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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LAVAUGHN F. WATTS JR,

Appeal No. 1999-2052
Application No. 08/572,202

ON BRIEF

Before SMITH, LALL, and BLANKENSHIP, Administrative Patent Judges.
LALL, Administrative Patent Judge.

ON REQUEST FOR REHEARING

Appellant requests that we reconsider our decision of May 6, 2002, wherein we sustained, under 35 U.S.C. § 103, the rejection of claims 1, 4-9, 16, 17, 39, 41-43, 45-47, 49-51, 53, 54, 63, 64 and 66 over Smith and Kikinis; the rejection of claims 21-27, 55, 56, 58-60, 62, 67 and 70-74 over Smith, Kikinis and Kenny; and of claims 28 and 29 over Smith, Kikinis and Gephardt; however, we did not sustain the rejection of claims 3, 10, 18 and 30-38 over Smith and Kikinis.

Appellant argues that we have overlooked some points (19 as enumerated on pages 2-4 of the rehearing request) argued in Appellant's brief while rendering said decision.

We have reconsidered our decision of May 6, 2002 in light of Appellant's comments in the request for reconsideration and we find an error with respect to claims 59, 60, 62, 63, 64 and 66, which corresponds to item numbers 6, 15, 16 and 17 of the request for rehearing. However, we find no error in our decision regarding the remaining claims. We therefore modify our decision accordingly. Our response to the various points raised in the request for rehearing is as follows.

Regarding the items 1-4 of the request for rehearing, we refer to our decision at pages 6-9 where we did consider the limitation of "**a decreasing level of activity within said CPU**" (rehearing request at page 5), and where we also gave our rationale for holding that the Examiner had a justifiable reason to combine the references and that the Examiner had indeed presented a prima facie case. Appellant argues (rehearing request at page 7) that "the Smith et al. reference teaches a device in which the clock signal to the CPU is modified **only after NO ACTIVITY has been detected for a PREDETERMINED amount of time ....**" In response, we first note

that claim 1 requires only that the CPU clock pulse is controlled in response to one of a decreasing level of activity within said CPU and said temperature rising to a level above a selected reference temperature level. That is, it requires only one of the two criteria, namely, either in response to the decreasing level of CPU activity or the temperature level rising in the CPU. In any event, we discussed the limitation of the decreasing level of activity within said CPU in our decision at the pages noted above. We reiterate that the claim language does not preclude the condition of no activity for a predetermined amount of time as disclosed by Smith et al. The recited decreasing level of activity in claim 1 is a continuing process of decreasing of the level of activity and it does include a state where the level of activity has decreased to a zero level. Appellant also argues that there is a distinction between “dynamic activity” and “static activity” (rehearing request at page 13). However, we do not find such a recitation in claim 1 which only speaks in terms of an activity level and thereby includes any type of activity, be it static or dynamic.

Regarding item number 5 (claims 55, 58, 59, 60 and 62, rehearing request at page 16), we still are of the view that

Appellant has merely made conclusory statements regarding the absence of teaching of the limitations of claim 55, see brief at page 34, where Appellant merely states, “as far as Appellant can determine, there is no actual temperature measurement or sensing at all in Kenny. Accordingly, a combination of the Smith, Kikinis and Kenny references fail (sic) to teach or suggest this further limitation ‘wherein said temperature is sensed on a periodic basis’ in combination with the requirements of claim 1.” However, we point out that Kenny does teach at column 1, lines 51-55 that the temperature is indeed measured by a conventional temperature monitor such as a thermostat or a diode, and further Kenny at column 1 lines 65 - column 2 line 2, states that the temperature is measured as a function of time which would imply to an artisan that the temperature is measured on a periodic basis.

With respect to item 6 (claims 63, 64 and 66, rehearing request at page 17), we are persuaded by the Appellant’s arguments that the temperature sensing being user modifiable as recited in each claims 63, 64 and 66 is not taught by the combination of Smith and Kikinis. Therefore, we modify our decision in that rejection of claims 63, 64 and 66 over Smith and Kikinis is now reversed.

Regarding item 7 (claim 21, rehearing request at page 18), we still are of the view that Appellant at page 27 of the brief makes a mere conclusory statement regarding claim 21, which is not in accordance with 37 CFR § 1.192 (c)(8)(iv)(1998). However, for the rationale we gave regarding the combination of Smith and Kikinis with respect to claim 1, and further considering the teaching of Kenny the concept of having power on and off depending upon the temperature condition of the integrated chip (for example, column 1 lines 50-64), we hold the recited limitations to be taught by their combination. Therefore, claim 21 is obvious in view of Smith, Kikinis and Kenny.

Regarding item 8 (claims 21, 70-72, and through claim dependency, claims 22-27, 55, 56, 58-60, 62, 67, 73 and 74, rehearing request at page 19), Appellant raises the issue of failure of a prima facie case of obviousness. In this regard, we direct Appellant's attention to our decision at pages 13-16. We explained our position in holding that the combination of Smith, Kikinis and Kenny did present a prima facie case of obviousness with a justifiable reason for the combination. We reemphasize our position that Kenny does teach the prediction of the temperature at column 2, lines 37-47 where Kenny teaches that the temperature is

increasing or decreasing resulting in heating or cooling. The terms heating and cooling imply that a prediction of the future temperature conditions is being contemplated.

With respect to item 9 (claim 22, (rehearing request at page 23), Appellant objects to our statement in the decision at page 15, namely, "the clock rate '**HAS TO BE**' regulated in such a way that the temperature does not exceed the selected reference level and in doing so they would have to control the length of the OFF state for the power to the CPU". For clarification, we add here that Kenny as pointed out, supra, teaches the concept of having the power off in case of a heat build up in an integrated circuit (column 1, lines 51-64). Therefore, an artisan would have found it obvious to control the off state condition of the clock pulses going to the CPU in order to avoid the build up of heat in the chip (CPU), and hence prevent the rising of the temperature of CPU beyond a selected reference temperature level.

Concerning item 10 (claim 23, rehearing request at page 24), we find that Appellant has recited no particular structure or specific method for the accomplishment of the recited optimized efficiency level of the CPU in claim 23. We are of the view that an artisan, knowing from the teachings of the combination of Smith,

Kikinis and Kenny that the heat build up affects the operation of a CPU, would have found an obvious matter to operate the CPU at its optimum condition by controlling the result effective variables including the activity level and the temperature build up in the CPU. This accords with the rule that discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Aller, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (CCPA 1955).

Regarding item 11 (claims 24, 25, 26 and 27, rehearing request at page 25), we give Appellant the benefit of the conclusory statements as being the substantive arguments. We find that because the combination of Smith, Kikinas and Kenny teaches the build up of heat and hence the rising of the temperature as the clock pulse or the power is modulated in a integrated circuit (CPU), it would have been obvious to an artisan that when the off state (absence of power or clock pulses to the CPU) is at zero, the power build up or the heat build up in the CPU would be maximum (claim 24), and that power consumption in the CPU would decrease as the duration of the off state increases (claim 25). Regarding claim 26, Smith teaches or discloses the concept of minimum clock

rate at which the CPU can operate, as in the sleep mode. Regarding claim 27, an artisan would have obviously recognized that if the clocks for the CPUs are completely stopped, the clock rate would be at zero.

With respect to items 12, 13 and 14 (claims 55, 56 and 58 respectively, rehearing request at pages 27-32), we again give Appellant the benefit of the conclusory statements as a substitute for substantive arguments. We find, in addition to our prior pointing out that Kenny does measure the temperature by a thermostat or a diode, that Kenny also teaches the periodic measurement of the temperature in the integrated circuit, (see column 1, line 65 - column 2 line 2, where the temperature measurement is disclosed to be made as a function of time, clearly implying that the temperature measurement is done on a periodic basis).

Regarding items 15, 16 and 17 (claims 59, 60 and 62, request rehearing request at pages 32-38), each claim has the limitation, "**the frequency of said temperatures sensing changes as said temperature reaches pre selected threshold values**". We agree with Appellant's argument (id.) that the combination of Smith, Kikinis and Kenny does not teach this limitation. Therefore, we modify our

decision in that we reverse the rejection of claims 59, 60 and 62 over Smith, Kikinis and Kenny.

Regarding item 18 (claim 67, rehearing request at page 38-40), we clarify the paragraph from page 16 of our decision which Appellant has quoted at page 39 of the request for rehearing, in that the quoted disclosure of Kenny at column 2 lines 37-47 states that the sampling indicates that the integrated circuits temperature is either cool or cooling, such that temperature count is thereby decreased, or the sampling indicates the integrated circuit is generating too much heat and its temperature is increasing. This process of cooling and heating (temperature increasing) indicates that the temperature measurement is of predictive type, which is not static but dynamic and contemplates the future happenings to the heating and cooling state of the circuit. Therefore, we find that Kenny discloses the teaching of predicting future temperature levels as recited in these claims.

Regarding item 19 (claims 28 and 29, rehearing request at pages 40-43), we have already discussed the propriety of the combination of Smith, Kikinis and Gephardt at pages 16 and 17 of our decision. The arguments regarding the lack of a prima facie case in this combination and that Smith only shows that the

CPU is modified only after no activity has been deducted for a predetermined amount of time have been already addressed above.

In conclusion, we have carefully considered the arguments raised by Appellant in his request for reconsideration. Consequently, we have modified our decision in that we reverse the rejection of claims 59, 60 and 62 over Smith, Kikinis and Kenny, and the rejection of claims 63, 64 and 66 over Smith and Kikinis. In all other respects, the prior decision is not changed.

We have granted Appellant's request to the extent that we have modified our decision of May 6, 2002, regarding claims of 59, 60, 62, 63, 64 and 66, however, in all other respects the decision remains unchanged.

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

DENIED-IN-PART and GRANTED-IN-PART

JERRY SMITH Administrative Patent Judge	)	
PARSHOTAM S. LALL Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
HOWARD B. BLANKENSHIP Administrative Patent Judge	)	

PSL/jrg

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