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**Datasheet for the decision  
of 4 May 2023**

**Case Number:** T 0409/21 - 3.5.05

**Application Number:** 14838194.0

**Publication Number:** 3036640

**IPC:** G06F3/06

**Language of the proceedings:** EN

**Title of invention:**

STORAGE DEVICE SUPPORTING PERIODIC WRITES WHILE IN A LOW POWER  
MODE FOR AN ELECTRONIC DEVICE

**Applicant:**

Western Digital Technologies, Inc.

**Headword:**

Activating a storage's "power up in standby mode" depending on  
the host's power savings mode / WD

**Relevant legal provisions:**

RPBA 2020 Art. 13(2), 13(1)

EPC Art. 56, 84

**Keyword:**

Claims - clarity after amendment (yes)

Inventive step - after amendment - (yes)



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 0409/21 - 3.5.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.5.05**  
**of 4 May 2023**

**Appellant:** Western Digital Technologies, Inc.  
(Applicant) 3355 Michelson Dr., Suite 100  
Irvine, CA 92612 (US)

**Representative:** Murgitroyd & Company  
Murgitroyd House  
165-169 Scotland Street  
Glasgow G5 8PL (GB)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 8 December 2020  
refusing European patent application No.  
14838194.0 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chair** A. Ritzka  
**Members:** P. Tabery  
E. Mille

## **Summary of Facts and Submissions**

- I. The appeal is directed against the examining division's decision to refuse the European patent application.
- II. The examining division decided that none of the requests met the requirements of Article 56 EPC.
- III. The documents referred to by the examining division included:  
  
    **D1** US 2012/042182 A1
- IV. In its statement of grounds of appeal, the appellant requested that a patent be granted on the basis of the claims in accordance with either the main request or one of the first or second auxiliary requests, all of which were submitted with its statement of grounds of appeal. In case the board intended not to remit the case to the examining division, oral proceedings were requested.
- V. The board issued a summons to oral proceedings. It also set out its preliminary opinion on the case (Article 15(1) RPBA 2020).  
  
The board was of the opinion that none of the requests met the requirements of Articles 84 and 56 EPC.
- VI. In a reply dated 4 April 2023, the appellant submitted auxiliary request 3 as well as further arguments.
- VII. On 4 May 2023, the appellant submitted main request A as its new main request, and renumbered the requests already on file as auxiliary requests 1 to 4.
- VIII. Oral proceedings were held on 4 May 2023. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the set of

claims of a main request A submitted with the appellant's letter dated 4 May 2023 as main request or alternatively of any of a main request as first auxiliary request or auxiliary request 1 as second auxiliary request or auxiliary request 2 as third auxiliary request, these three requests filed with the statement setting out the grounds of appeal dated 21 April 2021 or of auxiliary request 3 as fourth auxiliary request, this request filed with the appellant's letter dated 4 April 2023.

IX. **Claim 1** of the **main request** reads as follows:

"An electronic device (102) comprising a storage device (112) and a host, wherein:

the host (106) is operable in at least an active mode or a low power periodic update mode, the active mode comprising a longer initialization phase than the low power periodic update mode; and

the storage device (112) comprises

a non-volatile memory (118; 120) configured to store data from a host (106),

and

a controller (114) configured to:

detect when the host (106) is in the low power periodic update mode at least in part by:

receiving an identify drive command from the host (106);

determining that an amount of time between when the storage device (112) is powered up and when the identify drive command is received from the host (106) is less than a predetermined amount of time, the predetermined amount of time being reflective of the difference between the shorter initialization phase of the host when it is in the low power periodic update

mode and the longer initialization phase of the host when it is in the active mode; and

place the storage device (112) in a power up in standby mode when the host (106) is in the low power periodic update mode."

- X. Independent **claim 8** of the **main request** is directed to a corresponding method.
- XI. The wording of the claims of the remaining requests is not relevant to this decision.

### **Reasons for the Decision**

1. The present application concerns activating a "*power up in standby mode*" for a host's non-volatile memory (e.g. its hard drive disc or solid state disc) when the host is detected to be in a "*low power periodic update mode*".

2. Main request

The main request was filed as "*main request A*" on the day of the oral proceedings before the board.

2.1 Admissibility (Article 13(2) and (1) RPBA)

The appellant submitted that the amendments were directed to claiming a device comprising the storage device and the host. This rendered moot the clarity objections raised for the first time in the board's preliminary opinion.

The board holds that the amendments adequately address the clarity objections raised in its preliminary

opinion. Furthermore, it is *prima facie* evident that the amendments do not give rise to new objections. Thus, the amendments are also conducive to procedural economy.

The board has therefore decided to admit the main request into the proceedings.

## 2.2 Clarity (Article 84 EPC)

The appellant argued that amended claim 1 defined the "*predetermined amount of time*" as a property of the host and limited its duration to the host's initialisation phase. Since claim 1 was now directed to a device comprising the host, the properties of the host were clearly limiting the claimed subject-matter. Thus, the board's clarity objections were overcome.

The board notes that the subject-matter of amended claim 1 comprises both the storage device and the host. Therefore, the newly included definition of the "*predetermined amount of time*" - relying on properties of the host - does indeed limit the subject-matter of claim 1. Likewise, the host's "*low power periodic update mode*" is now also a limiting feature. The board interprets this term according to its literal meaning, as a mode according to which the host - and with it the storage device connected thereto - are periodically powered up to perform updates. In such a context, "*power up in standby mode*" may be interpreted as meaning that the storage device will be placed in standby mode when it is powered up.

Consequently, the board holds that claim 1 is clear and thus the main request fulfils the requirements of Article 84 EPC.

### 2.3 Novelty (Article 54(1) EPC)

The appellant argued that since document **D1** disclosed neither host modes nor a delay of a command, all of the features relating to detecting when the host was in a low power periodic update mode and placing the storage device in a power up in standby mode in that case constituted the distinguishing features.

The board notes that document **D1** discloses buffer management for enhancing the effectiveness of a disc's idle modes, which are activated when the disc is not accessed for a set period of time. The board thus holds that the subject-matter of claim 1 differs from the disclosure of document **D1** in all features except for the aspect of the non-volatile memory storing data from the host.

The subject-matter of **claim 1** is therefore novel.

### 2.4 Inventive step (Article 56 EPC)

The appellant argued that the distinguishing features achieved the technical effect of adjusting the power-saving behaviour of the storage device to the host's power-saving behaviour. The claimed solution was inventive since the skilled person would not have foreseen the claimed auto-detection of the host's mode, nor would they have implemented this as a condition for placing the storage device in a "*power up in standby mode*". The condition would notably ensure that the "*power up in standby mode*" was not activated when the host was in active mode, thus avoiding performance issues in that case.

The board holds that the distinguishing features achieve the technical effect of adjusting the power-saving behaviour of the storage device to the host's power-saving behaviour, without affecting

performance if the host is in active mode. The objective technical problem thus lies in how the system of document **D1** can be modified such that the power-saving behaviour of the storage device is adjusted to the host's power-saving behaviour, without affecting performance if the host is in active mode. Since document **D1** neither mentions the host's "*low power periodic update mode*" nor the disc's "*power up in standby mode*", the board considers that the skilled person would not have had any motivation to even consider the above problem. And even if they had, in the absence of any hint towards the claimed condition, it is not apparent that the skilled person would have arrived at the same solution as the inventors.

Thus, the board holds that, starting from document **D1**, the skilled person would not have arrived at the distinguishing features without employing inventive skills. Therefore, the subject-matter of claim 1 involves an inventive step over the disclosure of document **D1**.

The same considerations apply *mutatis mutandis* to the corresponding method according to claim 8.

2.5 In view of the above, the **main request** is allowable.

3. Consequently, the appeal is allowable.



## Order

### For these reasons it is decided that:

The decision under appeal is set aside. The case is remitted to the examining division with the order to grant a patent on the basis of the following documents:

Description:

Page 1 as submitted by the appellant during the oral proceedings before the board,  
pages 2 to 7 as published,  
page 8 as filed with the appellant's letter dated 10 August 2017;

Claims: 1 to 14 of main request A as submitted with the appellant's letter dated 4 May 2023;

Drawings: Sheets 1/3 to 3/3 as published.

The Registrar:

The Chair:



D. Hampe

A. Ritzka

Decision electronically authenticated