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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/329,890	12/08/2008	Vinay Sridhara	081197	9759
15055	7590	02/26/2020	EXAMINER	
Patterson + Sheridan, L.L.P. Qualcomm 24 Greenway Plaza, Suite 1600 Houston, TX 77046			BOKHARI, SYED M	
			ART UNIT	PAPER NUMBER
			2473	
			NOTIFICATION DATE	DELIVERY MODE
			02/26/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* VINAY SRIDHARA, SANJIV NANDA, ALOK AGGARWAL,  
VINCENT KNOWLES JONES IV, GEERT ARNOUW AWATER, and  
SANTOSH P. ABRAHAM

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Appeal 2019-000127  
Application 12/329,890  
Technology Center 2400

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Before JAMES B. ARPIN, HUNG H. BUI, and PHILLIP A. BENNETT,  
*Administrative Patent Judges.*

BENNETT, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 41, 44, 47–49, 52, 55–57, 60, 63–67, 70–72, 75–77, and 80–89. Claims 1–40, 42, 43, 45, 46, 50, 51, 53, 54, 58, 59, 61, 62, 68, 69, 73, 74, 78, and 79 are cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

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<sup>1</sup> 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 QUALCOMM Incorporated. Appeal Br. 4.

### CLAIMED SUBJECT MATTER

The claims are directed to reverse link acknowledgement in a wireless local area networks. The pending claims can be divided logically into two groups. The first group, exemplified in claim 41 and generally rejected under 35 U.S.C. § 103(a), recites an embodiment in which block acknowledgement request messages are sent to two devices, but the second block acknowledgement request is sent only upon receipt of a response to the first block acknowledgement request. The second group, exemplified in claim 67 and rejected under 35 U.S.C. § 102(e), recites an embodiment in which a block acknowledgement request message to request acknowledgement of only a single data unit. These two claims are reproduced below:

41. A method for wireless communication, the method comprising:

transmitting an aggregated data unit comprising a plurality of data units, each of the plurality of data units intended for a different one of a plurality of apparatuses, wherein transmitting the aggregated data unit comprises simultaneously transmitting the plurality of data units;

transmitting a first block acknowledgement request message to a first apparatus of the plurality of apparatuses to request acknowledgment of a data unit of the plurality of data units intended for the first apparatus of the plurality of apparatuses;

receiving a first block acknowledgment message for the aggregated data unit from the first apparatus of the plurality of apparatuses after transmitting the first block acknowledgment request message, wherein the first block acknowledgment message indicates reception of the data unit intended for the first apparatus of the plurality of apparatuses; and

transmitting, in response to receiving the first block acknowledgment message, a second block acknowledgment request message to a second apparatus of the plurality of

apparatuses to request acknowledgment of a data unit of the plurality of data units intended for the second apparatus of the plurality of apparatuses.

67. A method for wireless communication, the method comprising:

receiving, at a first apparatus of a plurality of apparatuses, an aggregated data unit comprising a plurality of data units transmitted to the plurality of apparatuses, each of the plurality of the data units intended for a different one of the plurality of apparatuses, wherein receiving the aggregated data unit comprises simultaneously receiving the plurality of data units;

receiving a block acknowledgement request message to request acknowledgement of a single data unit, intended for the first apparatus, of the received plurality of data units; and

transmitting a block acknowledgment message for the aggregated data unit after receiving the block acknowledgement request message, wherein the block acknowledgment message indicates reception of the single data unit intended for the first apparatus.

Appeal Br. 26 (Claim 41), 30 (Claim 67) (Claims Appendix).

## REFERENCES

The Examiner relies upon the following references:

<b>Name<sup>2</sup></b>	<b>Reference</b>	<b>Date</b>
Nishibayashi	US 2005/0238016 A1	Oct. 27, 2005
Shapira	US 2007/0153760 A1	Jul. 5, 2007
Trainin	US 2009/0213767 A1	Aug. 27, 2009
Nishibayashi '056	US 2010/0189056 A1	Jul. 29, 2010

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<sup>2</sup> References are identified with reference to their first named author/inventor.

## REJECTIONS

Claims 67, 72, 77, 82, and 83 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Final Act. 2–3.

Claims 67, 72, 77 and 83 stand rejected under 35 U.S.C. § 102(e) as anticipated by Nishibayashi. Final Act. 33–40.

Claims 41, 49, 57, and 66 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Nishibayashi and Shapira. Final Act. 5–19.

Claims 44, 47, 48, 52, 55, 56, 60, 63, 64, 70, 71, 75, 76, 80, 81 and 84–89 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Nishibayashi, Shapira, and Nishibayashi '056. Final Act. 19–28.

Claim 65 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Nishibayashi, Shapira, and Trainin. Final Act. 28–33.

Claim 82 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Nishibayashi and Trainin. Final Act. 41–44.

## ISSUES

*First Issue:* Has the Examiner erred find concluding the phrase “a single data unit,” as recited in claims 67, 72, 77, 82, and 83, is indefinite under 35 U.S.C. § 112, second paragraph?

*Second Issue:* Has the Examiner erred in finding Nishibayashi discloses “receiving a block acknowledgement request message to request acknowledgement of a single data unit, intended for the first apparatus, of the received plurality of data units,” as recited in claim 67?

*Third Issue:* Has the Examiner erred in finding Nishibayashi and Shapira teach or suggest “transmitting, in response to receiving the first block acknowledgment message, a second block acknowledgment request message to a second apparatus of the plurality of apparatuses to request

acknowledgment of a data unit of the plurality of data units intended for the second apparatus of the plurality of apparatuses,” as recited in claim 41?

## ANALYSIS

### *First Issue*

The Examiner rejects claims 67, 72, 77, 82, and 83 as indefinite because the claim recites “acknowledgement of a single data unit,” and the Examiner “could not establish distinguish between the term “*a data unit* and *a single data unit* because the terms could be interpreted to be the same and bears no patentable distinction.” Final Act. 2–3.

Appellant argues the Examiner has erred because “it is improper to read ‘single data unit’ in isolation of the phrase immediately thereafter modifying the term “single data unit.” Appeal Br. 13. Appellant asserts that “[t]he term ‘single data unit,’ . . . refers not to a data unit generically, but to a single data unit ‘*intended for the first apparatus, of the received plurality of data units.*’” Appellant further asserts that the Specification makes clear that “single data unit” refers to a specific, individual, and singular data unit. Appeal Br. 14. We agree with Appellant.

Appellant’s Specification describes a process by which aggregated packets—packets made up of a plurality of individual packets (data units)—are transmitted to a plurality of devices. Spec. ¶ 35 (“This method reduces the overhead at the physical layer by transmitting a single preamble for all of the PPDU’s packed into a single aggregated packet (APPDU).”). The Specification further describes that the APPDU may be transmitted to six receiving stations, and include one PPDU (packet) intended for each station. Spec. ¶ 36 (“The STA-100 transmits an APPDU to receiving stations STA-101 through STA-106.”). After the transmission of the aggregate packet, the

transmitting device generates a block acknowledgement request that is sent to the first receiving station. Spec. ¶ 36 (“Upon completion of the APPDU transmission, the transmitter STA-100 . . . sends a Block ACK request (BAR) 302 to STA-101.”). In response, the receiving station sends back an acknowledgement indicating that it has received the specific packet that was intended for it. Spec. ¶ 36 (“STA-101 . . . sends a Block ACK 304 back to STA-100 indicating successful reception of the PPDU in the APPDU intended for STA-101.”). Thus, as evidenced by the embodiment described in the Specification, the Block ACK sent back to the sending station is an acknowledge of the receipt of only one data unit, the data unit intended for that particular receiving station. As such, we disagree with the Examiner that the phrase “single data unit” is unclear, and we agree with Appellant that the phrase “single data unit” means one, and only one, data unit as recited in the rejected claims. We, therefore, do not sustain the indefiniteness rejection of claims 67, 72, 77, 82, and 83.

*Second Issue*

Appellant challenges the Examiner’s findings with respect to the rejection of claims 67, 72, 77, and 83 under 35 U.S.C. § 102(e) as anticipated by Nishibayashi. In rejecting claim 67, the Examiner finds Nishibayashi discloses “receiving a block acknowledgment request message to request acknowledgement of a single data unit, intended for the apparatus, of the received plurality of data units.” Final Act. 34–35 (citing Nishibayashi Fig. 34). The Examiner finds that Figure 34 of Nishibayashi discloses a transmitting device “HC is transmitting first block acknowledgement request, BlockAckReq QSTA1, to first receiving

apparatus QSTA 1 for acknowledging of receiving the intended data sent to it.” *Id.*

Appellant contends the Examiner’s finding is in error because the claim requires that the block acknowledgement request seek acknowledgement of receipt of a “single data unit,” but Nishibayashi’s “block acknowledgement request messages request the acknowledgement of *multiple* data units intended for a first apparatus (i.e., for the 3 data units transmitted to QSTA1).” Appeal Br. 16. We agree.

Anticipation is a test of strict identity. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1296 (Fed. Cir. 2002). That is, to meet the strict identity test for anticipation, all elements must be disclosed in exactly the same way as they are arranged or combined in the claim. *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332 (Fed. Cir. 2010).

Here, the disputed limitation recites that the block acknowledgement request is “to request acknowledgement of a *single data unit*.” As we explained above in connection with the indefiniteness rejection, the broadest reasonable interpretation for the phrase “single data unit” is “only one data unit.” We agree with Appellant that the block acknowledgement request disclosed in Nishibayashi is a request for acknowledgement of three data units—which is different than a single data unit. Because anticipation requires that the prior art to disclose the same invention claimed, we are persuaded the Examiner’s anticipation rejection of claim 67, as well as of claims 72, 77, and 83 which also include the “single data unit” limitation, is in error.

*Third Issue*

Claim 41 recites the limitation “transmitting, in response to receiving the first block acknowledgment message, a second block acknowledgment request message to a second apparatus.” Appeal Br. 26 (Claims Appendix). The Examiner rejects claim 41 as obvious over the combined teachings of Nishibayashi and Shapira. Final Act. 5–8. The Examiner finds that Nishibayashi teaches most of the limitations of claim 41, but fails to teach the “transmitting, in response to receiving the first block acknowledgement message, a second block acknowledgement request message to a second apparatus.” *Id.* at 6–7. The Examiner relies on Shapira for this limitation, finding that it teaches receiving a first block acknowledgement message, and then afterwards sending a second block acknowledgement request message to a second device in a multiple access WLAN. *Id.* at 7–8 (citing Shapira ¶ 75, Fig. 4B). The Examiner finds that a person of ordinary skill in the art would have had reason to combine the teachings of Nishibayashi and Shapira because “it is more cost effective and dynamic.” *Id.* at 8.

Appellant contends the Examiner erred because “the second block acknowledgement request of Shapira is not transmitted in response to receiving the first block acknowledgement message.” Appeal Br. 19. More specifically, Appellant contends “transmission of the second block acknowledgement request message of Shapira, as discussed in Shapira paragraph [0075], is merely delayed by some predetermined amount of time relative to the transmission of the first block acknowledgement request—apparently irrespective of whether the transmitting station ever received a block acknowledgment from the first apparatus at all.” *Id.*

We are persuaded by Appellant’s argument. The block acknowledgement frame requests described in Shapira are described as “sequential BA frame requests.” Shapira ¶ 75. However, the sequential BA frame request process taught by Shapira is effectuated via a timing mechanism by which the block acknowledgement requests are delayed by a predetermined time period to allow sufficient time for the first acknowledgement response to be received. However, Shapira does not indicate that the second acknowledgement request message only will be sent “in response to” the receipt of the first acknowledgement response. Rather, as Appellant correctly asserts, it appears that the second message will be sent after the predetermined time period—even if the first acknowledgement has not yet been received. It may be that the time delay described in Shapira implicitly teaches sending the second acknowledgement request message “in response to” receiving the first message, but the Examiner provides no explanation or reasoning for why this may be the case. As such, we are constrained by the record before us to reverse the obviousness rejection of claim 41.

#### *Remaining Claims*

Each of the remaining claims depends from one of the claims discussed above and recites the dispositive limitation. Although in some cases, the claims were rejected as obvious over combinations of different references, the teachings of those different references are not relied upon to cure the deficiencies identified above. Accordingly, we also do not sustain the rejections of the remaining claims.

#### CONCLUSION

The Examiner’s rejections are reversed.

DECISION SUMMARY

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
67, 72, 77, 82, 83	112, ¶ 2	indefiniteness		67, 72, 77, 82, 83
67, 72, 77, 83	102(e)	Nishibayashi		67, 72, 77, 82, 83
41, 49, 57, 66	103(a)	Nishibayashi, Shapira		41, 49, 57, 66
44, 47, 48, 52, 55, 56, 60, 63, 64, 70, 71, 75, 76, 80, 81, 84–89	103(a)	Nishibayashi, Shapira, Nishibayashi '056		44, 47, 48, 52, 55, 56, 60, 63, 64, 70, 71, 75, 76, 80, 81, 84–89
65	103(a)	Nishibayashi, Shapira, Trainin		65
82	103(a)	Nishibayashi, Trainin		82
<b>Overall Outcome</b>				41, 44, 47–49, 52, 55–57, 60, 63–67, 70–72, 75–77, 80–89

REVERSED