

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
PATENT TRIAL AND APPEAL BOARD**

**QUALCOMM INC.,**

**Petitioner**

**v.**

**BANDSPEED, INC.**

**Patent Owner**

*Inter Partes Review*

**Trial Number: IPR2015-00316<sup>1</sup>**

**SUPPLEMENTAL DECLARATION OF DR. ZHI DING  
IN SUPPORT OF PETITIONER'S REPLY  
TO PATENT OWNER'S RESPONSE UNDER 37 C.F.R. § 42.120**

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<sup>1</sup> Case IPR2015-01581 has been joined with this proceeding.

I, Dr. Zhi Ding, hereby declare as follows:

1. I have been retained by Qualcomm Inc. to provide testimony for this *inter partes* review proceeding. This testimony is intended to supplement my original declaration in these proceeding.

2. I have reviewed the Patent Owner's Response, dated January 21, 2016, and its accompanying exhibit, the declaration of Dr. Jose Melendez.

**Level of Ordinary Skill**

3. In my prior declaration, I stated that one of ordinary skill in the art would have a B.S. degree in Electrical and/or Computer Engineering, or an equivalent field, as well as at least 3-5 years of academic or industry experience in the communications field.

4. Dr. Melendez states that "a person of ordinary skill in the relevant art of the '624 Patent in the relevant time period would have had a Bachelor of Science degree in Electrical or Computer Engineering or Computer Science and/or equivalent industrial work experience."

5. I do not agree with Dr. Melendez that a person of ordinary skill in the art would have a Bachelor of Science degree without the need for experience in the communications field. Nevertheless, even adopting Dr. Melendez's definition of one of ordinary skill in the art, my previous testimony remains unchanged and it is

still my opinion that the prior art references disclosed in the petition render the challenged claims of the '624 patent obvious.

### **Claim Construction**

6. The Patent Owner's Response and Dr. Melendez asserts that the Patent Trial and Appeal Board's ("PTAB") interpretation of "vote to use the particular communications channel" is unreasonably broad. Various portions of the '624 specification are cited which indicate that, in some embodiments, votes come from "participants." I would note, however, that the language of the '624 specification regarding these examples explicitly states that the embodiments are exemplary in nature. A person of ordinary skill in the art reading the '624 patent would understand that the cited examples from the specification are not necessarily limiting on the claims and that the claimed votes could come from various devices other than participants.

7. It is further noted that the claims do not require that a "mobile station" is providing the votes, as argued by Patent Owner. The claims do not define master or slave devices, nor do they require that votes come from a slave to a master. The claims only require that a "channel" receives votes. In my previous testimony, I noted that the base station (which would actually be a "participant" in the network) of Cuffaro compiles information and assigns tallies (i.e., votes) to various channels. In fact, the "channel selection criteria" of the '624 patent, which

tracks data and voting, is implemented a master device; this is similar to how Cuffaro is implemented on a base station. Cuffaro's disclosure is sufficient to meet the claimed voting to use the particular communications channel.

### **Anticipation by Gerten**

8. The Patent Owner and Dr. Melendez state that Gerten does not disclose any device "capable of maintaining a master synchronized with more than one slave in a given piconet where the master and a slave are using a default set of channels while the same master and a different slave are using different subsets of channels (having eliminated channels), changing subsets of channels over time." Ex. 2001 at ¶¶ 33, 34. These arguments are incorrect, and they also argue concepts that are not limitations of the claims (e.g., the claims do not specify piconets, they do not limit the master/slave relationships, nor do they require that this limitation applies to a single piconet only).

9. Gerten teaches multiple embodiments in which a device can communicate over an adaptive hopping sequence with one device while communicating over a normal sequence with another device. One embodiment was discussed in my previous declaration at, e.g., paragraphs 45 and 60-65. In Figure 3 of Gerten, the master unit performs a discovery process (block 110) upon connecting with a new slave unit. If the slave unit is capable of using interference avoidance, the master will begin the process to determine a modified set of

channels for use (block 120). When a second slave unit enters the piconet, if it is determined that the new slave unit cannot utilize interference avoidance, Gerten uses normal/default frequency hopping for that second slave (block 115).

10. Patent Owner takes the stance that, under Gerten, when such a second slave enters the network, the first slave would necessarily have to revert back to utilizing the default hopping sequence. According to Patent Owner, the master is not capable of utilizing the inventive aspects of Gerten while functioning in a legacy setting for communicating with the second slave. Gerten contains no such teaching, nor would a person of ordinary skill in the art read such a requirement into Gerten, because it would render the invention useless in the very likely event that at least one legacy device would enter a communication network. In fact, Gerten discloses that its “process can be applied to a Bluetooth example and includes identification of a Bluetooth device’s ability to support interference avoidance, . . . [and] a method of modifying the Bluetooth hop sequence so that it will avoid channels containing strong or fixed interferers **while** still supporting standard Bluetooth hopping with other non-enabled members of the piconet . . . .”

11. Gerten teaches another embodiment where mobile unit 22 acts as a master in one piconet but acts as a slave in a second piconet. This is shown in Figure 1:

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