

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD.,  
Petitioner,

v.

BROADPHONE LLC,  
Patent Owner.

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Case IPR2024-00155  
U.S. Patent No. 10,341,811

**PATENT OWNER'S RESPONSE**

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## **PATENT OWNER'S EXHIBIT LIST**

| Ex.  | Description                                                                                              |
|------|----------------------------------------------------------------------------------------------------------|
| 2001 | Email correspondence between the Board and Patent Owner's counsel, dated February 21-22, 2024            |
| 2002 | Email correspondence between Patent Owner's counsel and Petitioner's counsel, dated February 20–26, 2024 |
| 2003 | Declaration of Todor V. Cooklev, PhD.                                                                    |

## **I. Introduction**

The '811 Patent, in contrast to the '583 and '698 patents subject to parallel proceedings, requires “a determination of whether the portable RF communications device is within proximity of *the device-specific target location*,” and initiation of “a location-based action associated with the device-specific target location” based on that determination. But the Petition’s obviousness theory for dependent claims 14 and 28 describes, instead, a combined system comprising a server that collects and stores fingerprint data from multiple mobile devices in a single database that is used for all of the multiple mobile devices. The Petition entirely fails to explain how this database, with each of the stored locations applicable to *every* device using the system, would involve a database of *device-specific* locations as the claim language recites. The Petition therefore fails to show obviousness of claims 14 or 28. Patent Owner respectfully requests that the Board find claims 14 and 28 not unpatentable.

Patent Owner disagrees with the Petition’s invalidity theories as to all claims, but in the interest of streamlining this proceeding focuses solely on claims 14 and 28 in this response.

## **II. Background**

### **A. Samsung's Petition**

Petitioner Samsung Electronics Co., Ltd. (“Petitioner” or “Samsung”) challenges claims 1-0, 17-20, and 24-26 of U.S. Patent No. 10,341,811 (the “’811 Patent”). Petitioner structures is grounds of unpatentability as follows:

- Ground 1: Obviousness of claims 1, 8, 14-15, 22, and 28 over Spain-I in view of Hunzinger and Nanda
- Ground 2: Obviousness of claims 4 and 18 over Spain-I in view of Hunzinger, Nanda, and Blomqvist
- Ground 3: Obviousness of claims 5 and 19 over Spain-I in view of Hunzinger, Nanda, and Tiwari
- Ground 4: Obviousness of claim 24 over Spain-I in view of Hunzinger, Nanda, and Othmer
- Ground 5: Obviousness of claim 25 over Spain-I in view of Hunzinger, Nanda, and Bates

Ground 1 is therefore the only ground that challenges claims 14 and 28 of the ’811 Patent.

### **B. The ’811 Patent**

At a high level, the ’811 Patent is directed to a method by which a portable radio communication device can determine whether it is located near a location

previously chosen by its user. In particular, the '811 Patent claims a three-step process in which the portable device (a) monitors its location by measuring the signal strengths of received communication signals; (b) determines whether it is within proximity of a device-specific target location by comparing at least one number based on signal strengths of received signals; and (c) performing a location-based action when the device is within proximity of the device-specific target location. The '811 Patent also claims a system comprising computer program code to perform such a method.

Claims 1 and 14 of the '811 Patent is representative, and recite:

1. A method of determining whether a portable RF communications device is present at a device-specific target location, the method comprising:

with the portable RF communications device automatically:

(a) receiving a first plurality of communications signals, each received from one of a first plurality of antenna stations within range of the portable RF communications device, wherein the antenna stations are fixed-location service-area antenna stations and are substantially continuously operating;

(b) causing a determination of whether the portable RF communications device is within proximity of the device-specific target location by electronically comparing at least one number based on signal strengths of each of the first plurality of communications signals with at least one number based on corresponding signal strengths of each of a second plurality of communication signals from a second

plurality of antenna stations that have been identified as being within range of the same location as the device-specific target location, which signal strengths have been determined for the same location as the device-specific target location; and

(c) as a result of the determination that the portable RF communications device is within proximity of the device-specific target location, initiating, on the portable RF communications device, a location-based action associated with the device-specific target location.

14. The method of claim 1 wherein the determination of whether the portable RF communications device is within proximity of the device-specific target location is performed at a location remote from the portable RF communications device.

### **III. Level of Ordinary Skill in the Art**

The Petition posits that a POSITA in the field of the '811 Patent “would have had at least a BS degree in computer science, electrical engineering, or similar discipline, and two or more years of experience with location determining-based systems and/or processes, such as for example systems/processes for determining mobile device location(s).... More education can supplement practical experience and vice versa.” Pet. at 3. For purposes of this Response, Patent Owner does not challenge the proposed definition.

#### IV. Claim Construction

The Petition states that “For purposes of this proceeding, no special constructions are necessary to assess whether the challenged claims are unpatentable, and thus Petitioner applies their plain meanings.” Pet. at 5.

Patent Owner agrees that no formal claim construction is necessary, but relevant to this Response does provide a clarification regarding “device-specific location.”

Claims 1 and 15 of the ’811 patent require, not just a generalized determination of the location of the claimed portable RF communications device, but specifically “determination of whether the portable RF communications device is within proximity of *the device-specific target location*.” Ex. 1001, cls. 1, 15. As explained by Dr. Cooklev, the plain meaning requires a target location that is specific to a particular device, not a location that is generally applicable to numerous devices (the relevance of which will become apparent in the following section). Ex. 2003 ¶ 34.

##### A. Ground 1 fails to show obviousness of claims 14 and 28.

Claim 1 of the ’811 Patent requires “a determination of whether the portable RF communications device is within proximity of *the device-specific target location*,” and initiation of “a *location-based action associated* with the device-specific target location” based on that determination. Claim 14 of the ’811 Patent

depends from Claim 1 and further requires that “the determination of whether the portable RF communications device is within proximity of the device-specific target location is performed at a location remote from the portable RF communications device.” Ex. 1001, cl. 14.

In its claim 14 theory, the Petition posits a modification of the Spain-I/Nanda/Hunzinger combination (incorporated by reference from the Petition’s claim 1 theory) to add a server that collects and stores fingerprint data from multiple mobile devices in a single database. Pet. at 60 (“[S]uch a remote database/server configuration would have enabled the use of ‘*fingerprints from multiple mobile[] devices*,’ which would have allowed for a ‘much larger database of available access points than would be found in a single mobile device.” (quoting Ex. 1006, 12:14-31)); *id.* (alleging that a POSITA would “consider/configure the modified *Spain-I* system/processes such that *the remote server receives signal strength data from multiple MUs* to build a robust remote fingerprint database, consistent with features contemplated by *Spain-I-Nanda*”); *id.* (“Such features would have allowed the modified *Spain-I* system/processes... to create/maintain a remote database of fingerprints *using signal strength data from multiple MUs* (Ex. 1006, 12:26-29), thus beneficially expanding applications of the modified *Spain-I* system/processes....”); Ex. 2003 ¶ 35.

But, as Dr. Cooklev explains, the Petition fails to explain how this proposed combination, involving fingerprints associated with locations usable by *all* mobile devices using the system, would have involved a “*device-specific* location” meeting the requirements of Claim 1. The Petition acknowledges that in its claim 14 theory, the database of locations and fingerprints would be applicable to *multiple* devices (*see* Pet. 60), which directly undermines the Petition’s contention that the stored locations would be *device-specific*. *See* Pet. 57-60 (only mentions of “device specific” locations referring to locations stored “in the fingerprint database” or locations used to “build[] the database”). The Petition simply has no explanation for how the database, with each of the stored locations applicable to *every* device using the system, would involve a database of *device-specific* locations as the claim language recites. Ex. 2003 ¶ 36.

The Petition also provides no alternative theory for how its Claim 14 combination would satisfy the “device-specific location” requirements of Claim 1. *See generally* Pet. 57-60. And for Claim 28, the Petition merely incorporates by reference its analysis for Claim 14. *See* Pet. 66-67; *see also* Ex. 2003 ¶ 37. Accordingly, the Petition fails to set forth any plausible theory how its proposed combination for Claims 14 and 28 discloses a “device-specific location” as required by Claims 1 and 15, respectively. The Petition therefore fails to show that either Claim 14 or 28 is obvious.

## **V. Conclusion**

For the reasons stated above, Patent Owner respectfully requests that the Board find claims 14 and 28 not unpatentable.

Respectfully submitted,

Dated: August 20, 2024

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**CERTIFICATION REGARDING WORD COUNT**

Pursuant to 37 C.F.R. §42.24(d), Patent Owner certifies that there are 1,442 words in the paper excluding the portions exempted under 37 C.F.R. §42.24(a)(1).

Dated: August 20, 2024

/s/ Reza Mirzaie  
Reza Mirzaie

**CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))**

The undersigned hereby certifies that the above document was served on August 20, 2024, by filing this document through the P-TACTS system as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

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