UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
HTC CORPORATION AND HTC AMERICA, INC.,
ZTE (USA) INC.,
Petitioners

v.

INVT SPE LLC, Patent Owner

Case No. IPR2018-01473 U.S. Patent No. 6,611,676

SUPPLEMENTAL DECLARATION OF BRANIMIR VOJCIC



IPR2018-01473 Patent No. 6,611,676

I, BRANIMIR VOJCIC, hereby declare as follows:

- 1. I have been retained by counsel for INVT SPE LLC ("Patent Owner") as an expert in *Apple, Inc. v. INVT SPE LLC*, IPR2018-01473, challenging claims 1-11 of U.S. Patent No. 6,611,676 ('676 patent) (Ex. 1001). I am competent to testify, and if called upon during this *Inter Partes* Review (IPR) proceeding, would do so, as to the truth of each statement herein.
- 2. I understand that on March 29, 2019, the Patent Trial and Appeal Board (the "Board") instituted *inter partes* review as to all claims of the '676 patent.
- 3. I previously offered written testimony in this proceeding in my Expert Declaration of Branimir Vojcic, dated January 2, 2019. (Ex. 2002). In that declaration, I opined primarily that a person of ordinary skill in the art (POSITA) would not be motivated to combine the Lindell and Keskitalo references proposed by Petitioners in Ground 1 of the Petition.
- 4. This declaration is provided as a supplement to my prior declaration in light of the Board's institution decision.
- 5. I hereby incorporate the entirety of my prior Declaration in this proceeding. For the sake of brevity, I will not repeat the sections of that Declaration regarding my qualifications and experience, person skilled in the art, legal principles and inaccuracies in the Petition, or opinions expressed therein.
- 6. My opinion is based upon my knowledge and experience, and my review of



the '676 patent, the Petition, and exhibits in support thereof, and the Board's Decision Granting Institution (Paper 10).

I. ADDITIONAL STATEMENTS IN SUPPORT OF PATENTABILITY OF THE '676 PATENT

- 7. With respect to the claimed rate change circuity that operates "according to the comparison result in said comparison circuitry," (Ex. 1001 at 16:36-38), Keskitalo does not explicitly disclose a "comparison procedure." Ex. 1004 at 6:8-16. Keskitalo's "permitted transmit power" merely means there is a limitation for the transmit power, it does not necessarily mean there is any comparison action to determine such permitted transmit power. For example, such "permitted transmit power" may be limited by the capability of the transmission chipset, which means the maximum output transmit power is the "permitted transmit power." There is no need for any comparison to happen to determine whether this value is reached since there is no way to go beyond this value. *Id.* Actually, there is no need for the mobile station to make the comparison because the base station detects the deterioration of communication quality.
- 8. Petitioners mischaracterized the "threshold setting circuit 13" disclosed in Lindell. Pet. at 24. Lindell teaches among other things, when the measured average power over time T_{ave} exceeds the maximum allowed average power P_{max} measured over averaging time T_{ave} , the transmitter is disabled. Ex. 1005 at 4:20-25. Lindell's



"threshold setting circuit 13" does **not** "hold[] a predetermined allowable transmission power value." Id. The Petition inserts the words "holds" and "transmission power" which are not found in the cited part of Lindell nor are they implied by Lindell, and the Petition's characterization completely changes the substance of Lindell's teaching. Compare Pet. at 24, with Ex. 1005 at 4:17-25. Further, during T_{ave} of 6 or 30 mins, which may be longer than the actual communication time, short term transmission power levels that would follow power control commands could vary up and down during Tave as much as tens of decibels, or orders of magnitude. Lindell is not attempting to control the short term average transmission power levels (on the order of miliseconds), which is the objective of the '676 patent, during the measuring interval. Lindell does not teach "a threshold setting circuit 13 (radio resource control layer, allowable transmission power holder circuitry) that holds a predetermined threshold transmission power P_{max} for a given averaging time T_{ave}." *Id*.

- 9. A person skilled in the art (POSITA) would not combine Keskitalo and Lindell to arrive at the claimed invention for a number of reasons. One such reason is that Keskitalo teaches away from using Lindell for comparing an average value with the allowable transmission power value.
- 10. A mobile station transmitting at the highest permitted power does not know whether the quality of the transmission at the base station is acceptable and the



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base station estimates the quality of the connection. Ex. 1004, 6:8-16. This is because local variations may temporarily cause strong variations in signal powers. *Id.* at 6:3-4. That is, the mobile station cannot know whether these strong variations of signal power caused by multipath fading occur or not, but the base station could reliably detect changes of signal/connection quality and determine that there is a need to reduce the transmission rate from the mobile station.

- 11. This is a very different approach from the '676 patent: there, the data rate is reduced, preventively, when the allowable transmission power is reached to minimize probability of connection quality deterioration. *Id*.
- 12. Furthermore, in terms of power management, Lindell and Keskitalo present suggestions that are opposite of one another. Keskitalo teaches how to use the highest permitted transmit power as much as possible in order to maximally increase the transmission efficiency while Lindell teaches how to avoid using the highest permitted transmit power in order to prevent potential damage to the user due to exposure to radiation. For example, the P_{max} value exhibited in Lindell's Fig. 4, will never be used for transmission, (*id.*; Ex. 1005 at Fig. 4.), because whenever P_{max} is reached by Lindell, the transmission will be blocked. However, Keskitalo, on the other hand, affirmatively teaches artisans in the field how best to utilize P_{max}. Ex. 1004, 6:8-16. Lindell's comparison of average transmission power level with predetermined threshold is thus incompatible with Keskitalo, that is—



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