

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HUGHES NETWORK SYSTEMS, LLC,
Petitioner,

v.

ELBIT SYSTEMS LAND AND C4I LTD.,
Patent Owner.

Case IPR2016-00141
Patent 6,240,073 B1

Before SALLY C. MEDLEY, RAMA G. ELLURU, and
WILLIAM M. FINK, *Administrative Patent Judges*.

FINK, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Hughes Network Systems, LLC (“Petitioner”) filed a corrected Petition requesting an *inter partes* review of claims 2–8, 28, and 29 of U.S. Patent No. 6,240,073 B1 (Ex. 1001, “the ’073 patent”). Paper 6 (“Pet.”). Patent Owner, Elbit Systems Land and C4I Ltd., filed a Preliminary Response. Paper 10 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . and any 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 determine that Petitioner has not established a reasonable likelihood of prevailing with respect to claims 2–8, 28, and 29 of the ’073 patent. Accordingly, we deny the Petition and do not institute an *inter partes* review.

A. Related Matters

Petitioner and Patent Owner identify the following pending matter as relating to the ’073 patent: *Elbit Systems Land and C4I Ltd. et al. v. Hughes et al.*, No. 2:15-CV-37 (E.D. Tx.). Pet. 1; Paper 5, 1.

B. The ’073 Patent

The ’073 patent relates to a satellite-based communication system with a return link suitable for an Internet access network. Ex. 1001, Abstract, 1:5–9. Figure 1 is reproduced below:

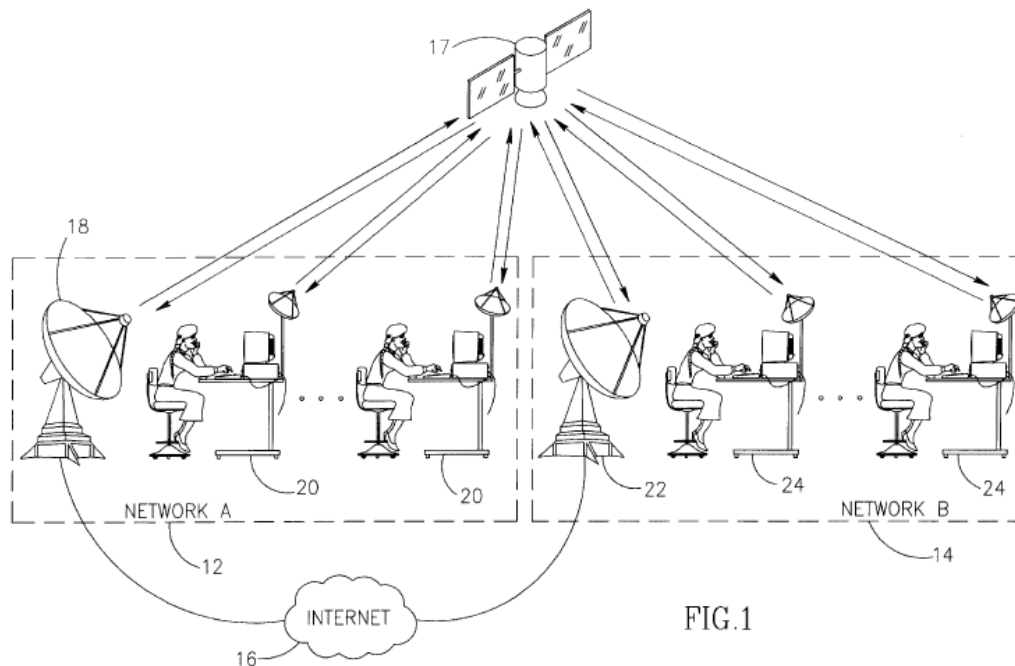


Figure 1 of the '073 patent depicts two satellite communication networks. *Id.* at 8:56–57. In network B 14, satellite 17 forwards communications between hub 22 and a plurality of VSAT user terminals 24 to form a forward link. *Id.* at 8:62–64. A reverse link is established via satellite between hub 22 and terminals 24. *Id.* at 8:64–66. The reverse link comprises:

two separate communication schemes used in combination The first communication scheme uses a random access method based on a non-synchronous frequency hopping code division multiple access technique (NS/FH/CDMA). The second communication scheme uses a channel assignment method based on a frequency division multiple access (FDMA) technique. Data generated by a user is transmitted using one of the two communication schemes in accordance with the content and amount of data generated.

Id. at 4:50–61. Data requiring a relatively low transmission rate, such as short bursty messages, uses the random access method, while data requiring a

higher transmission rate, such as video conferencing, uses the channel assignment method. *Id.* at 4:61–65.

C. Illustrative Claim

Claims 2–8, 28, and 29 are independent claims. Claim 28 is reproduced below, and is illustrative of the challenged claims.

28. A multiple access communications system for use in a satellite communication network, comprising:

a plurality of user terminals for transmitting and receiving data over said multiple access communication system;

at least one hub for transmitting and receiving data over said multiple access communication system to and from said plurality of user terminals;

a forward communication link for transmitting data from said at least one hub to said plurality of user terminals;

a return communication link for transmitting data from said plurality of user terminals to said at least one hub, said return communication link including a first communication means for transmitting short bursty data in combination with second communication means for continuous transmission of data;

switching means within said plurality of user terminals for switching transmission between said first communication means and said second communication means in accordance with predefined criteria; and

receiver means within said at least one hub adapted to receive data transmitted by said plurality of terminals utilizing either said first communication means or said second communication means,

wherein each user terminal comprises means for generating a request to be sent over said return communications link in order to utilize said second communication means.

D. Asserted Ground of Unpatentability

Petitioner asserts that claims 2–8, 28, and 29 are unpatentable based on the following grounds:

References	Basis	Challenged Claims
Rudrapatna ¹	§ 102(b)	28
Rudrapatna and Quick ²	§ 103(a)	29
Rudrapatna and Kou ³	§ 103(a)	2, 3, and 5–7
Rudrapatna and Nakamura ⁴	§ 103(a)	3 and 6
Rudrapatna and Beal ⁵	§ 103(a)	4
Rudrapatna and Wilkinson ⁶	§ 103(a)	8

II. DISCUSSION

A. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their “broadest reasonable construction in light of the specification of the patent in which they appear.” 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015) (“Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation”), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136

¹ EP 0719062, published June 26, 1996 (Ex. 1004) (“Rudrapatna”)

² U.S. Patent No. 5,673,259, filed May 17, 1995, issued September 30, 1997 (Ex. 1005) (“Quick”)

³ U.S. Patent No. 5,172,375, issued December 15, 1992 (Ex. 1006) (“Kou”)

⁴ U.S. Patent No. 5,377,184, issued December 27, 1994 (Ex. 1007) (“Beal”)

⁵ WO 95/10920, published April 20, 1995 (Ex. 1008) (“Nakamura”)

⁶ U.S. Patent No. 4,532,636, issued July 30, 1985 (Ex. 1009) (“Wilkinson”)

S. Ct. 890 (mem.) (2016). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

“switching means”

Petitioner proposes the term “switching means . . . for switching transmission between said first communication means and said second communication means in accordance with predefined criteria,” in claims 2–8, 28, and 29 be construed according to 35 U.S.C. § 112, paragraph 6. Pet. 7–9. According to Petitioner, the function corresponding to the switching means is the recited “switching transmission between said first communication means and said second communication means in accordance with predefined criteria,” and the corresponding structure is “hub and VSAT terminals performing the decision-making described at 10:56–11:40 and equivalents.” *Id.* at 9 (also citing, Ex. 1001, 8:37–48, 8:56–66, Fig. 1). Relying on its proposed declarant, Dr. Leopold, Petitioner contends no smaller structure is indicated as performing the recited function. *Id.* (citing Ex. 1003 ¶ 80).

Patent Owner agrees with Petitioner that the “switching means are located within VSAT terminals,” but argues Petitioner’s proposed structure ignores the required structure disclosed in the Specification for performing the recited function. Prelim. Resp. 18 (citing *In re Donaldson Co.*, 16 F.3d 1189, 1194 (Fed. Cir. 1994)). According to Patent Owner, Petitioner ignores the driver and modem within the VSAT terminal, which are described as monitoring the random-access channel and switching to the channel-

assignment mode if necessary. *Id.* (citing Ex. 1001, 17:28–18:31, Fig. 8). Further, Patent Owner contends Petitioner misreads the Specification in arguing that the hub is also a corresponding structure. According to Patent Owner, the hub does not perform the decision making described at 10:56–11:40. *Id.*

We disagree with Petitioner’s proposed construction of the structure corresponding to the recited “switching means.” As an initial matter, the “switching means” in claims 2–8 is expressly recited as “coupled to said transmitter means,” which itself resides “within each user terminal.” *E.g.*, Ex. 1001, 23:30–37 (claim 2). Similarly, the “switching means” in claims 28 and 29 is expressly recited as “within said plurality of user terminals.” *E.g.*, *id.* at 28:3 (claim 28). The switching means is not recited as within the “hub,” which is recited as a separate claim limitation and contains the receiving means for receiving data transmitted by the user terminals. *Id.*, 23:27–29 (claim 2). Accordingly, by the express requirements of the claims themselves, we are not persuaded that the structure corresponding to the switching means is, as Petitioner proposes, “the hub and VSAT terminals,” but is either within or coupled to the VSAT terminals.

Even limiting the structure to the VSAT terminals, we disagree with Petitioner’s construction, “VSAT terminals performing the decision-making described at 10:56–11:40 and equivalents,” as not sufficiently specific. It is well established that “the corresponding structure for a § 112 ¶ 6 claim for a computer-implemented function is the algorithm disclosed in the specification.” *Aristocrat Techs. Austl. Party. Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008) (quoting *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1249 (Fed. Cir. 2005)).

Here, Patent Owner directs us to the driver and modem components within the VSAT terminal as performing the function of monitoring the random-access channel and switching the channel-assignment mode if necessary. Prelim. Resp. 18 (Ex. 1001 at 17:28–18:31, Fig. 8). We agree that driver 158 of the VSAT terminal performs the switching function.

The cited portion of the Specification contains an explanation of the flow chart of Figure 8 setting forth the structure of the switching means function within driver 158. Moreover, we observe the driver is coupled to “modem 160 which comprises the random access transmitter 70 (FIG. 5) and the channel assignment transmitter 110 (FIG. 6)” Ex. 1001, 17:25–27, Fig. 7—the alleged transmitter means according to Petitioner, Pet. 7–8 (citing Ex. 1001, Figs. 5–6). Consequently, Patent Owner’s proposed construction locating the switching means in the driver, is reasonable given the driver is “coupled to said transmitter means,” as at least claims 2–8 require. Accordingly, we determine the structure of the “switching means” to be the VSAT terminal driver depicted in Figure 8 and described at 17:28–18:31.

remaining terms

Petitioner proposes construction of the remaining means-plus-function terms and Patent Owner proposes construction of the preamble as a claim limitation. Pet. 7–10; Prelim. Resp. 15–17. However, we have reviewed the parties’ contentions and, in view of our determination below, we determine construing these terms is unnecessary for purposes of this Decision.

B. Alleged Anticipation of Claim 28 by Rudrapatna

Petitioner contends claim 28 is anticipated by Rudrapatna. Pet. 11–25. Petitioner relies upon its declarant, Dr. Raymond J. Leopold, to support

its contentions. Ex. 1003. We begin our discussion with a brief summary of Rudrapatna and then address the parties' contentions.

1. Rudrapatna (Ex. 1004)

Rudrapatna generally discloses a wireless broadband communication system for providing an "array of narrowband and broadband services to an end user on demand." Ex. 1004, Abstract. Figure 2 of Rudrapatna is reproduced below:

FIG. 2

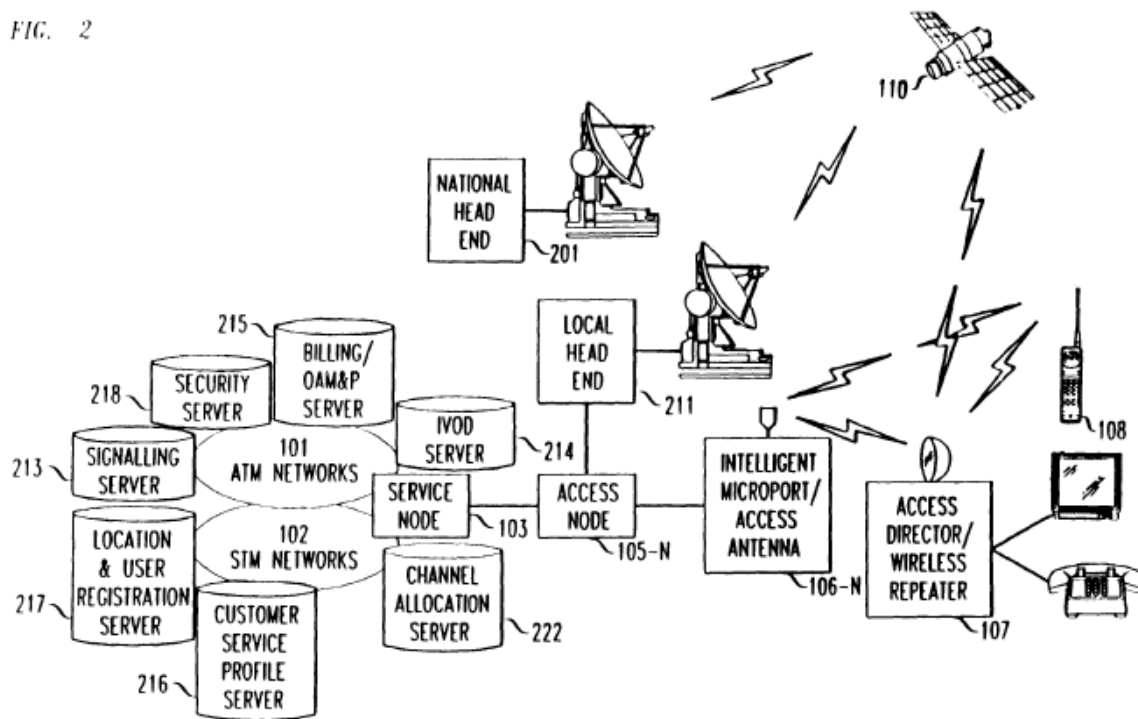


Figure 2 illustrates an architecture for the disclosed broadband wireless network for communications to an end user. *Id.* at 3:48–50. Specifically, national headend 201 originates video or multimedia broadcast information and local headend 211 (or access director 107) receives the information for local distribution. *Id.* at 4:38–42. Local headend 211 is connected to intelligent microport 106 via access nodes 105. *Id.* at 3:20–23, Fig. 2. Intelligent microports 106 may communicate with customer premise

equipment (e.g., telephone, TV, PC, etc.) by way of access director 107. *Id.* at 3:23–32. Intelligent microports 106 may communicate with access director 107 via multiple air interfaces supporting static and dynamic channel allocation. *Id.* at 4:44–51.

2. Analysis

Petitioner presents a proposed mapping of Rudrapatna to the limitations of claim 28. Pet. 11–25. For example, Petitioner contends the “user terminals [of claim 28] correspond to Rudrapatna’s intelligent microport 106 and associated access director 107.” *Id.* at 12 (citing, e.g., Ex. 1004, 16:52–54, 3:20–34). Petitioner contends the “hub” of claim 28 corresponds to access node 105, service node 103, signaling server 213. *Id.* at 14 (citing, e.g., Ex. 1004, 4:31–37, 4:42–44).

Claim 28 also requires a “switching means within said plurality of user terminals for switching transmission between said first communication means and said second communication means in accordance with predefined criteria.” Ex. 1001, 28:3–6. Petitioner contends:

The assignment of service classes to communications, as taught by Rudrapatna, includes switching from Rudrapatna’s first communications means (CDMA) to its second communications means (TDM). Ex. 1003 at ¶ 353. Because the channel allocation server 222 controls static and dynamic reallocations of spectrum to individual services, the predefined criteria are the types of service to use. *Id.* For example, for a narrowband service such as Basic Voice, CDMA is implemented; but, for Video-On-Demand, TDM transmission is used. *Id.*

...

Rudrapatna discloses an equivalent structure to the “switching means” in the Intelligent Microport and the Channel Allocation Server, which switches between the communication means based on predefined criteria, using hardware and software

structures that are equivalent to the hub and/or VSAT terminals performing the decision-making of the '073 Patent. *See, e.g.*, Ex. 1001 at 10:56-11:40; Ex. 1003 at ¶ 355-356.

Pet. 21–22 (emphasis added).

Patent Owner contends “Rudrapatna does not disclose a ‘switching means within said plurality of user terminals,’” as claim 28 requires. Prelim.

Resp. 23. Among other contentions, Patent Owner argues:

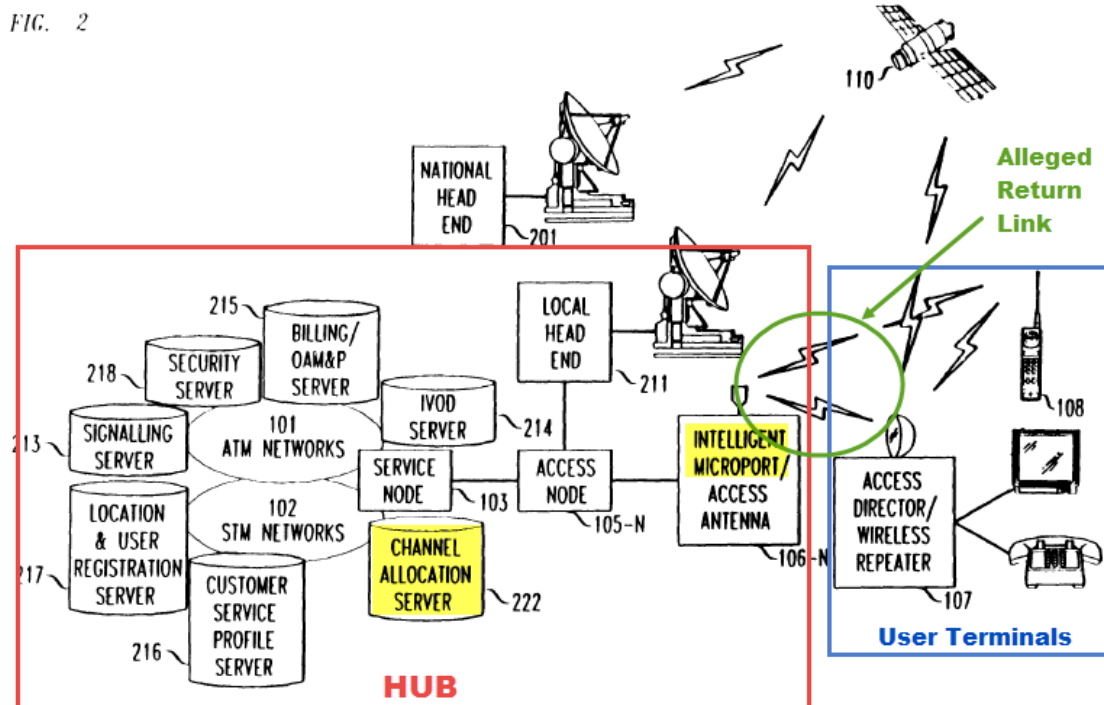
Petitioner alleges that “Rudrapatna discloses an equivalent structure to the ‘switching means’ in the . . . Channel Allocation Server, which switches between the communication means based on predefined criteria.” Pet. at 21. But Petitioner ignores that the “Channel Allocation Server 222” is not located “*within*” the user terminals 108, as recited by the claim, but is instead part of the centralized servers that Petitioner analogizes to the '073 patent’s “hub.” . . . Further, Petitioner presents no evidentiary support for its argument that “Rudrapatna discloses an equivalent structure to the ‘switching means,’” Pet. at 21. The only purported evidentiary basis is the identical conclusory statement in the Leopold Declaration, Ex. 1003 at ¶¶ 355-56, which fails to disclose any facts or underlying rationale and therefore should be given no weight. *See* 37 C.F.R. § 42.65(a).

Prelim. Resp. 23–24.

We agree with Patent Owner. As an initial matter, we disagree with Petitioner’s identification of the claimed “user terminals” as Rudrapatna’s intelligent microport 106 and associated access director 107. *See* Pet. 12. As Figures 1–2 indicate, intelligent microport 106 is wired to access node 105 and servers (i.e., Petitioner’s alleged “hub”) and only wirelessly connected to access director 107 (itself connected to TV and telephone). Consequently, intelligent microport 106 is more properly associated with the alleged “hub.” This is confirmed by Petitioner’s mapping of Rudrapatna’s “multiple air interfaces” to the claimed “return communication link for

transmitting data from said plurality of user terminals to said at least one hub,” see Pet. 15–17 (citing, e.g., Ex. 1004, 4:44–47). The multiple air interfaces, however, wirelessly connect intelligent microports 106 to access directors 107. Ex. 1004, 3:23–25, 4:26–27, Figs. 1–2. The air interface between access director 107 and intelligent microport 106 can only constitute a return link for transmitting data from a user terminal to a hub, as Petitioner contends, if intelligent microport 106 is part of the hub.

Consequently, we determine intelligent microports 106 are properly considered part of the hub, as reflected by the following annotated Figure 2:



Annotated Figure 2 depicts Rudrapatna’s network mapped to the recited hub and user terminals consistent with our findings. Annotated Figure 2 also indicates the position of the claimed “return communications link for

transmitting data from said plurality of user terminals to said at least one hub.” See Pet. 15–17 (citing, e.g., Ex. 1004, 4:44–47).

As discussed above, claim 28 requires the switching means be located “within said plurality of user terminals.” Ex. 1001, 28:3. Under Petitioner’s proposed mapping of the switching means to channel allocation server 222 and intelligent microports 106, the switching means is located in the hub, not within the user terminals as the claim requires. This is depicted in the above annotated Figure 2 (see highlighted elements). Accordingly, for this reason, Petitioner has not demonstrated that Rudrapatna discloses “switching means *within said plurality of user terminals*.”

Moreover, even disregarding the location of the alleged switching means, we also agree Petitioner does not support its contention that Rudrapatna contains an equivalent structure to the switching means. See Prelim. Resp. 24. As discussed above, we construe the switching means to have the structure of the VSAT terminal driver as depicted in the flow chart of Figure 8 and described at 17:28–18:31 in the ’073 Patent Specification, or equivalents. Other than a conclusory assertion that Rudrapatna contains “an equivalent structure,” see Pet. 21–22, neither Petitioner nor Dr. Leopold provides further evidence or analysis.⁷ As such, Petitioner has not shown sufficiently why Rudrapatna’s alleged switching means is equivalent to the claimed switching means. See *Fresenius USA, Inc. v. Baxter Intern., Inc.*, 582 F.3d 1288, 1299 (Fed. Cir. 2009) (“[A] challenger who seeks to demonstrate that a means-plus-function limitation was present in the prior

⁷ We observe that Dr. Leopold’s assertions merely mimic Petitioner’s conclusory assertions (see Ex. 1003 ¶¶ 355–356).

art must prove that the corresponding structure—or an equivalent—was present in the prior art.”).

For the foregoing reasons, we find the Petitioner’s proposed ground of anticipation is deficient with respect to claim 28 of the ’073 patent. We decline to institute *inter partes* review as to claim 28 on the proposed grounds of anticipation.

C. Alleged Obviousness of Claims 2–8 and 29

Claims 2–8 and 29, which Petitioner contends are obvious over Rudrapatna and additional references, recite a similar switching means limitation. For claim 29, which recites an identical switching means, Petitioner’s obviousness analysis does not address the deficiencies identified above. Claims 2–8 require the switching means to be coupled to said transmitter means (itself “within each user terminal”). However, there is no analysis in the Petition that Rudrapatna’s alleged switching means (which is in the hub) is “coupled to said transmitter means” (within each user terminal). See Pet. 36–38. Consequently, Petitioner’s obviousness analysis for these claims, which is substantially the same as discussed above regarding the switching means, *see id.*, does not address the identified deficiencies. Accordingly, we decline to institute *inter partes* review as to claims 2–8 and 29 on the proposed grounds of obviousness.

III. CONCLUSION

For the foregoing reasons, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that at least one of the challenged claims of the '073 patent is unpatentable based on the asserted grounds.

IV. ORDER

In consideration of the foregoing, it is
ORDERED that the Petition is *denied*.

FURTHER ORDERED that no *inter partes* review will be instituted pursuant to 35 U.S.C. § 314(a) with respect to any of the challenged claims of the '073 patent on the ground of unpatentability asserted in the Petition.

FOR PETITIONER:

Eliot D. Williams
eliot.williams@bakerbotts.com

G. Hopkins Guy III
hop.guy@bakerbotts.com

FOR PATENT OWNER:

Andrea G. Reister
areister@cov.com

Jay I. Alexander
jalexander@cov.com