

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ERICSSON INC. AND TELEFONAKTIEBOLAGET
LM ERICSSON (“Ericsson”),
Petitioner

v.

INTELLECTUAL VENTURES II LLC (“IV”),
Patent Owner

Patent 7,787,431

Title: METHODS AND APPARATUS FOR MULTI-CARRIER
COMMUNICATIONS WITH VARIABLE CHANNEL BANDWIDTH

IPR Case No. IPR2014-01195

**SUPPLEMENTAL DECLARATION OF ZYGMUNT J. HAAS, PH.D.
UNDER 37 C.F.R. § 1.68 ON BEHALF OF PETITIONER**

I, Zygmunt Haas, do hereby declare:

1. My background and qualifications are detailed in ¶¶ 5-13 in my previous declaration submitted as exhibit ERIC-1012 in this IPR, i.e., IPR2014-01195.

2. In the preparation for this declaration, I have studied:

(1) The '431 Patent, ERIC-1001;

(2) U.S. Patent No. 6,904,283 (“Li”), ERIC-1002;

(3) U.S. Patent No. 7,782,750 (“Yamaura”), ERIC-1003;

(4) H. Newton, *Newton’s Telecom Dictionary, 16th Edition*, CMP Books (2000), ERIC-1030;

(5) H. Holma, *et al.*, *WCDMA for UMTS, Radio Access for Third Generation Mobile Communications, Revised Edition*, John Wiley and Sons, Ltd. (2001), ERIC-1032;

(6) U.S. Patent Pub. No. 2004/0141522 (“Texerman”), ERIC-1033;

(7) The excerpts from Ex. 2001, Declaration of Kenneth Zeger, provided by counsel for Ericsson in Appendix A; and

(8) The excerpts from ERIC-1012, Declaration of Zygmunt Haas, referenced herein.

3. My understanding of the relevant legal standards remain the same as submitted in my previous declaration, ERIC-1012, ¶¶ 14-17.

I. Meaning of Certain Terms of the '431 Patent

4. It is my understanding that in order to properly evaluate the '431 patent, the terms of the claims must be defined. It is my understanding that the claims are to be given their broadest reasonable interpretation in light of the specification. It is my further understanding that claim terms are given their ordinary and accustomed meaning as would be understood by one of ordinary skill in the art, unless the inventor, as a lexicographer, has set forth a special meaning for a term. The discussion of the claim terms below is my opinion regarding each of the referenced terms, as defined in accordance with the broadest reasonable construction standard, and based on the understanding of a person of ordinary skill in the art.

“radio control and operation signaling”

5. I did not offer a construction of “radio control and operation signaling” in my previous declaration, ERIC-1012, implicitly taking the position that no construction was necessary. However, I have been informed by counsel for Ericsson that the Patent Owner (PO) has proposed a construction for the term “radio control and operation signaling” in the PO Response as “radio control signals and radio operation signals.”

6. The term “radio control and operation signaling” is used only once in the detailed description, which recites: “Radio control and operation signaling is

realized through the use of a core-band (CB).” ERIC-1001, 4:66-67. The word “is” is highlighted to show that the signaling is a single concept, not two distinct concepts.

7. Implicit in my application of “radio control and operation signaling” is that “control and operation” would have been understood by a person of ordinary skill in the art as referring to a single concept. This is consistent with the ’431 patent as well as the understanding of a person of ordinary skill in that art.

8. Basic grammar teaches that a writer would have adhered to the following table depending on whether “control and operation signaling” conveyed one object or two. *See id.* As shown in the table, the ’431 patent treats “control and operation signaling” as one object.

Two objects	One object
Radio control signaling and operation signaling <u>are</u> realized ...	Radio control and operation signaling <u>is</u> realized ... [’431 patent, 4:66-67]

9. The only disclosure in the ’431 patent related to control signals in the context of an example core-band (which is recited in claim 1 as being “utilized by the base station as a broadcast channel carrying” the “radio control and operation signaling” under construction) is as follows:

In one embodiment relevant or essential radio control signals such as preambles, ranging signals, bandwidth request, and/or bandwidth allocation are transmitted within the CB. In addition to the essential

control channels, a set of data channels and their related dedicated control channels are placed within the CB to maintain basic radio operation. Such a basic operation, for example, constitutes the primary state of operation. When entering into the network, a mobile station starts with the primary state and transits to the normal full-bandwidth operation to include the sidebands for additional data and radio control channels.

ERIC-1001, 5:8-18. This passage provides examples of “control signals” but otherwise does not clarify what is meant by “radio control and operation signaling.” A person of ordinary skill in the art would have understood that “radio control and operation signaling” refers to a single concept due to the understanding in the art and the grammatical construction used. Basic grammar teaches that if the writer meant for “control and operation signaling” to refer to two different objects, the writer would have recited “control signaling and operation signaling.”

10. By contrast, Dr. Zeger regards “control and operation” as referring to separate concepts. Regarding control signals, Dr. Zeger, explains “that radio control signals include signals used to set up radio operations, such as preambles with address information, synchronization information, ranging signals, bandwidth request information, and bandwidth allocation information.” Ex. 2001, ¶ 54 (reproduced in Appendix A, emphasis added). Regarding operation signals, Dr. Zeger explains that “[i]n addition to the essential control channels, a set of data channels and their related dedicated control channels are placed within the CB to

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