UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/770,322	04/29/2010	Song Yean Cho	1398-322 (YPF201003-0046)	9495

66547 7590 11/19/2019

THE FARRELL LAW FIRM, P.C.
290 Broadhollow Road
Suite 210E
Melville, NY 11747

EXAMINER	
RIVAS, SALVADOR E	

ART UNIT	PAPER NUMBER
2413	

NOTIFICATION DATE	DELIVERY MODE
11/19/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto@farrelliplaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SONG YEAN CHO, CHAE GWON LIM, SUNG HO CHOI, and BEOM SIK BAE

Appeal 2018-008401
Application 12/770,322
Technology Center 2400

Before JOSEPH P. LENTIVECH, PHILLIP A. BENNETT, and SCOTT RAEVSKY, *Administrative Patent Judges.*

RAEVSKY, *Administrative Patent Judge.*

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 19–34. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

[1] We use the word "Appellant" to refer to "Applicant" as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Samsung Electronics Co, Ltd. Appeal Br. 1.

CLAIMED SUBJECT MATTER

The claims recite providing a local IP access service to a User Equipment attached to a femtocell including a Packet Data Network (PDN) gateway. *See* Spec., Abstract. Claims 19 and 31, reproduced below, are illustrative of the claimed subject matter:

> 19. A method for supporting local internet protocol access (LIPA) at a home enhanced node base station (HeNB) collocated with a local gateway (LGW) in a wireless communication system, the method comprising:
>
> receiving, from a terminal, a first request message;
>
> transmitting, to a mobility management entity (MME), a first control message including an address of the LGW via an S1-MME interface for the terminal; and
>
> receiving, from the MME, a second control message in response to the first control message, the second control message including an identification (ID) for enabling a direct path between the HeNB and the LGW,
>
> wherein the address of the LGW is used to select a packet data network gateway (PDN GW) by the MME, and
>
> wherein a second request message comprising the address of the LGW is transmitted from the MME to a serving gateway (SGW).

> 31. A method for supporting local internet protocol access (LIPA) at a local gateway (LGW) collocated with a home enhanced node base station (HeNB) in a wireless communication system, the method comprising:
>
> receiving, by the LGW, a downlink packet data for a terminal;
>
> buffering, by the LGW, the received downlink data packet;
>
> identifying whether the terminal is in an idle state;
>
> transmitting, by the LGW, if the terminal is in the idle state, the received downlink data packet to a serving gateway (SGW) to page the terminal; and

> forwarding, by the LGW, to the HeNB, if the terminal enters a connected mode, the buffered downlink data packet on a direct path enabled between the HeNB and the LGW.

REJECTIONS

Claims 19, 20, 22, 23, 25, 26, 28, and 29 stand rejected under 35 U.S.C. § 103(a) as obvious over 3GPP (TS 123 401 v.8.5.0, March 2009), TD S2-092308 ("Local IP access baseline solution for EHNB, March 30–April 3, 2009) (hereafter "TD S2-1"), and TD S2-091989 ("Architecture alternative for Local IP access," March 30–April 3, 2009) (hereafter "TD S2-2"). Non-Final Act. 4.

Claims 21, 24, 27, and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over 3GPP, TD S2-1, Rune (US 2010/0054222 A1, Mar. 4, 2010), TD S2-2, and Gupta (US 2009/0232019 A1, Sept. 17, 2009). *Id.* at 15.

Claims 31–34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gupta, TD S2-2 and 3GPP. *Id.* at 17.

We review the appealed rejections for error based upon the issues identified by Appellant and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

ANALYSIS

Claims 19–30

Appellant contends four separate limitations of claim 19 are not taught or suggested by the combination of 3GPP, TD S2-1, and TD S2-2. Appeal Br. 4–7; Reply Br. 2–4.

First, Appellant contends the cited references fail to teach or suggest claim 19's "transmitting, to a mobility management entity (MME), a first

control message including an address of the LGW." Appeal Br. 5. Appellant argues that "*TD S2-2* . . . does not disclose that a base station transmits, to an MME, a message including an LGW address." *Id.* However, Appellant overlooks that the Examiner relies on 3GPP, not TD S2-2, for the transmitting limitation except the "message including an address of the LGW," for which the Examiner relies on TD S2-2. *See* Non-Final Act. 4, 6. Appellant's arguments attacking 3GPP, TD S2-1, and TD S2-2 in isolation do not persuasively rebut the underlying factual findings made by the Examiner, which are based upon the combined teachings and suggestions of the cited references. One cannot show non-obviousness by attacking references individually, where the rejections are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Appellant next contends that TD S2-2 fails to teach or suggest claim 19's "wherein the address of the LGW is used to select a packet data network gateway (PDN GW) by the MME." Appeal Br. 5. Specifically, Appellant contends, "*TD S2-2* concerns selecting an S-GW/P-GW by using a DNS query, while Claim 19 recites that the address of the LGW is used to select a PDN GW by the MME." *Id.* The Examiner finds that TD S2-2 "teaches a method wherein the addresses of the LGW (read as IP address) is used to select a . . . PDN GW[] by the MME." Non-Final Act. 6. In particular, the Examiner relies on TD S2-2's teaching that an "MME establishes the EPS connection toward the S-GW and P-GW colocated with the HeNB ([t]he same IP address with the HeNB) if the S1 is connected with HeNB." *Id.* (quoting TD S2-2 § 6.3.9.2.2).

We agree with the Examiner. As alluded to by Appellant, TD S2-2 discloses that "[i]n EPS bearer establishment procedure, [t]he DSN[2] query from MME shall be able to find the S-GW and P-GW colocated with HeNB." TD S2-2 § 6.3.9.2.2. But Appellant does not persuasively argue how this passage distinguishes the disputed limitation over the passage of TD S2-2 relied on by the Examiner. That passage, which Appellant does not directly address, mentions an "IP address," which the Examiner finds is the address of the LGW. Non-Final Act. 6 (citing TD S2-2 § 6.3.9.2.2.). TD S2-2 teaches that the MME establishes the connection toward the P-GW colocated with the HeNB, at the same IP address with the HeNB. TD S2-2 § 6.3.9.2.2. In other words, under the broadest reasonable interpretation, the LGW address (i.e., IP address) "is used" in TD S2-2 to select (i.e., establish the connection toward) the P-GW. Thus, Appellant does not persuade us the Examiner erred with respect to this claim limitation.

Appellant next contends 3GPP fails to teach or suggest claim 19's "identification (ID) for enabling a direct path between the HeNB and the LGW." Appeal Br. 5–6. Appellant contends, "S1-TEID of *3GPP* is an ID value for connecting with an S-GW and does not correspond to the ID of Claim 19, which forms a direct path between an HeNB and an LGW." *Id.* at 6. In addition, Appellant contends, 3GPP "fails to disclose enabling a direct path between an eNodeB and an S-GW." *Id.*

We begin by construing this limitation. The phrase, "for enabling a direct path between the HeNB and the LGW," under the broadest reasonable interpretation, merely recites intended use, and as such, is not limiting. *See*

[2] A possible typo for DNS. *See* TD S2-2 § 6.3.9.2.1 ("DNS finds the GGSN.").

In re Anderson, 662 Fed. App'x. 958, 963 (Fed. Cir. 2016) (nonprecedential) (finding claim term "for use" was a non-limiting statement of intended use). The Examiner finds, and Appellant concedes, that 3GPP's "S1-TEID" discloses the recited "identification (ID)." Non-Final Act. 4; Appeal Br. 6 ("S1-TEID of *3GPP* is an ID."). Moreover, while Appellant addresses only 3GPP's teachings, the Examiner relies on the combination. *See* Ans. 3–4. Accordingly, Appellant does not persuade us of Examiner error with respect to this limitation.

Finally, Appellant contends TD S2-1 fails to teach or suggest claim 19's "wherein a second request message comprising the address of the LGW is transmitted from the MME to a serving gateway (SGW)." Appeal Br. 6–7. Appellant contends, "*TD S2-1* describes maintaining an interface for transmission/reception of a control message between an MME and SGW. *TD S2-1* fails to disclose that an MME transmits an LGW address to an SGW." *Id.* at 7.

The Examiner finds TD S2-1 discloses "wherein a second request message (other PDN connections) is transmitted from the MME to a serving gateway (SGW)." Non-Final Act. 5. The Examiner further finds TD S2-2 discloses "a message comprising the address of the LGW." *Id.* at 6. Appellant only addresses TD S2-1, contending that TD S2-1 fails to disclose an MME transmitting an LGW address to an SGW. *See* Appeal Br. 6–7. But Appellant's arguments attacking 3GPP, TD S2-1, and TD S2-2 in isolation do not persuasively rebut the underlying factual findings made by the Examiner, which are based upon the combined teachings and suggestions of the cited references.

Accordingly, we sustain the Examiner's rejection of claim 19. Appellant's arguments regarding the rejection of independent claims 22, 25, and 28 rely on the same arguments as for claim 19, and Appellant does not argue separate patentability for the dependent claims. *See id.* at 7–8. We, therefore, also sustain the Examiner's rejection of claims 20–30. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Claims 31–34

Appellant contends that Gupta, TD S2-2, and 3GPP fail to teach or suggest three limitations in claim 31. Appeal Br. 7–10; Reply Br. 4–6.

Appellant contends Gupta fails to teach or suggest claim 31's "buffering, by the LGW, the received downlink data packet" because Gupta "simply describes a memory of an HeNB and fails to disclose anything regarding the feature of buffering, at an LGW, a received packet." Appeal Br. 8–9. The Examiner finds, however, that Gupta discloses "buffering the received downlink data packet" and TD S2-2 discloses "a local gateway (LGW)." Non-Final Act. 17, 19; Ans. 5 (Gupta's "SGW may buffer packets." (quoting Gupta ¶ 156)). Appellant's Reply contends that Gupta "merely describes buffering a packet by an SGW." Reply Br. 4. But Appellant overlooks that the Examiner relies on TD S2-2, not Gupta, for the local gateway portion of this limitation. *See* Non-Final Act. 19. Thus, Appellant again argues the references individually.

Appellant next contends Gupta fails to teach or suggest claim 31's "transmitting, by the LGW, . . . the received downlink data packet to a serving gateway (SGW) to page the terminal." Appeal Br. 9; Reply Br. 4–5. Appellant concedes "*Gupta* describes that . . . an SGW buffers [a received]

packet and urges an MME to make a paging transmission" but contends "*Gupta* fails to provide any disclosure relating to transmitting, to an SGW, a packet received by an LGW." Appeal Br. 9. But, as before, the Examiner relies on TD S2-2, not Gupta, for the local gateway portion of this limitation. *See* Non-Final Act. 19. Appellant again argues the references individually.

Appellant next contends that Gupta, TD S2-2, and 3GPP fail to teach or suggest claim 31's "forwarding, by the LGW, the buffered downlink data packet on a direct path enabled between the HeNB and the LGW." Appeal Br. 9–10; Reply Br. 5–6. Appellant contends that rather than teaching the above limitation "for a terminal in a *connected* mode," "*Gupta* describes transmitting, by an MME, paging information to a terminal in an *idle* mode." Appeal Br. 10 (citing Gupta ¶ 91) (emphasis added).

The Examiner initially finds Gupta discloses the disputed limitation in the following teachings:

> the MME may simply communicate when to page a UE to the relevant eNodeB or eNodeBs (e.g., HENBs). The page is then broadcast by each eNodeB based on an identifier (e.g., GUTI, T-IMSI, IMSI, etc.) of the UE. [Gupta ¶ 91]
>
> The S11 messages to be sent between the HSGW and the network MME may include, for example, create bearer (default or dedicated), delete bearer, update bearer, dedicated bearer deactivation, bearer resource allocation, bearer resource release, create forwarding tunnel, and other GTP-C messages (e.g., echo). [Gupta ¶ 118]

Non-Final Act. 18 (quoting Gupta ¶¶ 91, 118).

As noted by Appellant, the immediately preceding sentence before the Examiner's first quoted passage states, "the MME may support UE reachability in *ECM-IDLE state*." Appeal Br. 10 (quoting Gupta ¶ 91 (emphasis added)). But in the Answer, the Examiner newly finds that 3GPP

"teaches systems capable of determining when a UE is in an ECM-IDLE *or ECM-CONNECTED* state(s) in order to provide information." Ans. 6 (emphasis added). The Examiner concludes it would have been obvious "to employ the mobility management functions as taught by the 3GPP document and the P-GW and S-GW functions used for Local IP access as taught by [TD S2-2] within the HeNB system as taught by Gupta et al. for the purpose of providing nodes in a communication system the capability to recognize an *active UE* that is to receive a page." *Id.* (emphasis added).

In Reply, Appellant contends this rationale to combine is conclusory. Reply Br. 6. We do not agree; the Examiner provided a reason for combining, namely, "for the purpose of providing nodes in a communication system the capability to recognize an active UE that is to receive a page." Ans. 6. Appellant does not articulate why one of ordinary skill in the art would not have pursued this rationale. Thus, Appellant has not persuasively demonstrated that one of ordinary skill in the art would not have combined the references.

With respect to the same "forwarding" limitation, Appellant further contends, without supporting reasoning, that "*Gupta* fails to provide any disclosure relating to forwarding a packet through a direct path between an HeNB and an LGW." Appeal Br. 10. The Examiner finds that Gupta's "forwarding tunnel" is the claimed direct path. Non-Final Act. 18 (citing Gupta ¶ 118 ("create forwarding tunnel")). As Appellant does not specifically address the Examiner's finding, Appellant does not persuasively distinguish over the cited references.

Accordingly, we sustain the Examiner's rejection of claim 31. Appellant's arguments regarding the rejection of independent claim 33 relies

on the same arguments as for claim 31, and Appellant does not argue separate patentability for the dependent claims. *See* Appeal Br. 10–11. We, therefore, also sustain the Examiner's rejection of claims 32–34. *See* 37 C.F.R. § 41.37(c)(1)(iv).

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
19, 20, 22, 23, 25, 26, 28, 29	103	3GPP Document, TD S2-1, TD S2-2	19, 20, 22, 23, 25, 26, 28, 29	
21, 24, 27, 30	103	3GPP Document, TD S2-1, Rune, Gupta	21, 24, 27, 30	
31–34	103	Gupta, TD S2-2, 3GPP Document	31–34	
Overall Outcome			19–34	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED