

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARRIS GROUP, INC., ARUBA NETWORKS, INC.,
HEWLETT PACKARD ENTERPRISE COMPANY, and HP, INC.,
Petitioner,

v.

MOBILE TELECOMMUNICATIONS TECHNOLOGIES, LLC
Patent Owner.

Case IPR2016-00768
Patent 5,659,891¹

Before MEREDITH C. PETRAVICK, SCOTT A. DANIELS, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

**REBUTTAL DECLARATION OF DR. APOSTOLOS K. KAKAES IN
SUPPORT OF PETITIONERS' REPLY
TO PATENT OWNER'S RESPONSE**

1. I, Dr. Apostolos K. Kakaes have previously been asked to testify as an expert witness in this action. As part of my work in this action, I have been asked by Petitioners to respond to certain assertions offered by Mobile Telecommunications Technologies, LLC ("Patent Owner") in IPR2016-00766 and

¹ Case IPR2016-00766 has been joined with the instant proceeding.

IPR2016-00768. I hereby declare, under penalty of perjury under the laws of the United States of America, as follows:²

I. INTRODUCTION

2. I am the same Apostolos K. Kakaes who provided Declarations in these matters executed on August 7, 2015, submitted as Exhibit 1003 (IPR2016-00768) and ARRIS1003 (IPR2016-00766).³

3. My experience and qualifications are provided in this prior Declaration (¶¶1-8, 10, 12-13) and curriculum vitae (Ex.1003, pp.19-23).

4. In this Rebuttal Declaration, I respond to certain assertions in Patent Owner's Response ("POR") (Paper 28) and the Declaration of Dr. Jay P. Kesan (Ex.2011) submitted on January 9, 2017.

5. In reaching the conclusions described in this Rebuttal Declaration, I have relied on the documents and materials cited herein as well as those cited within and identified in my prior Declaration (*see* Ex.1003¶9).

6. My opinions are also based upon my education, training, research, knowledge, and personal and professional experience.

² Throughout this Rebuttal Declaration, all emphasis and annotations are added unless noted.

³ All references made herein are to Exhibit 1003 in IPR2016-00768.

7. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001. If called to testify as to the truth of the matters stated herein, I could and would testify competently.

II. OPINIONS

A. Level of Ordinary Skill in the Art

8. In my August 7, 2015 Declaration, I opined that a person of ordinary skill in the art (“POSITA”) as of June 7, 1995 (the priority date of the ’891 patent) would have at least a B.S. degree in electrical engineering, computer science, computer engineering, or equivalent education. Ex.1003¶10. This person would also need to have at least two years of experience in the design and configuration of wireless paging systems, or other two-way wireless communications systems and be familiar with the operation and functionality of multicarrier transmissions. Ex.1003¶10. I have reviewed Dr. Kesan’s opinion regarding the level of skill of a POSITA with respect to the ’891 patent (requiring “a bachelor’s degree in electrical engineering or its equivalent and about four years working in the field of wireless telecommunications networks and...knowledge regarding frequency, amplitude, and masks as used in telecommunications, or equivalent education and

work experience”). Ex.2011¶9. Under either my definition or Dr. Kesan’s definition, I met or exceeded the level of skill required as of June 7, 1995, and my opinions are the same.

B. Claim Construction

1. Patent Owner’s assertions and Dr. Kesan’s opinions regarding “the band edge of the mask” are incorrect (claims 1, 3, 5)

9. I understand Patent Owner construes “the band edge of the mask” to mean “the band edge that is nearest to the center frequency of each outer most carrier at the highest power level of each outer most carrier.” POR27; *see also* POR16-43; Ex.2011¶¶47-85, 90. I disagree. I have reviewed the ‘891 patent and, in my opinion, a POSITA would not have understood the ‘891 specification as describing “the band edge that is nearest to the center frequency of each outer most carrier at the highest power level of each outer most carrier.” Instead, a POSITA would have understood that the band edge of the mask defines the channel, as required by the claims, which expressly recite: “the band edge of the mask defining said channel” and a “single mask-defined bandlimited channel.” Ex.1001, claims 1, 3, 5. In my opinion, a POSITA would have understood the ‘891 claims thus require “the band edge of the mask defining the channel” to be located where the entire channel has been included. If “the band edge of the mask” is located so as to include only a portion of the channel, it will no longer “defin[e] the channel.”

Ex.1001, claims 1, 3, 5; *see also* Ex.2012, 37:11-25, 38:1-15, 46:24-47:10;

Ex.2013, 180:5-181:4.

10. In addition, the '891 specification states "FCC masks typically require the power spectral density of a signal to be *attenuated at least 70 dB at the band edge.*" Ex.1001, 1:57-61; *see also* Ex.1012, 48; Inst.9. The '891 specification further states "*FIG. 4...depict[s] an exemplary FCC emissions mask that requires the power spectral density to be attenuated at least 70 dB within 10 kHz from center frequency.*" Ex.1001, 3:16-18; *see also id.*, 4:47-49. Thus, a POSITA would have understood the '891 specification describes "the band edge" in Figure 4's mask is at ± 10 kHz from the center frequency. *See also* Ex.2012, 68:10-69:3, 78:1-6. A POSITA would have also understood that Figure 4 depicts the band edge of the mask at ± 10 kHz, which defines the channel and includes the entire channel. Fig. 4; *see also* Ex.2012, 68:21-69:3.

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