

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

AT&T CORP., AT&T COMMUNICATIONS LLC, AT&T  
SERVICES, INC., AT&T MOBILITY LLC, AND AT&T  
MOBILITY II LLC,  
Petitioner,

v.

DALI WIRELESS INC.,  
Patent Owner.

---

IPR2023-00646  
Patent 8,682,338 B2

---

Before KARL D. EASTHOM, BARBARA A. BENOIT, and  
SHARON FENICK, *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314  
Granting Motion for Joinder  
35 U.S.C. § 315(c); 37 C.F.R. § 42.122

## I. INTRODUCTION

On March 1, 2023, AT&T Corp., AT&T Communications LLC, AT&T Services, Inc., AT&T Mobility LLC, and AT&T Mobility II, LLC, (“Petitioner”) filed a Petition (Paper 1, “Pet.”) seeking *inter partes* review of claims 1–12 (the “challenged claims”) of U.S. Patent No. 8,682,338 B2 (Ex. 1001, the “’338 patent”). With the Petition, Petitioner filed a Motion for Joinder (Paper 2, “Motion” or “Mot.”), seeking to join as a party to *Ericsson, Inc., v. Dali Wireless, Inc.*, IPR2022-01212 (the “Ericsson IPR”). Patent Owner, Dali Wireless, Inc., did not timely file either an opposition to the Motion or a preliminary response to the Petition.

The Board has authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a) (2020). Under 35 U.S.C. § 314(a), an *inter partes* review may not be authorized unless the information in the Petition and any preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons that follow, we institute an *inter partes* review as to the challenged claims of the ’338 patent on all grounds of unpatentability presented. We also *grant* Petitioner’s Motion.

### A. Real Party in Interest

Each party identifies itself as the real party-in-interest. Pet. 83; Paper 5, 1. Petitioner also explains that AT&T Inc. “is identified as a real party-in-interest only to the extent that Patent Owner[] contend[s] it needs to be named as such.” Pet. 83.

*B. Related Matters*

Petitioner identifies the following *inter partes* review proceedings as involving the '338 patent: *CommScope, Inc. v. Dali Wireless, Inc.*, IPR2020-01466, Paper 16 (PTAB Feb. 9, 2021) (institution denied); *Ericsson, Inc. v. Dali Wireless, Inc.*, IPR2022-01212, Paper 17 (PTAB Feb. 1, 2023) (instituted). Pet. 84.

The parties collectively identify the following related district court (current or past) matters involving the '338 patent: *Dali Wireless, Inc. v. AT&T Corp.*, No. 2:22-cv-12 (E.D. Tex.); *Dali Wireless, Inc. v. Cellco Partnership*, No. 6:22-cv-00104 (W.D. Tex.); *Dali Wireless, Inc. v. Cellco Partnership*, No. 23-cv-00002 (E.D. Tex.); *Dali Wireless, Inc. v. CommScope Techs.*, No. 19-cv-952 (Del.), on appeal, *Dali Wireless Inc. v. CommScope Techs. LLC*, No. 22-1699 (Fed. Cir.); *Dali Wireless, Inc. v. Verizon Corp. Sys. Grp.*, No. 23-cv-00060 (W.D. Tex.); *Dali Wireless, Inc. v. Ericsson, Inc.*, No. 22-cv-01313 (W.D. Tex.); *Dali Wireless, Inc. v. T-Mobile US, Inc.*, No. 22-cv-00414 (E.D. Tex.); *Dali Wireless, Inc. v. Corning, Inc.* No. 22-cv-1314 (W.D. Tex.) (terminated, Jan. 17, 2023). Pet. 84.

*C. The '338 Patent (Ex. 1001)*

The '338 patent describes a reconfigurable distributed antenna system (DAS) that provides flexibility to manage, control, re-configure, enhance, and facilitate the radio resource efficiency, usage, and performance of a distributed wireless network. Ex. 1001, 5:52–56.

Figure 1, reproduced below, shows an embodiment of the reconfigurable DAS:

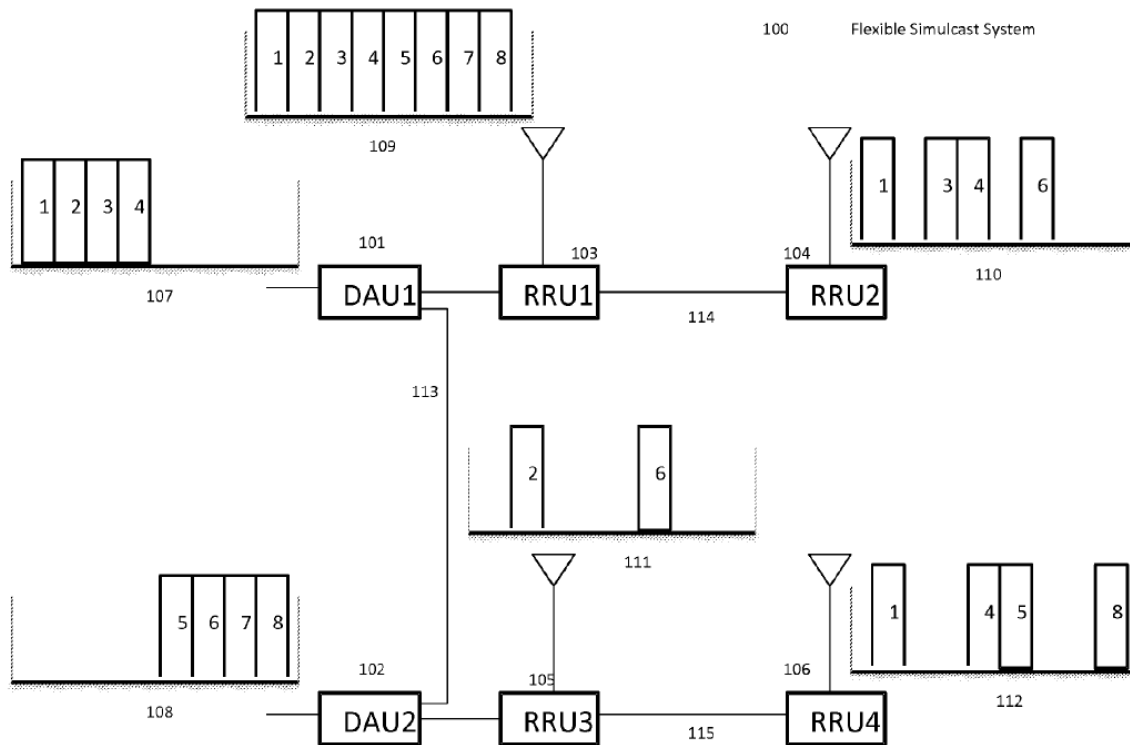


Figure 1 is a block diagram showing the basic structure and an example of a flexible simulcast downlink transport scenario. Ex. 1001, 5:25–28, 5:59–60. Flexible simulcast system 100 system employs digital access units (DAUs) that serve as interfaces to a base station (BTS). *Id.* at 5:60–63. The DAUs (e.g., DAU1, DAU2) connect to the BTS on one end and to multiple radio head units (RRUs) on the other end. *Id.* at 5:63–64, Fig. 1. Software settings within RRU1, RRU2, RRU3, and RRU4 enable particular carriers to be present in each respective downlink output signal 109, 110, 111, 112 (e.g., carriers 1–8 in RRU1, carriers 2 and 6 in RRU3). *See id.* at 6:31–65.

A DAU software control module manages key functions of the DAU and RRU. Figure 7, which follows, illustrates a DAU software control module (Ex. 1001, 11:18–21):

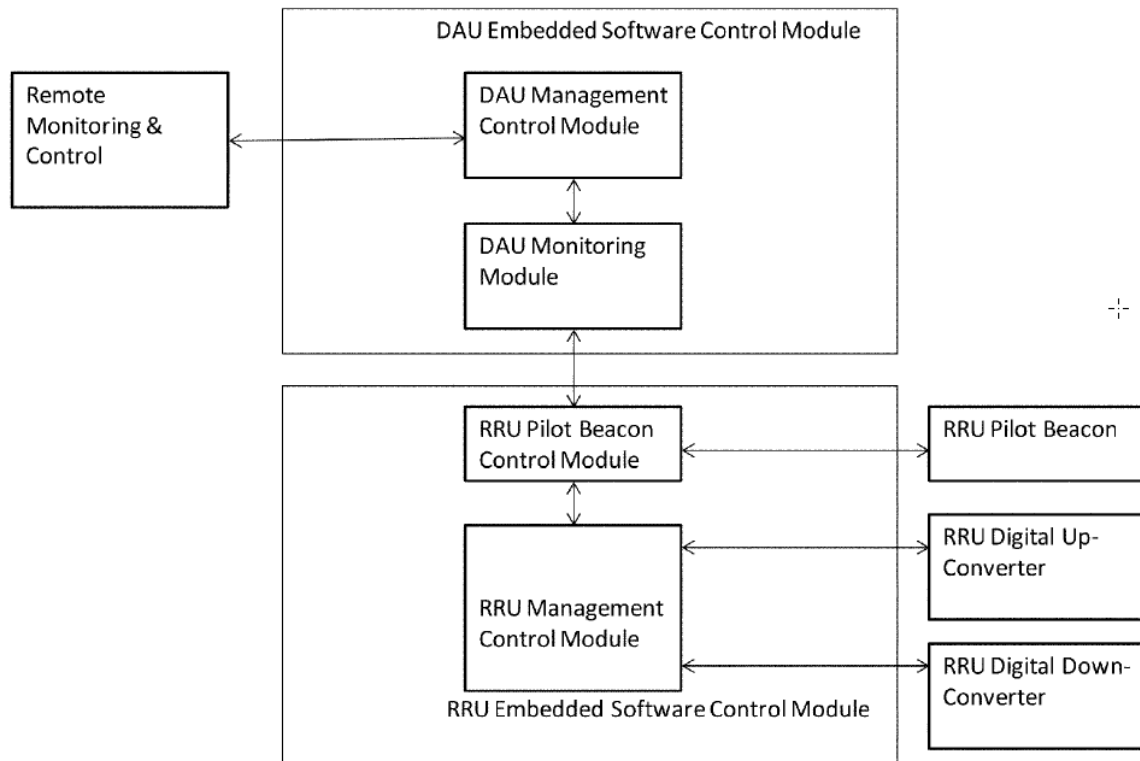


Figure 7: Embedded Software Control Modules

Figure 7 is a block diagram of an embodiment of a DAU software control module, which includes other modules. The modules determine and/or set the appropriate number of radio resources (such as RF carriers, CDMA codes or TDMA time slots) assigned to a particular RRU or group of RRUs to meet desired capacity and throughput objectives. Ex. 1001, 11:21–25. The DAU software control module comprises a DAU monitoring module that detects which carriers and corresponding time slots are active for each RRU. *Id.* at 11:25–28. The DAU embedded software control module also comprises a DAU management control module that communicates with the RRUs over a fiber optic link control channel. *Id.* at

11:28–32. The RRU management control module sets the individual parameters of all the RRU digital up-converters to enable or disable transmission of specific radio resources by a particular RRU or group of RRUs, and also sets the individual parameters of all the RRU digital down-converters to enable or disable processing of specific uplink radio resources by a particular RRU or group of RRUs. *Id.* at 11:32–39.

In one embodiment, an algorithm operating within the DAU monitoring module detects which carriers and corresponding time slots for each carrier are active for each RRU and provides information to the DAU management control module to help determine if a particular downlink carrier exceeds a load by a percentage greater than a predetermined threshold. *Id.* at 11:40–46. If that occurs, the DAU management control module adaptively modifies the system configuration to deploy additional radio resources for use by a particular RRU that needs those radio resources within its coverage area. *Id.* at 11:48–53. At the same time, the DAU management control module adaptively modifies the system configuration to remove certain radio resources for use by a particular RRU that no longer needs those radio resources within its coverage area. *Id.* at 11:53–58.

The '338 patent states that “[t]he present invention overcomes . . . limitations of the prior art,” describing “the present invention” as providing “automatic load balancing,” among other goals, as follows:

The advanced system architecture of the present invention provides a high degree of flexibility to manage, control, enhance and facilitate radio resource efficiency, usage and overall performance of the distributed wireless network. This advanced system architecture enables specialized applications and enhancements including flexible simulcast, *automatic traffic load-balancing*, network and radio resource optimization, network calibration, autonomous/assisted commissioning,

carrier pooling, automatic frequency selection, radio frequency carrier placement, traffic monitoring, traffic tagging, and indoor location determination using pilot beacons.

Ex. 1001, 3:51–62 (emphasis added).

*D. Illustrative Claim*

Illustrative independent claim 1, the sole independent claim, follows (with bracketing information added to conform to Petitioner's nomenclature):

1. [i.] A method for routing and switching RF signals comprising:

[ii.] providing one or more remote radio units, each remote radio unit configured to transmit one or more downlink RF signals and to receive one or more uplink RF signals;

[iii.] providing at least one digital access unit configured to communicate with the one or more remote radio units;

[iv.] translating the uplink and downlink signals between RF and base band as appropriate;

[v.] packetizing the uplink and downlink base band signals, wherein the packetized signals correspond to a plurality of carriers;

[vi.] configuring each remote radio unit to receive or transmit a respective subset of the plurality of carriers, each respective subset of the plurality of carriers including a number of carriers;

[vii.] reconfiguring each remote radio unit by:

[a.] determining a load percentage for each remote radio unit; and

[b.] increasing or decreasing the number of carriers in the respective subset of the plurality of carriers based on the load percentage; and

[viii.] routing and switching the packetized signals among the one or more remote radio units via the at least one

digital access unit according to a result of the reconfiguring.

*E. Asserted Grounds of Unpatentability*

Petitioner asserts that claims 1–12 are unpatentable as follows (Pet. 23):

Claim(s) Challenged	35 U.S.C §	Reference(s)/Basis
1–3	103 <sup>1</sup>	Leng <sup>2</sup>
1–3	103	Leng, Cannon <sup>3</sup>
4–12	103	Leng, Gupta <sup>4</sup>
4–12	103	Leng, Cannon, Gupta

## II. ANALYSIS

*A. Institution of Inter Partes Review*

We instituted an *inter partes* review in the Ericsson IPR on all challenged claims and all asserted grounds of unpatentability. Ericsson IPR, Paper 17 (institution decision); *see also* Ericsson IPR, Paper 6 (the “Ericsson petition”). Petitioner here challenges the same claims and asserts the same

---

<sup>1</sup> The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103 (effective on March 16, 2013). Because the ’338 patent claims the benefit of a provisional application filed on September 14, 2010, Petitioner “assumes the priority date is September 14, 2010” “[s]olely for the purposes of this [*inter partes* review].” Pet. 18. Because this date is before the effective date of the applicable AIA amendment, we apply the pre-AIA version of § 103 for purposes of institution.

<sup>2</sup> English translation of Leng et al., Pub. No. WO 2009/021359 A1, published Feb. 19, 2009. Ex. 1005.

<sup>3</sup> Cannon et al., U.S. Patent No. 8,270,387 B2, issued Sept. 18, 2012, filed Jan. 13, 2010. Ex. 1006.

<sup>4</sup> Gupta et al., U.S. Pub. No. US 2008/0045254 A1, issued Feb. 21, 2008. Ex. 1008.



grounds of unpatentability as those on which we instituted the Ericsson IPR. Pet. 3; Mot. 1 (asserting “Petition is substantively identical to the petition in the Ericsson IPR; the . . . Petition challenges the same claims of the ’338 Patent on the same grounds and relies on the same prior art, arguments, and evidence, including a declaration from the same expert (i.e., the . . . Petition is a ‘copycat’ petition).”). As indicated, Petitioner also relies on the same declarant as did the petition in the Ericsson IPR. Mot. 1; *compare* Ex. 1003 (Declaration of Henry Houh, Ph.D.), *with* Ericsson IPR, Ex. 1003 (same).

Because the grounds of unpatentability in the instant Petition are identical to those in the Ericsson IPR and for the same reasons stated in our Decision to Institute in the Ericsson IPR, we institute *inter partes* review in this proceeding on the grounds presented in the Petition. *See* Ericsson IPR, Paper 17, 10–54 (analyzing challenges in the Ericsson petition).

*B. Motion for Joinder*

Joinder in an *inter partes* review is subject to the provisions of 35 U.S.C. § 315(c):

(c) JOINDER.—If the Director institutes an *inter partes* review, the Director, in his or her discretion, may join as a party to that *inter partes* review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an *inter partes* review under section 314.

To join Petitioner to the instituted Ericsson IPR, the Board first determines whether the Petition “warrants” institution under § 314, which we determined above. *See Facebook, Inc. Windy City Innovations, LLC*, 973 F.3d 1321, 1332 (Fed. Cir. 2020). The Board next determines whether to exercise “discretion to decide whether to ‘join as a party’ the joinder

applicant,” who is the Petitioner in this proceeding. *Id.* Petitioner timely filed its Motion for Joinder on March 1, 2023, which was no later than one month after the institution of the Ericsson IPR on February 1, 2023. *See* Paper 2; Ericsson IPR, Paper 17; 37 C.F.R. § 42.122(b).

As moving party, Petitioner bears the burden of proving that it is entitled to the requested relief. 37 C.F.R. § 42.20(c). A motion for joinder should (1) set forth the reasons joinder is appropriate; (2) identify any new grounds of unpatentability asserted in the petition; and (3) explain what impact (if any) joinder would have on the trial schedule for the existing review. *See Kyocera Corp. v. SoftView, LLC*, IPR2013-00004, Paper 15 at 4 (PTAB Apr. 24, 2013).

We determine that Petitioner has met its burden of showing that joinder is appropriate because, as set forth above, the Petition (1) is substantially identical to the Ericsson petition, (2) contains the same grounds based on the same evidence, and (3) relies on the same declaration of Henry Houh, Ph.D. (Ex. 1003). Mot. 1, 4–5. Petitioner also represents that joinder will not impact the Ericsson IPR schedule. *See, e.g.*, Mot. 6 (“[A]llowing [Petitioner] to assume an understudy role to Ericsson, will also have little, if any, impact on the Ericsson IPR because no new grounds will be added, the schedule will not be affected, no additional briefing or discovery will be required, and no additional burdens will be placed on Patent Owner.”).

Additionally, as noted (*id.*), Petitioner represents that it is willing to accept a limited, “understudy role” to Ericsson (the original petitioner in the Ericsson IPR) such that Petitioner will only assume “an active role in the event that Ericsson reaches a settlement with Patent Owner or

otherwise ceases being an active party in the Ericsson IPR” (*id.*).

Specifically, Petitioner represents that in its understudy role, it agrees that the following conditions will apply:

- (a) Petitioner’s positions and interests in the joined proceeding will be represented by the filings of Ericsson unless a filing solely concerns issues that do not involve Ericsson;
- (b) Petitioner shall not be permitted to raise any new grounds not already instituted by the Board, or introduce any argument or discovery not already introduced by Ericsson;
- (c) Petitioner shall be bound by any agreement between Patent Owner and Ericsson concerning discovery and/or depositions;
- (d) Petitioner at deposition shall not receive any direct, cross-examination or redirect time beyond that permitted for Ericsson under either 37 C.F.R. § 42.53 or any agreement between Patent Owner and Ericsson; and
- (e) at any oral hearing, Petitioner will not request any additional time to independently argue before the Board or attempt to submit its own demonstratives.

Mot. 9–10.

Petitioner further represents that Ericsson does not oppose Petitioner’s motion to join the Ericsson IPR. Mot. 3. As indicted above, Patent Owner did not file an opposition to the Motion by the April 1, 2023 deadline. 37 C.F.R. § 42.23 (setting default filing times). Nor did Patent Owner file a preliminary response by the June 13, 2023 deadline.

We determine above that the Petition warrants the institution of an *inter partes* review. Under these circumstances, we agree with Petitioner that joinder is appropriate and will not unduly impact the ongoing trial in the

Ericsson IPR.<sup>5</sup> We limit Petitioner's participation in the Ericsson IPR as follows: (1) Ericsson is responsible for all petitioner filings in the proceeding until such time that it is no longer an entity in the proceeding, and (2) Petitioner is bound by all filings by Ericsson in the proceeding, except for (a) filings regarding termination or settlement, and (b) filings where Petitioner receives permission to file an independent paper. Petitioner must obtain prior Board authorization to file any paper or take any action on its own in the proceeding, so long as Ericsson remains as a non-terminated petitioner in the proceeding. This arrangement promotes the just and efficient administration of the ongoing trial in the Ericsson IPR, and protects the interests of Ericsson as original petitioner in IPR2022-01212 and of Patent Owner.

#### IV. CONCLUSION

For the foregoing reasons, we institute *inter partes* review of the challenged claims of the '338 patent based on the grounds of unpatentability set forth in the Petition. We grant Petitioner's Motion for Joinder and join Petitioner to IPR2022-01212, with the limitations set forth herein.

---

<sup>5</sup> We recognize that the parties in IPR2022-01212 recently requested authorization to jointly file a motion to terminate.

V. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is hereby instituted as to claims 1–12 of the '338 patent on all the grounds set forth in the Petition;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 315(c) and 37 C.F.R. § 42.122, Petitioner's Motion for Joinder is granted, and Petitioner is joined as a petitioner in IPR2022-01212, subject to the above-described limitations on Petitioner's participation in that proceeding;

FURTHER ORDERED that the asserted grounds of unpatentability on which the Board instituted *inter partes* review in IPR2022-01212 are unchanged and remain the only instituted grounds;

FURTHER ORDERED that the Scheduling Order in IPR2022-01212, and any modifications thereto, shall govern the schedule of the proceeding;

FURTHER ORDERED that all further filings are to be made in IPR2022-01212;

FURTHER ORDERED that the case caption in IPR2022-01212 for all further submissions shall be modified to add AT&T Corp., AT&T Communications LLC, AT&T Services, Inc., AT&T Mobility LLC, and AT&T Mobility II, LLC, as a named Petitioner, and to indicate by footnote the joinder of Petitioner to that proceeding, as indicated in the attached sample case caption; and

FURTHER ORDERED that a copy of this Decision shall be entered into the record in IPR2023-00646.

IPR2023-00646  
Patent 8,682,338 B2

For PETITIONER:

Patrick Muldoon  
Patrick D. McPherson  
Donald English  
Matthew Yungwirth  
DUANE MORRIS LLP  
pcmuldoon@duanemorris.com  
pdmcperson@duanemorris.com  
djenglish@duanemorris.com  
msyungwirth@duanemorris.com

For PATENT OWNER:

David D. Schumann  
Palani P. Rathinasamy  
Timothy Dewberry  
Moses Xie  
Folio Law Group PLLC  
david.schumann@foliolaw.com  
palani@foliolaw.com  
timothy.dewberry@foliolaw.com  
moses.xie@foliolaw.com



Sample Case Caption

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

ERICSSON INC.,<sup>6</sup>  
Petitioner,  
v.  
DALI WIRELESS INC.,  
Patent Owner.

---

IPR2020-01212  
Patent 8,682,338 B2

---

---

<sup>6</sup> AT&T Corp., AT&T Communications LLC, AT&T Services, Inc., AT&T Mobility LLC, and AT&T Mobility II, LLC filed a petition in IPR2023-00646 and (collectively) has been joined as a party to this proceeding.