

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte IAN CRAYFORD, RAMESH SIVAKOLUNDU  
and BING CHENG

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Appeal No. 2001-2291  
Application No. 08/743,049

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ON BRIEF

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Before KRASS, JERRY SMITH, and FLEMING, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1 and 14 which constitute the only claims in the application.

The disclosed invention pertains to a device for economically and efficiently interfacing a plurality of PHY devices integrated into a single semiconductor package with an integrated repeater front-end device to produce a repeater.

Representative claims 1 and 14 are reproduced as follows:

1. An integrated device for use with a repeater front-end, the device comprising:

a first PHY having first receive channels for receiving data from the repeater front-end, first transmit channels for transmitting data to the repeater front-end and first control channels for transmitting and receiving control signals from the repeater front-end; and

a second PHY, integrated into a semiconductor device with said first PHY, having second receive channels coupled to said first receive channels for receiving data from the repeater front-end, second transmit channels coupled to said first transmit channels for transmitting data to the repeater front-end, and second control channels independent from said first control channels for receiving and transmitting control signals from the repeater front-end.

14. A PHY device comprising:

transmit channels for transmitting data to a repeater;  
receive channels for receiving data from said repeater;  
control channels for transmitting and receiving control signals from said repeater;  
input channels for receiving data to be transmitted to said repeater;  
output channels for transmitting data received from said repeater; and  
a carrier integrity monitor for monitoring the activity on said input channels.

The examiner relies on the following reference:

Liu et al. (Liu)	5,754,540	May 19, 1998
		(filed July 18, 1995)

Claims 1 and 14 stand rejected under 35 U.S.C. § 103(a). As evidence of obviousness the examiner offers Liu taken alone.

Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner and the evidence of obviousness relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claim 14. We reach the opposite conclusion with respect to claim 1. Accordingly, we affirm-in-part.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed

invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered and are deemed to be waived by appellants [see 37 CFR § 1.192(a)].

With respect to claim 1, the examiner finds that Liu teaches the claimed invention except for the second transmit channels being coupled to the first transmit channels for transmitting data to the repeater and the first and second PHY devices being integrated into a semiconductor device. With respect to the first point, the examiner notes that Liu teaches the first and second receive channels being shared in order to reduce the overall pin count. The examiner finds that it would have been obvious to the artisan to share the transmission bus of Liu as well in order to further reduce the overall pin count. With respect to the second point, the examiner takes "official notice" that the concept and advantages of the integrated circuit were well known in the art. The examiner finds, therefore, that it would have been obvious to the artisan to integrate both PHY devices to save space and cost [answer, pages 3-4].

Appellants argue that Liu does not suggest or provide motivation to supply the limitations admitted by the examiner to be missing. With respect to the first point, appellants note that the motivation asserted by the examiner is the same motivation discussed in Liu, yet Liu did not make the proposed modification. With respect to the second point, appellants also argue that the knowledge of semiconductor integration is insufficient to motivate the artisan to integrate the PHY devices of Liu on the same integrated circuit. Specifically, appellants

argue that the integration proposed by the examiner would destroy the flexibility of the MAC/bridge combinations specifically desired by Liu [brief, pages 4-7].

The examiner responds by repeating his position that it would have been obvious to share the transmit channels for the same reason that Liu shares the receive channels [answer, page 6]. The examiner does not address appellants' argument as to why the integration in Liu proposed by the examiner would defeat the flexibility desired in Liu.

We will not sustain the examiner's rejection of claim 1. The examiner's taking of "official notice" that the concept and advantages of the integrated circuit were well known in the art is not, by itself, sufficient to establish obviousness in all cases. We agree with appellants that the integration proposed by the examiner would destroy the flexibility of the MAC/bridge combinations specifically desired by Liu. Since appellants' argument provides a logical basis why the artisan would not have been motivated to make the modification proposed by the examiner, and since the examiner has not responded to this argument, we find that it would not have been obvious to the artisan to integrate both PHY devices of Liu on the same semiconductor device as claimed.

With respect to claim 14, the examiner finds that Liu teaches the claimed invention except that Liu teaches a carrier

integrity monitor for the repeater and not for the physical devices as claimed. The examiner notes, however, that the "state machine" in Liu meets the carrier integrity monitor of claim 14. Specifically, the examiner finds that Liu teaches that a data handler state machine for the repeater MII monitors carrier activity to see whether the carrier is present on all the ports. The examiner finds that it would have been obvious to the artisan to modify the physical device to include a carrier integrity monitor [answer, pages 4-5].

Appellants argue that the carrier integrity monitor of Liu is located in the repeater core and not in the physical device as claimed. Appellants argue that there is no evidence from the prior art to support the obviousness of duplicating the same CIM from the repeater core to the PHY [brief, page 8].

The examiner responds that the data handler state machine of the MII in Liu constitutes a carrier integrity monitor because it monitors carrier activity on the ports and that this data handler state machine is located in the MII (PHY) [answer, pages 6-7].

We will sustain the examiner's rejection of claim 14. Although Liu discloses a carrier integrity monitor for the repeater core, Liu also discloses that the MIIs (PHY devices) contain a state machine to ensure that all the carriers are available on the physical ports before transmitting data out [column 18, lines 23-26]. We understand the examiner's rejection

to be that this function of the state machine in the MIIs is to monitor the carrier activity on the input channels. We agree with the examiner that the state machines within the MIIs of Liu constitute carrier integrity monitors within the MIIs for purposes of meeting the broad language of claim 14. Appellants have failed to address the teachings of Liu with respect to these state machines.

In summary, we have sustained the examiner's rejection with respect to claim 14, but we have not sustained the rejection with respect to claim 1. Therefore, the decision of the examiner rejecting claims 1 and 14 is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

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Errol A. Krass	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
Jerry Smith	)	
Administrative Patent Judge	)	APPEALS AND
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