IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

TA INSTRUMENTS, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civil Action No. 95-545-SLR
	)	
THE PERKIN-ELMER CORPORATION,	)	
	)	
Defendant.	)	

MEMORANDUM ORDER

At Wilmington this 28th day of March, 2002, having reviewed the briefs submitted by the parties and having heard oral argument on the matter;

IT IS ORDERED that plaintiff's motion for an order to show cause why defendant Perkin-Elmer Corporation should not be held in contempt of the court's injunction[1] (D.I. 390) is denied, for the reasons that follow:

---

[1]On a JMOL motion after trial, this court found defendant's Dynamic Differential Scanning Calorimeter ("DDSC") Accessory to infringe claim 17 of U.S. Patent No. 5,224,775 ("'775 patent"), claims 1, 11, 21, 37, and 41 of U.S. Patent No. 5,346,306 ("'306 patent"), and claim 73 of U.S. Patent No. 5,439,291 ("'291 patent"). TA Instruments, Inc. v. Perkin-Elmer Corp., No. 95-cv-545-SLR, 1998 WL 883446 (D. Del. Dec. 7, 1998). The court enjoined defendant from making, using, offering for sale, selling, distributing or importing the DDSC Accessory (and any colorable differences thereof) and any differential scanning calorimeters that incorporate a DDSC Accessory. TA Instruments, Inc. v. Perkin-Elmer Corp., No. 95-cv-545-SLR (D. Del. March 5, 1999) (Injunction). The Federal Circuit affirmed this court's decision on infringement in TA Instruments v. Perkin-Elmer Corporation, No. 99-1358, 2000 WL 717094 (Fed. Cir. June 1, 2000), cert. denied, 121 S. Ct. 571 (2000).

1. To prove contempt, the moving party must show by clear and convincing evidence that a violation of the injunction has occurred. KSM Fastening Sys., Inc. v. H.A. Jones Co., Inc., 776 F.2d 1522, 1524 (Fed. Cir. 1985). This involves a two part inquiry. The party moving for contempt must first demonstrate that the alleged infringement should be adjudicated in a contempt proceeding rather than an independent infringement suit and, second, show that there has been an infringement of the relevant patent claims. Id. at 1532. In the first part of the inquiry, the redesigned product (here, defendant's StepScan Accessory) is compared to the already adjudicated product (here, defendant's DDSC Accessory). The movant must show by clear and convincing evidence that the differences between the redesigned product and the adjudicated product are "merely colorable" for the infringement to be tested in contempt proceedings. Id. at 1526. If the differences are not merely colorable, then contempt proceedings are inappropriate. If the movant gets past the first step, movant must then prove infringement by clear and convincing evidence. Id. at 1530.

2. The Federal Circuit applies a procedural test for colorability, wherein the question is whether there are substantial new issues to be litigated. Id. at 1531-1532. "If there are substantial open issues with respect to infringement to be tried, contempt proceedings are inappropriate." Id. at 1532.

The presence of substantial issues "creates a fair ground for doubt that the decree has been violated." Id. at 1532.

3. Clear and convincing evidence is evidence that "could place in the ultimate fact finder an abiding conviction that the truth of [the] factual contentions are 'highly probable.'" Colorado v. New Mexico, 467 U.S. 310, 316 (1984).

4. Plaintiff accuses defendant's StepScan Accessory of being the same as, or having only colorable differences from, the DDSC Accessory already found to infringe TA's modulated differential scanning calorimeter patents. Plaintiff asks the court to consider whether the StepScan infringes plaintiff's patents through a contempt proceeding rather than through a new infringement complaint. (D.I. 391 at 2-3) Defendant responds that a contempt proceeding is not appropriate, because StepScan has more than colorable differences from the DDSC Accessory. In addition, defendant raises equitable estoppel as a defense, claiming that plaintiff could have filed this motion as soon as they became aware of the new StepScan product in 1999, and asserts that the StepScan product does not infringe TA's patents. (D.I. 397 at 1-3)

5. **The TA Patents**. Differential scanning calorimetry ("DSC") is a technique for analyzing physical or chemical transitions in a material as it is heated or cooled. Plaintiff's patents-in-suit describe an embodiment of differential scanning

calorimetry wherein changes in heat flow to and from the sample are measured in response to the application of a modulated temperature program. The resulting heat flow signal is then "deconvoluted" or separated into component heat flow signals. (D.I. 391 at 3-9)

6. The Federal Circuit described the relevant patent claims as follows:

> The parties focus on two aspects of the DSC methods claimed in the [plaintiff's] patents: the way in which the temperature is changed and the way in which the resulting data is processed to obtain information about the material. Conventional DSC methods change the temperature at a constant rate, according to a linear temperature ramp (if temperature is plotted against time, an upwardly sloping line results). In contrast, the DSC methods of the [plaintiff's] patents add an oscillating heating rate to a linear temperature ramp (if temperature is plotted against time, an upwardly sloping, oscillating curve results). . . .
>
> The [plaintiff's] patents [also] teach that the heat flow data can be processed to "deconvolute" the data into two or more components. The '306 patent defines deconvolution as follows:
>
> > "Deconvolution", as used herein, means the process of separating the dependence of a characterizing physical parameter such as total heat flow on temperature into two or more component parts so that the component parts can be utilized or analyzed separately, or compared with each other. For example, the dependence of the total heat flow can be deconvoluted into rapidly reversible heat flow and non-rapidly reversible heat flow components.
>
> [cites omitted] . . . .
>
> The '775 patent teaches that [the] ability to deconvolute data is important when rapidly reversible and non-rapidly reversible events occur at the same or

> overlapping times, and permits the study of events which occur at the same temperature. . . . Deconvolution is achieved by applying certain mathematical functions to the heat flow data.

TA Instruments, 2000 WL 717094, at **2-**3. In other words, in plaintiff's patented invention, a modulated temperature program is used in which the applied temperature is rapidly oscillated as the average temperature is being increased or decreased from the starting temperature to the ending temperature. Use of a modulated temperature program results in a richer set of data than conventional DSC. (D.I. 391 at 6) The resulting heat flow data is then "deconvoluted" or separated into component heat flow signals, which can be used or analyzed separately. Deconvolution allows the user to distinguish different types of thermal transitions that might overlap and obscure one another in a conventional DSC scan. (D.I. 391 at 7)

7. The parties agree that the asserted claims require a temperature modulation frequency that is "periodic," meaning that the steps in the applied temperature program have constant, equal durations. (D.I. 397 at 6; D.I. 391 at 23)

8. **The Infringing DDSC Accessory.** Defendant's DDSC Accessory was found to infringe plaintiff's patents because it subjected the sample to a periodic, modulated temperature program and deconvoluted the resulting heat flow signal into at least two components. In the DDSC IsoScan mode, the temperature program consisted of the sequential repetition of a short linear

temperature ramp followed by an isotherm, i.e., a time period during which the temperature was held constant before beginning the next ramp. (D.I. 391 at 9) The user selected the beginning and end temperature for each temperature ramp, an isothermal hold time, and a number of repetitions. The resulting modulated temperature program had an underlying heating rate, modulation frequency, and modulation amplitude and produced an oscillating heat flow signal. (Id. at 10-11) The time durations of the temperature ramp and the isotherm selected by the user were constant throughout the temperature program. (D.I. 397 at 8) This temperature modulation program was found to infringe plaintiff's patent claims. The DDSC also deconvoluted the raw heat flow signal into two components, a DC signal and an AC signal, and the AC signal was further separated into real and imaginary signals. (D.I. 391 at 12) This was found to infringe upon the deconvolution taught by plaintiff's patent claims.

9. **The Accused StepScan Accessory**. Defendant's StepScan was introduced in 1999 in an apparent attempt to "design-around" plaintiff's patents. The focus of the parties' dispute is on how much StepScan differs from the infringing DDSC accessory. Plaintiff claims that StepScan infringes the relevant patents both by StepScan's use of a modulated temperature program and by its separation of the heat flow signal into two or more components. (D.I. 391 at 2-3)

10. As described earlier, the DDSC user selected a ramp, an isotherm, and a number of runs, and the time durations of the ramp and isotherms selected remained constant throughout the temperature program. (D.I. 397 at 8) In the StepScan, however, the user selects a nominal isotherm length (where isotherm length is the time that the temperature remains constant before the program goes to the next temperature "step"), and this isotherm may be lengthened and/or shortened automatically during a run depending upon the reaction of the sample. As the sample goes through the temperature program, the rate of the heat flow will vary based on what is occurring within the sample. Each isotherm is lengthened from the nominal length as a function of the rate of change of the heat flow. (Id. at 8-9) The StepScan program may also shorten the isotherm duration if the sample reaches equilibrium before the end of the automatically "lengthened" isotherm duration. (Id. at 9)

11. Because the isotherm lengths vary during a StepScan analysis, defendant asserts that the temperature program is non-periodic and thus does not infringe plaintiff's patents, or at a minimum, is more than colorably different from the periodic modulation frequency in the DDSC. Plaintiff argues that, in practical terms, the isotherm lengths vary so little as to be insignificant to the analysis. (D.I. 405 at 9) Plaintiff supports this contention by reference to technical notes

published by defendant in which defendant never mentions that the oscillation periods vary during a sample analysis (D.I. 392, Ex. L, N, O) and to a statement in the StepScan user manual that the lengthening of the isotherm is limited to 1 or 2 seconds (id., Ex. J). Plaintiff also asserts that the duration of each step in the temperature program is constant to within ±1.6% if parameters recommended by defendant are used. (D.I. 405 at 8; D.I. 392 at A-4; D.I. 424 at 93-94) At oral argument, plaintiff contended that these variances in isotherm length are within the inherent error of the instrument and any variations are so small as to be insignificant. (D.I. 424 at 63-64) Plaintiff also argued that the algorithm used to vary isotherm length "prevents anything significant from happening" to the used-entered nominal isotherm value. (Id. at 65-66) In sum, plaintiff contends that the change made to "design-around" plaintiff's patents has no scientific purpose and, therefore, is "counterfeit." (Id. at 67)

12. In response, defendant characterizes the StepScan temperature program as similar to that of the "Claudy" prior art (D.I. 392, Ex. R) in that it uses non-periodic temperature steps and, thus, does not infringe. (D.I. 397 at 10) Defendant dismisses plaintiff's argument that the variation in isotherm duration is too small to matter; it opines that, to avoid summary judgment for invalidity, plaintiff had earlier taken the position that even minor variations in duration resulted in a non-periodic

temperature program. (D.I. 417 at 2) Defendant also argues that the experiment plaintiff ran to reach its conclusion that the isotherm never varied more than ±1.6% was inaccurate and improperly done. (D.I. 397 at 10-11) Defendant provides data from another experiment using "factory settings" that show an isotherm variation of 48%. (D.I. 417 at 2-3; D.I. 424 at 80)

13. The second aspect of the StepScan accessory alleged to infringe plaintiff's patents is its method of analyzing the heat flow data. Plaintiff argues that StepScan separates or deconvolutes heat flow data into at least two components, producing one curve for thermodynamic effects and one curve for kinetic effects. (D.I. 391 at 18-19) Plaintiff also points to several of defendant's technical articles and some marketing materials that expressly state that StepScan provides a separation between the thermodynamic and kinetic effects in the heat flow, producing a curve for each. (D.I. 405 at 6) Plaintiff argues that the thermodynamic curve corresponds to the rapidly reversing component of the heat flow signal described in its patents and the kinetic curve corresponds to the non-rapidly reversing component. (D.I. 391 at 29, 30) At oral argument, plaintiff contended that the StepScan heat flow data analysis is actually closer to the preferred embodiment of plaintiff's invention than the analysis performed by the infringing DDSC accessory. (D.I. 424 at 68-69)

14. Defendant responds that the StepScan merely practices what is taught by the "Mraw" prior art (D.I. 392, Ex. S) by allowing the user to select one of two ways of calculating the specific heat for analysis. (D.I. 397 at 12) It contends that, because it practices Mraw, it cannot infringe on plaintiff's patents, which have been found not to practice Mraw. (Id.) Plaintiff, on the other hand, points out that Mraw discloses two different methods of calculating heat capacity on two different sets of heat flow data, not on the same set of data as occurs in StepScan (D.I. 391 at 31), and in actuality "[t]here was nothing to deconvolute in Mraw." (D.I. 424 at 71) Plaintiff argues that the two calculations performed by StepScan fall within the meaning of deconvolution as construed by the Federal Circuit. (Id. at 30)

15. **Analysis**. The court finds that the record reveals substantial open issues that need to be litigated. The parties disagree about whether variances in isotherm length imposed automatically by StepScan software represent significant differences from the periodic temperature modulation frequency taught by plaintiff's patents and practiced in the infringing DDSC accessory, or whether any alleged differences represent a "counterfeit" attempt at designing-around the patents at issue. The parties also disagree about whether, under some operating conditions, StepScan produces temperature modulation frequencies

that are periodic and, thus, clearly infringe upon plaintiff's patent claims. These substantial disputes are inappropriate for resolution through a contempt proceeding. The court is not convinced that there are more than colorable differences between StepScan and plaintiff's patent claims with regard to the method for analyzing heat flow data. Nevertheless, the accused product must include all limitations of a particular patent claim to infringe. Therefore, having found that substantial issues remain with regard to the temperature modulation frequency limitation, a contempt proceeding is inappropriate.

16. Accordingly, the court shall deny plaintiff's motion.

17. Denial of plaintiff's motion makes it unnecessary for the court to consider the equitable estoppel issue at this time.

Sue L. Robinson
United States District Judge