77, Huawei (May 19-23, 2014) (“R1-142772”) |
| 1008 | 3GPP TS 36.211 V12.2.0 |
| 1009 | 3GPP TS 36.213 V12.2.0 |
| 1010 | Cobblestone Wireless, LLC v. T-Mobile USA, Inc., No. 2:22-cv-00447-JRG-RSP, Dkt. 62 (E.D. Tex. Apr. 8, 2023) (“Docket Control Order”) |
| 1011 | R1-132137, Signalling for flexible subframes and determination of their usage, 3GPP TSG-RAN WG1 Meeting #73, Panasonic (May 20-24, 2013) (“R1-132137”) |
| 1012 | Sesia, S. et al., <i>LTE—The UMTS Long Term Evolution</i> , 2d ed. (2011) |
| 1013 | Kreher, R. & Gaenger, K., <i>LTE Signaling, Troubleshooting and Optimization</i> , 1st ed. (2011) |
| 1014 | 3GPP TS 36.214 V11.1.0 |

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.