

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

HUAWEI DEVICE CO., LTD.,

Petitioner,

v.

OPTIS CELLULAR TECHNOLOGY, LLC,

Patent Owner.

---

Case IPR2018-00807  
Patent 8,102,833 B2

---

Before KALYAN K. DESHPANDE, MICHAEL R. ZECHER, and  
JOHN P. PINKERTON, *Administrative Patent Judges*.

PINKERTON, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314(a)

APPLE 1011

## I. INTRODUCTION

Huawei Device Co., Ltd. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–14 of U.S. Patent No. 8,102,833 B2 (Ex. 1001, “the ’833 patent”). Paper 3 (“Pet.”). Optis Cellular Technology, LLC (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). Institution of an *inter partes* review is authorized by statute when “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). For the reasons discussed below, we deny institution of *inter partes* review of claims 1–14 of the ’833 patent.

### A. *Related Proceedings*

Patent Owner has asserted the ’833 patent against Petitioner in *Optis Wireless Tech., LLC, v. Huawei Techs. Co.*, No. 2:17-cv-00123-JRG-RSP (E.D. Tex.) (the “Litigation”). Pet. 3; Paper 5, 2.

### B. *The ’833 Patent*

The ’833 patent, entitled “Method for Transmitting Uplink Signals,” issued on January 24, 2012, and claims priority to Korean application 10-2008-0068634, filed on July 15, 2008, and U.S. Provisional Applications, Nos. (1) 60/972,244, filed on September 13, 2007; (2) 60/987,427, filed on November 13, 2007; and (3) 60/988,433, filed on November 16, 2007. Ex. 1001, [30], [60], 1:7–15.

The ’833 patent relates generally to user equipment (UE) of a mobile communication system transmitting uplink signals, including ACK/NACK signals, control signals other than ACK/NACK signals, and data signals.

Ex. 1001, [57], 1:21–24. The patent describes that control signals transmitted to the uplink “include uplink ACK/NACK<sup>1</sup> signals for HARQ communication, channel quality indicator (CQI), and precoding matrix index (PMI).” *Id.* at 1:29–32. The ’833 patent specifically distinguishes ACK/NACK signals from control signals other than ACK/NACK signals and states “‘control signals’ will mean those other than the ACK/NACK signals.” *Id.* at 5:15–16; *see also id.* at 1:43–45 (stating “the control signals will mean those except for ACK/NACK signals”).

The ’833 patent explains that the 3GPP LTE system uses a single carrier frequency division multiplexing access (SC-FDMA) scheme for uplink signal transmission. *Id.* at 1:33–35. According to the ’833 patent, the 3GPP LTE system prescribes that data signals and control signals among the uplink signals are first multiplexed and ACK/NACK signals are transmitted to the multiplexed signals by puncturing the data or control signals when uplink ACK/NACK signal transmission is required for downlink data. *Id.* at 1:35–40. As the ’833 patent also describes, it was determined that, in 3GPP LTE systems, when the control information is multiplexed with the data information, “the control information is transmitted near a reference signal.” *Id.* at 1:45–49. The ’833 patent explains that “control signals generally

---

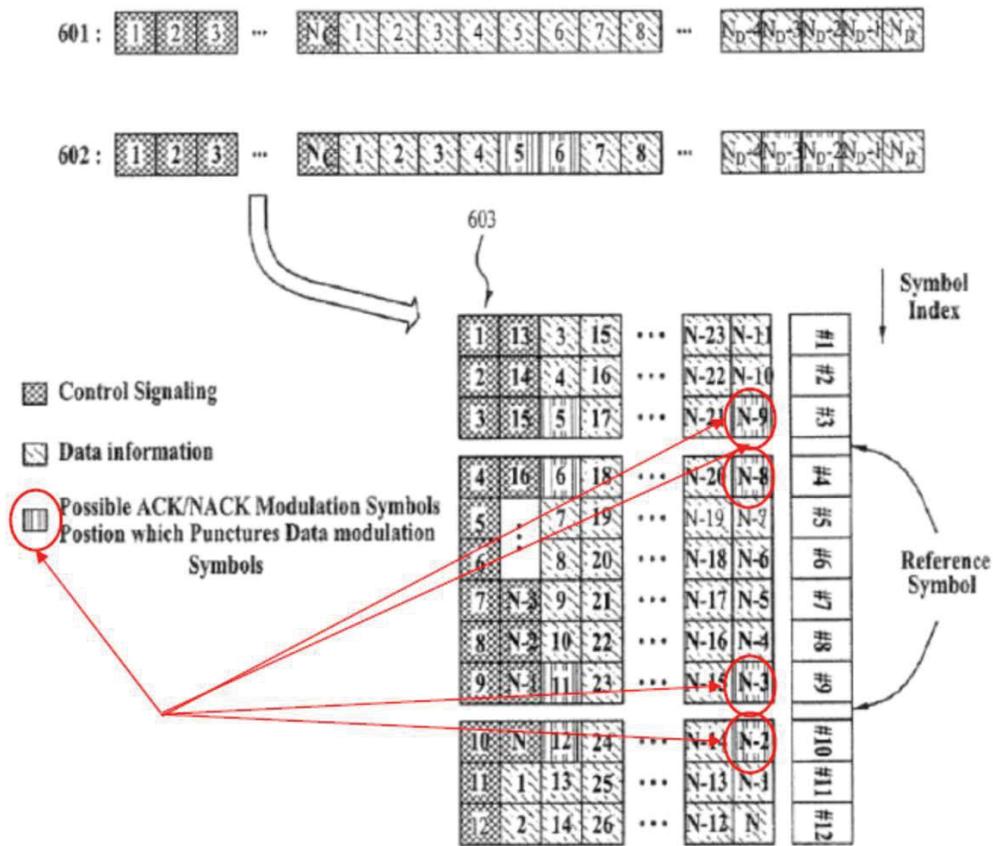
<sup>1</sup> Petitioner’s expert, Dr. Jonathan Wells, opines that an example of an uplink control signal would be an acknowledgement sent by the UE to the base station to confirm it has received a transmitted data signal. Ex. 1008 ¶ 38. According to Dr. Wells, a positive acknowledgement that the data signal was properly received by the UE is known as an ACK, and a negative acknowledgement if there was some problem receiving the data signal is known as a NACK. *Id.*

require higher reliability than the data signals,” and “the ACK/NACK signals require higher reliability than other types of control signals.” *Id.* at 1:51–57. Accordingly, the ’833 patent describes that, when uplink ACK/NACK signal transmission is required while all the control signals are transmitted by approximating to the reference signal, “problems occur in that the ACK/NACK signals can neither be transmitted by puncturing the control signals arranged near the reference signal nor be transmitted near the reference signal.” *Id.* at 1:54–62. Thus, the ’833 patent describes a method for transmitting uplink signals by efficiently arranging ACK/NACK signals and other control signals in a resource region considering priority among them. *Id.* at 2:7–10; *see also id.* at 2:25–27 (stating that “arranging the ACK/NACK signals at both symbols near to symbols through which a reference signal is transmitted”).

The ’833 patent describes transmitting information in accordance with the SC-FDMA scheme in which information sequences are transmitted using one “resource block” and one “sub-frame.” *Id.* at 5:31–40. Each sub-frame includes two slots, and each slot includes 7 SC-FDMA symbols. *Id.* at 5:40–45, cl. 3. Two of the 14 SC-FDMA symbols in each sub-frame are used as reference signals that are pilot signals. *Id.* at 5:40–43. Each resource block includes 12 OFDM (orthogonal frequency division multiple access) subcarriers and 7 SC-FDMA symbols in one slot. *Id.* at 5:37–40. The ’833 patent explains that, at this time, the number of modulation symbols of the information that can be transmitted to the uplink becomes  $12 \times 12 = 144$ . *Id.* at 5:43–45. The ’833 patent further explains that 144 information sequences can be transmitted through 12 virtual subcarriers and 12 SC-FDMA

symbols, which “can be represented by a matrix structure of 12\*12 called a time-frequency mapper.” *Id.* at 5:46–49.

An annotated version of Figure 6 of the '833 patent is reproduced below.



The annotated version of Figure 6 above is a diagram illustrating a method for transmitting uplink signals in accordance with one embodiment of the '833 patent. *Id.* at 3:33–35, 6:49–51. This figure includes three portions, arranged vertically, and is slightly annotated by Patent Owner with red lines and circles showing the location of possible ACK/NACK symbols. The top portion of Figure 6 (labeled 601) is a horizontal strip of small,

# 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.