United States Court of Appeals for the Federal Circuit

05-1233

INPRO II LICENSING, S.A.R.L.,

Plaintiff-Appellant,

v.

T-MOBILE USA, INC.,
RESEARCH IN MOTION LIMITED,
and RESEARCH IN MOTION CORPORATION,

Defendants-Appellees.

Robert D. Rhoad, Dechert LLP, of Princeton, New Jersey, argued for plaintiff-appellant. With him on the brief were Martin J. Black and Marc S. Segal, of Philadelphia, Pennsylvania.

Linda S. Resh, Kirkland & Ellis LLP, of Chicago, Illinois, argued for defendants-appellees. With her on the brief were Craig D. Leavell, Jamie H. McDole, and Aaron D. Charfoos.

Appealed from: United States District Court for the District of Delaware

Judge Gregory M. Sleet

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DECIDED: May 11, 2006

Before NEWMAN, DYK, and PROST, Circuit Judges.

Opinion for the court by Circuit Judge NEWMAN; additional views by Circuit Judge NEWMAN.

Inpro II Licensing, S.A.R.L. appeals from the decision of the United States District Court for the District of Delaware, granting judgment of noninfringement of U.S. Patent No. 6,523,079 (the '079 patent) in favor of T-Mobile USA, Inc., Research in Motion Limited, and Research in Motion Corporation (collectively "T-Mobile").[1] The parties stipulate that the

1 Inpro II Licensing, S.A.R.L. v. T-Mobile USA, Inc., No. 03-1047 (D. Del. Nov. 29, 2004) (Claim Construction); (D. Del. Dec. 28, 2004) (Final Judgment).

district court's construction of certain claim terms, including the term "host interface," preclude infringement. We hold that the district court correctly construed "host interface," and on this ground we affirm the judgment of noninfringement. Since this aspect is dispositive of the issue of noninfringement, we do not reach the other aspects of the district court's claim construction.

The Patented Invention

The '079 patent is directed to novel personal digital assistant (PDA) modules designed to overcome various drawbacks and problems associated with previously available PDA systems. The '079 patent explains that prior PDA modules were costly and bulky, and transferred data in a manner that was time-consuming, error-prone, and expensive. The '079 patent is for a credit-card sized PDA, illustrated in patent Figures 1A and B, that can be "docked" by plugging it into a corresponding bay on the host computer:

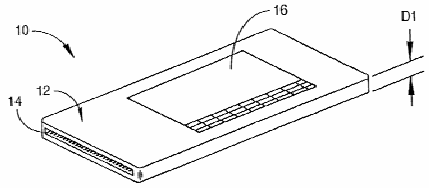

Fig. 1A

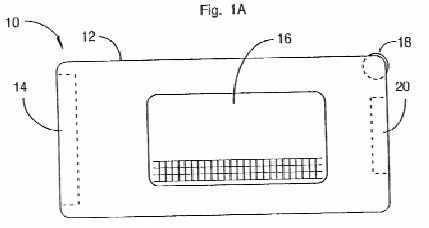

Fig. 1B

As shown in the drawings, the PDA includes a thumbwheel controller (18), a user interface (16), a host interface (14) for connection to the host computer, and a second external connector (20) for connection to external devices such as printers. The patent explains that

the PDA is designed to run independently by its own internal central processing unit (CPU) until it is connected to a host computer. Upon connection to the host computer, the host CPU takes control and can access the memory and other functional units of the PDA.

Inpro charged T-Mobile with infringement of claims 34, 35 and 36 of the '079 patent. T-Mobile counterclaimed for a declaration of noninfringement and invalidity. The district court held a Markman hearing and construed all eight disputed terms of the '079 claims. Inpro stipulated that it could not prevail on either direct or indirect infringement of any of the asserted claims, either literally or under the doctrine of equivalents, on the district court's construction of some of the claim terms. The district court entered final judgment of noninfringement in favor of T-Mobile with respect to all of the patent claims in Inpro's complaint. The court dismissed without prejudice T-Mobile's counterclaim of invalidity of the '079 patent, granting T-Mobile permission to reinstate the counterclaim in the event the case were to be remanded to the district court on this appeal.

DISCUSSION

We give plenary review to claim construction, as a matter of law. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (*en banc*); Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed. Cir. 1995) (*en banc*); aff'd, 517 U.S. 370 (1996).

The parties appeal the construction of three of the eight terms construed by the district court: "host interface," "docking with the host computer," and "digital assistant module." The parties agree that if the district court correctly construed "host interface" or "docking with the host computer," infringement does not lie. The parties debate whether

the district court's construction of "digital assistant module" is so broad as to render the patent subject to invalidity.

Claim 34, the broadest claim in suit, is representative:

> 34. A digital assistant module that interfaces with a host computer, comprising:
> an on-board CPU that manages functions of the digital assistant module;
> a memory connected to the CPU that stores data and executable routines;
> a display;
> a user-operable thumb wheel that provides directional input for control operations performed in conjunction with the display;
> a host interface adapted so as to provide communications between the digital assistant module and the host computer upon docking with the host computer; and
> an enclosure that houses said CPU, said memory, said display, said input apparatus, and said host interface.

Construction of "Host Interface"

The district court construed "host interface" as "a direct parallel bus interface." Inpro argues that the district court erroneously limited this "interface" to the embodiment in the specification, and proposes that the term includes any interface for providing communication with a host. Inpro invokes the doctrine of claim differentiation, and points out that unasserted claims 2, 24, and 33 refer specifically to a "parallel bus interface," and that unasserted claims 3, 25, and 32 refer to a "direct access" parallel bus. Inpro argues that the presence of these limitations of the host interface in the unasserted claims demonstrates that the broader claim 34 is not limited to a parallel bus interface involving direct access.

Inpro argues that the specification does not clearly so limit the host interface. Inpro states that the purpose of the host interface is to permit the host computer, upon docking,

to communicate with the PDA and transfer information to and from the PDA, and that this does not require a particular type of bus (parallel rather than serial)[2] or type of connection (direct rather than indirect). Inpro argues that a direct parallel bus interface is merely an optimal feature of an aspect of its invention, and that there is no reason to limit "host interface" to a particular type of interface.

T-Mobile responds that the only host interface mentioned in the specification is a direct parallel bus connection, and that the specification contains no disclosure of an indirect or serial interface. T-Mobile argues that there is no requirement that different claims must always be of different scope, although that is the usual case. In Tandon Corp. v. United States International Trade Comm'n, 831 F.2d 1017, 1023-24 (Fed. Cir. 1987) the court explained that the doctrine of claim differentiation means that different claims are presumed to be of different scope; however, the court pointed out that describing claim elements or limitations in different words does not invariably change the scope of the claim. The boundaries of patented inventions are set forth in the claims, construed in light of the description in the specification, as well as by the prior art and the prosecution history. Phillips v. AWH Corp. 415 F.3d 1303 (Fed. Cir. 2005) (*en banc*).

T-Mobile points out that the other claims of the '079 patent contain other limitations affecting their scope; for example, each claim that contains the term "parallel bus interface" designates a particular type of parallel bus interface, a "PCMCIA parallel bus interface"

2 "Serial" communication involves the transmission of information over a single path, while "parallel" communication involves the simultaneous transmission of information over separate paths.

(claims 2, 24, and 33). T-Mobile points out that the '079 patent itself disparages serial interfaces, referring to the "Background of the Invention" wherein the inventors state that:

> A big drawback of the PDA systems being offered is the way they transfer data between a user's desktop unit, or other host, and the PDA. Known communication is by modem, by infrared communication, and by serial connection. These all require manipulation by a user, modulation on one or both ends of the communication path, and the like, which can be time-consuming, error-prone, and hardware extensive (expensive).

'079 patent, col. 1, lines 48-55. The specification further states:

> It is very troublesome to have two or more sets of critical data, with differences that one must remember to correct at an appropriate time. This can cause unending grief if files are not correctly updated. At best, current PDAs must use a relatively slow compressed bus to download and upgrade files. Typically this is done through a serial port, using a linking application like Laplink.

Col. 2, lines 5-12. The '079 specification then explains that "[w]hat is needed is a small and inexpensive PDA that has a range of features that eliminate the above-described risks and problems," col. 2, lines 19-21, including low cost and small size, and states that:

> A very important feature of the µPDA in an aspect of the present invention is a direct parallel bus interface with a connector allowing the unit to be docked by plugging it into a docking bay in a host unit. Moreover, when the µPDA is docked in the host, there needs to be a means to effectively disable the CPU in the µPDA and to provide direct access to both the µPDA software and data storage by the host CPU. This direct access would provide immediate ability to communicate in the fastest available fashion between the µPDA and the host, and would also facilitate additional important features to be described below.

Col. 2, lines 30-40 (emphases added).

The district court correctly observed that the only host interface described in the specification is a direct parallel bus interface, and that the specification emphasizes the importance of a parallel connection in solving the problems of the previously used serial connection. See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d

1337, 1341 (Fed. Cir. 2001) ("Where the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.") Claims are construed in light of the specification, of which they are a part. See Phillips, 415 F.3d at 1315-16. Although claims need not be limited to the preferred embodiment when the invention is more broadly described, "neither do the claims enlarge what is patented beyond what the inventor has described as the invention." Network, LLC v. Centraal Corp., 242 F.3d 1347, 1352 (Fed. Cir. 2001).

The specification does show a "serial" connection in its optional "expansion bus interface." That is the interface on the other side of the PDA, intended for connection to peripheral devices such as printers and fax machines. The specification states that the expansion bus interface takes several forms, and if necessary can be attached to a host computer via a serial port:

> In another embodiment, an undocked µPDA can transfer data via the optional expansion bus 40 (FIG. 3) directly to a host. In the special case of a µPDA user without access to a PCMCIA interface on his host (notebook or desk-top) computer, he or she can connect to a host via an auxiliary port on the host, such as a serial port, via the expansion bus interface.

Col. 12, lines 11-17. Claim 8 is specific to this aspect of the invention, by calling for a "digital assistant module as in claim 7, wherein said expansion bus interface is adapted to connect to a serial port of said host computer."

Unlike the "expansion bus," which is separately described as providing a connection to peripheral devices, the "host interface," which is described as providing a "connection to the host in docked mode," does not contain any suggestion that a serial connection could

fulfill the purposes of the invention to improve the "time-consuming, error-prone, and hardware extensive" limitations associated with the serial connections of the prior art. Col. 1, lines 54-55. The description of a serial connection in the discussion of the expansion bus interface, and the lack of any such description in the discussion of the host interface, reinforce the interpretation of the host interface as requiring a parallel bus interface, for that is the only interface described for that purpose.

The specification characterizes the direct bus interface as a "very important feature" of the invention, stating that a "direct" connection is necessary to provide "direct" access, which allows for fast communication. Col. 2, lines 30-40. The specification explains, in its "Description of the Preferred Embodiment," that the "direct" connection between the host and PDA bus allows for the "automatic updating and cross-referencing of existing files and new files in both computers, under control of the host system, with the host having direct bus access to all memory systems." Col. 11, lines 53-56. Further, in the "Summary of the Invention" the inventor states:

> A host interface means comprising a host interface bus structure, which may be configured as a PCMCIA bus interface, is connected to the microcontroller and to a first portion of a host interface connector at a surface of the enclosure, and the host interface means is configured to directly connect the microcontroller to a compatible bus structure of a host computer.

Col. 3, lines 16-22. And in discussing Figure 6, a block diagram of a preferred embodiment, the inventor emphasizes the "direct" path between the PDA and host:

> When a µPDA unit is docked, connector 14' in FIG. 6 comprises portion 14 shown in FIGS. 1B and 3 and a mating connector portion for engaging portion 14 in port 105 (FIG. 5). The engagement of the separate portions of the connector cause bus 26 in the µPDA and bus 26' in the host to become directly connected. There is then a direct bus path between microcontroller 11 and host CPU 24 (FIG. 6).

Col. 10, lines 61-67.

The prosecution history supports the interpretation of "host interface" as a direct parallel bus interface. In prosecuting the first in this series of applications, the applicants explained that their invention overcame certain limitations of known PDA devices:

> [A] big drawback of the PDA systems being offered is the way they transfer data between a user's desktop unit, or other host, and the PDA. Known communication is by modem, by infrared communication, and by serial communication. These all require manipulation by the user, modulation on one or both ends of the communication path, and the like, which can be time-consuming, error-prone, and hardware extensive (expensive).
>
> ***
>
> Applicants have made it abundantly clear in their specification that this interface is a full-service bus, and that it exists to allow memory accesses and control between the host and the digital assistant, and have recited in the original claim that this bus was configured to directly connect the digital assistant's bus to a compatible bus of a host computer. The Examiner has rejected the claim on the basis of [the '023 prior art], which states "In the case of remote processing, the hand-held computer may be connected to a host computer 35 via the series interface connector . . . . Applicants, in their background section, as restated above, made it clear that this is a serious drawback of the existing art, one which the present invention is intended to overcome. The provision of a direct bus between the host and the digital assistant, including memory control signals, as in applicants' invention, overcomes this serious limitation in the prior art. To more clearly distinguish, applicants have amended claim 1 to decidedly narrow the scope of the claim, so it does not read on series connections, as in [the prior art].

Response to Office Action, at 9, 12-13 (Oct. 28, 1993) (emphases in original).

Inpro argues that this prosecution history is of limited relevance, as it does not originate from the prosecution of the application that led to the '079 patent and is largely focused on the particular claim limitations added to overcome a specific reference. Inpro observes that the original claim in the parent application already contained the requirement of a "direct" connection and that the applicants overcame the cited reference by adding "parallel bus connected between the local CPU and a host interface connector at a surface

of the enclosure" to the claim. T-Mobile responds that the addition of the "parallel bus" requirement to the claim reinforced that this invention was directed to solving problems associated with the "serial connections" of the prior art, and that the applicant explicitly excluded serial connections.

T-Mobile also cites the prosecution of the parent application, which contained claim language nearly identical to the "host interface" of the '079 patent ("a host interface adapted for providing communication between the digital assistant and a host computer"). Inpro, in a brief to the Board of Patent Appeals and Interferences, described the host interface as involving a direct connection:

> The invention is a means of providing a personal digital assistant module comprising an enclosure for enclosing and supporting internal elements . . . . A host interface means comprising a host interface bus structure, which may be configured as a PDCMCIA bus interface, is connected to the microcontroller and to a first portion of a host interface connector at a surface of the enclosure, and the host interface means is configured to directly connect the microcontroller to a compatible bus structure of a host computer.

Appeal Brief in Case No. P249229FWC, at 5 (July 17, 1996) (emphasis added). Inpro responds that the entire argument in that appeal was directed to whether a reference disclosed a PDA that negotiates synchronization of files in common with the host upon initiation by the user, a requirement of each of the claims there presented, and that the brief had nothing to do with the scope of the "host interface" in the '079 patent.

Although arguments in the prosecution of related applications should not receive undue weight, for claims and issues and inventions vary from case to case, here the applicant was describing the broad technologic basis of these related applications; the usage in each application is consistent with the district court's view of "host interface" as requiring "a direct parallel bus interface." That interface excludes the serial connection of

the prior art, and requires direct parallel connection. The district court's interpretation of this term is correct, and is affirmed.

Exclusion of Expert Testimony

Inpro argues that the district court improperly refused to receive expert testimony and extrinsic evidence relevant to the claim construction. T-Mobile responds that the district court acted within its discretion in not considering expert testimony, and that Inpro did not raise any objection to the exclusion, or make a proffer as to who its expert would be or what testimony the expert would offer.

This court has recognized that extrinsic evidence and expert testimony can help to educate the court concerning the invention and the knowledge of persons of skill in the field of the invention, see Phillips, 415 F.3d at 1319, even as we have cautioned against undue reliance on experts. The decision as to the need for and use of experts is within the sound discretion of the district court. See Key Pharm. v. Hercon Labs. Corp., 161 F.3d 709, 716 (Fed. Cir. 1998) ("trial courts have broad discretion in this regard"). We discern no abuse of discretion in the court's decision to exclude expert testimony on the issues presented in the Markman hearing.

Infringement

To establish infringement, every element and limitation of the claim must be present in the accused device, literally or by an equivalent. See Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40 (1997) (discussing the "all-elements" rule). Inpro stipulated that it could not prevail on the district court's construction of "host interface" or "docking with the host computer" because it could not establish that T-Mobile's devices

have a "host interface adapted so as to provide communications between the digital assistant module and the host computer upon docking with the host computer," as required by each of the asserted claims.

We have confirmed the district court's construction of "host interface" as requiring direct parallel connection between the PDA and the host computer. Upon Inpro's stipulation that such a host interface is absent from the accused devices, the judgment of noninfringement is affirmed. In view of our affirmance on this ground, we need not reach the other disputed claim terms.

AFFIRMED

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Defendants-Appellees.

NEWMAN, Circuit Judge, additional views.

I join the judgment of noninfringement, but write separately to state my concern with this court's decision not to give appellate review to all of the claim terms whose construction was decided by the district court and challenged on appeal.

The district court construed eight disputed terms, and the parties challenge the correctness of construction of three of these terms. The stipulation of noninfringement was based on the two terms "docking with the host computer" and "host interface," and the construction of "digital assistant module" was challenged as so broad as to affect the validity of the patent. The parties have briefed and argued the construction of all three disputed terms; my colleagues have declined to review any term other than "host interface."

I agree that "host interface" is dispositive of infringement by T-Mobile and the other defendants in this case. However, I believe we have the obligation to review the construction of the three appealed terms, for the interests of the parties and the public, as well as judicial economy, require final disposition of the issues of claim construction that were decided by the district court, and raised on appeal. This panel's resolution of this infringement action based solely on the construction of "host interface" does not resolve, or render moot, the interpretation of the other disputed terms. The Supreme Court in Cardinal Chemical Company v. Morton International, 508 U.S. 83 (1993), explained the applicable principles:

> [T]he Federal Circuit is not a court of last resort. If that court had jurisdiction while the case was pending before it, the case remains alive (barring other changes) when it comes to us. The Federal Circuit's determination that the patents were not infringed is subject to review in this Court, and if we reverse that determination, we are not prevented from considering the question of validity merely because a lower court thought it superfluous.

I.d. at 97. Thus the Court ruled that a "finding of noninfringement alone" does not justify appellate refusal to reach additional issues that were decided in the district court and are disputed on appeal. Id. at 102. My colleagues' decision not to review the other disputed issues of claim construction leaves unresolved the scope and viability of the claims, for these aspects are relevant to the validity and further applicability of the patent in suit.

The Court in Cardinal Chemical did not ignore that considerations of judicial economy might justify appellate refusal to address issues that are "generally more difficult and time consuming to resolve." Id. at 99 ("the interest in the efficient management of the court's docket might support such a rule"). But that is not the situation here. To the contrary: we have necessarily reviewed the relevant technology, the specification and the

prior art, the prosecution histories of this and related applications, the disputed claim terms and their application to the accused device, and the Markman record. See N. Am. Vaccine v. Am. Cyanamid Co., 7 F.3d 1571, 1579 (Fed. Cir. 1993) ("since we have thoroughly reviewed the case, no added judicial effort is involved" in reviewing the district court's validity rulings).

Even if some of the claim construction issues are somewhat more complex, Cardinal Chemical holds that "countervailing concerns," such as the importance of the issues to the parties and to the public, require that we provide appellate review to the district court's decision. 508 U.S. at 99-100. The principles of Cardinal Chemical apply in this case, for a "company once charged with infringement must remain concerned about the risk of similar charges if it develops and markets similar products in the future." Id.

In addition, when a cloud of uncertainty is placed on a patent's claims, "the patentee may have lost the practical value of a patent that should be enforceable against different infringing devices." Id. at 102. Such may be the case here, for our refusal to review the district court's possibly overly broad construction of "digital assistant module" may place a cloud of uncertainty on the validity of the '079 patent. See N. Am. Vaccine, 7 F.3d at 1579 (the proceedings should not leave "a cloud on the patent"). There is a "strong public interest" in the finality of issues that may be relevant to patent validity. Cardinal Chemical, 508 U.S. at 100; see Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 330 (1945) (courts should inquire "fully" into the validity of a patent, for as between infringement and validity, "validity has the greater public importance"). My colleagues' refusal to review the disputed claim terms imposes "ongoing burdens on competitors," Cardinal Chemical, 508 U.S. at 101, as well as on the patentee. See Carroll Touch, Inc. v. Electro Mech. Sys., 15

F.3d 1573, 1579 (Fed. Cir. 1993) (reviewing validity issue "so that neither Carroll Touch nor the public are left with unnecessary uncertainty concerning the validity of the claims at issue").

Only time will tell whether any future action will invoke or relitigate the Inpro claim construction issues. See, e.g., Texas Instruments, Inc. v. Linear Techs. Corp., 182 F. Supp.2d 580 (E.D. Texas 2002) (the court may defer to a prior claim construction, though it is not necessarily bound by it); Abbott Labs. v. Dey, L.P., 110 F. Supp.2d 667 (N.D. Ill. 2000) (applying issue preclusion to a claim construction by another district court, although also considering whether the previous construction was "plainly wrong"); Nilssen v. Motorola, Inc., 80 F. Supp.2d 921, 924 n.4 (N.D. Ill. 2000) (prior claim construction was worthy of respect, though not necessarily preclusive effect); TM Patents, L.P. v. Int'l Bus. Machs. Corp., 72 F. Supp.2d 370 (S.D.N.Y. 1999) (ruling that prior claim construction by a different district court was entitled to preclusive effect).

It is not optimum appellate policy to require the patentee to endure another Markman proceeding, "past the entirety of discovery, past the entire trial on the merits, past post trial motions, past briefing and argument to the Federal Circuit -- indeed past every step in the entire course of federal litigation, except Supreme Court review" -- before obtaining appellate review of the disputed questions that are now presented for our review. See Cybor Corp. v. FAS Techs., 138 F.3d 1448, 1476 (Fed. Cir. 1998) (Rader, J., concurring). Counseled by Cardinal Chemical, the better practice is to review the major issues of claim construction that are disputed on appeal, unless such issues have no further reasonable relevance. The public and private interests in valid (and invalid) patents, and in this case the fact that we have done most of the judicial work anyway, combine to weigh on the side

of appellate review. Our incomplete resolution of the claim construction issues falls short of the entitlement of litigants to "one full and fair opportunity" to have disputed issues resolved. Cardinal Chemical, 508 U.S. at 102.

The Federal Circuit is responsible to ensure that patents are uniformly and correctly interpreted, for "the limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public." Markman v. Westview Instruments, Inc., 517 U.S. 370, 390 (1996). This court's current posture enlarges the conflict. Compare, e.g., Boss Control, Inc. v. Bombardier Inc., 410 F.3d 1372, 1380 n.2 (Fed. Cir. 2005) (declining to review all disputed claim constructions), with Chimie v. PPG Indus. Inc., 402 F.3d 1371, 1383 (Fed. Cir. 2005) ("judicial economy would be best served by our reviewing this second claim construction issue") and Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1351 & n.6 (Fed. Cir. 2004) (reviewing all disputed claim terms, not just those necessary to resolve the appeal). We should review and decide all three of the disputed claim terms that are presented on this appeal, lest our silence leave a cloud of uncertainty on the patent, its scope, and its validity. Our obligation to the system of patent-based innovation requires no less.