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**Datasheet for the decision
of 16 December 2022**

Case Number: T 0383/21 - 3.5.05

Application Number: 15724834.5

Publication Number: 3138016

IPC: G06F13/42

Language of the proceedings: EN

Title of invention:

PORT DISCONNECT CHARGING FUNCTION FOR USB HUB

Applicant:

Microchip Technology Incorporated

Headword:

Switching another USB port into a charging port/Microchip

Relevant legal provisions:

EPC Art. 56

EPC R. 103(4) (c)

Keyword:

Inventive step - main request (yes)

Reimbursement of appeal fee - appealed decision reasoned (yes)

- request for oral proceedings withdrawn (yes)



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Case Number: T 0383/21 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 16 December 2022

Appellant: Microchip Technology Incorporated
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Chandler, Arizona 85224-6199 (US)

Representative: sgb europe
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 2 December 2020
refusing European patent application No.
15724834.5 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 the application according to all requests did not meet the requirements of Article 56 EPC, while the claims of auxiliary request 2 did also not comply with Article 84 EPC.
- III. The documents referred to by the examining division included:
- D1: US2013/151731 A1
 - D2: US7480753 B2
 - D3: US2014/019778 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 a main request or one of a first or second auxiliary request, all of which were submitted with the statement of grounds of appeal. The claims of these requests are identical to those of the corresponding requests underlying the decision under appeal. Furthermore, reimbursement of the appeal fee as well as, auxiliarily, oral proceedings were requested.
- V. The board issued a summons to oral proceedings and set out its preliminary opinion on the case (Article 15(1) RPBA 2020).
- The board found the appellant's arguments, as to why the **main request** met the requirements of the EPC, to be convincing.

In view of this preliminary view on the main request, the board considered that it was not necessary to provide an opinion for the **auxiliary requests**.

However, the board was of the opinion that the appellant's request for reimbursement of the appeal fee could not be granted.

VI. In a reply dated 8 December 2022, the appellant withdrew the request for oral proceedings and requested partial reimbursement of the appeal fee.

VII. By a notification dated 14 December 2022, the board informed the appellant that the oral proceedings had been cancelled.

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

"A Universal Serial Bus (USB) hub comprising:

a first port (106) that is configured to be switched from a downstream port function to an upstream port function;

a plurality of other ports (108); and

a controller (102) configured to switch a function of the first port (106) from the downstream port function to the upstream port function responsive to a command from an attached device and wherein the command comprises further information, wherein the controller is further configured to, in dependence of the further information, switch at least one of the plurality of other ports (108) from a data and charge port into a port dedicated to charging."

Independent **claim 10** is directed to a corresponding method.

IX. The claims of the **first and second auxiliary request** are not relevant for this decision.

Reasons for the Decision

1. The present application concerns a USB hub for portable devices, e.g., as part of an automotive entertainment system. The hub has a controller for switching a port from downstream port to upstream port. The hub may also switch a data and charge port to a dedicated port for charging.

2. Main request

2.1 Novelty (Article 54(1) EPC)

2.1.1 Following the examining division's analysis, the board asserts that document **D2** discloses the following features of **claim 1** (the references in parentheses relate to that document; strike-through is used to mark features it does not disclose):

A Universal Serial Bus hub comprising:

(see USB Hub 508 in fig. 5)

a first port that is configured to be switched from a downstream port function to an upstream port function;
(see port 514 in fig. 5; "decoupling the second port from the downstream logic, and coupling the second port to the upstream logic", see col. 3, lines 34-35)

a plurality of other ports; and
(see port 516 and 518 in fig. 5)

a controller configured to switch a function of the first port from the downstream port function to the upstream port function
(see col. 3, lines 34-35)

responsive to a command from an attached device and
("the USB hub may receive input specifying a change in control of the plurality of devices coupled to the USB hub from one or more host controllers to one or more

other host controllers, e.g., previously acting as peripheral devices", see col. 3, lines 20-24)
wherein the command comprises further information,
("the input may specify that one or more of the coupled devices become host controllers for controlling other coupled devices, possibly including the old host controllers", see col. 2, line 66 - col. 3, line 2)

wherein the controller is further configured to, in dependence of the further information, switch at least one of the plurality of other ports ~~from a data and charge port into a port dedicated to charging.~~
("...controlling other coupled devices, possibly including the old host controllers", see col. 3, lines 1-2)

- 2.1.2 The appellant argued that it was part of the distinguishing feature that it was the same command comprising further information that changed the functionality of one of the other ports to a dedicated charging port.
- 2.1.3 The board concurs with the appellant that this is a part of the distinguishing feature. Consequently, the board holds that the difference between the subject-matter of **claim 1** and that of document **D2** resides in that, in dependence of the further information comprised in the command, at least one of the plurality of other ports is switched from a data and charge port into a port dedicated to charging.
- 2.1.4 The subject-matter of **claim 1** is therefore novel over the disclosure of document **D2**.
- 2.2 Inventive step (Article 56 EPC)
- 2.2.1 In the decision under appeal, the examining division held that the distinguishing feature solved the problem

of improving the charging capabilities of the other ports. Since the distinguishing feature was known from document **D1** and disclosed therein as providing the same advantages, the skilled person would have regarded it as a normal design option to include this feature in the USB hub described in **D2** in order to solve the problem posed.

2.2.2 The appellant argued that the problem identified by the examining division comprised pointers to the technical solution. The distinguishing feature provided the technical effect that previously unused ports of a USB hub could be used for fast charging as dedicated charging ports (DCP). Hence, the problem might be formulated as how to improve the versatility of a USB hub providing a change in upstream/downstream functionality. Furthermore, since document **D1** did not disclose the distinguishing feature, the claimed invention was not rendered obvious by the combination of documents **D2** and **D1**. Notably, document **D1** disclosed that charging was configured based on information received from the device to be charged, rather than based on information received with the command to swap roles on a different port, as claimed.

2.2.3 The board considers the arguments of the appellant to be convincing. Notably, the objective technical problem formulated by the examining division contains elements of the solution ("*of the other ports*") and may thus not be validly used in the formulation of the problem solution approach. On the other hand, the more generic objective technical problem formulated by the appellant is derivable from the disclosure of document **D2** which mentions a generic additional switching action ("*and/or other logics included in the USB hub may be switched*", see col. 3, lines 50-52, also cited by the examining division). As to the disclosure of document **D1**, the

board notes that it discloses in [0042] that "*the charging module 301 operates to provide an optimal charging mode for the USB device 330*" in accordance with "*a descriptor response 332 from the USB device 330*". Thus, when combining the teaching of documents **D2** and **D1**, the skilled person would have considered that charging for the new host controller is configured based on information transmitted by the new host controller itself. Since this is teaching away from what is claimed, the question whether the skilled person would have considered combining document **D2** with document **D1** can be left unanswered. Hence, the board holds that the subject-matter of claim 1 is not rendered obvious by the combination of the teaching of documents **D2** and **D1**.

For the sake of completeness, the board notes that document **D3** discloses in paragraph [0018] that "*[through] operation of the switch 111, the switching circuit 112 can switch at least one of the second electrical connection ports 13, such as the connector shown in FIG. 5D, from a charging downstream port (CDP) to a dedicated charging port (DCP)*". The board considers that this does not hint towards replacing the switch by a command message received via a port which is different from the port concerned. The board thus concludes that the subject-matter of claim 1 is not rendered obvious by the combination of the teaching of documents **D2** and **D3** as well.

2.2.4 In view of the above, the board holds that the subject-matter of **claim 1** is not obvious in view of the prior art at hand.

2.2.5 The same considerations apply, *mutatis mutandis*, to independent **claim 10**.

2.3 Hence, the **main request** is allowable.

3. Auxiliary requests 1 and 2

In view of the board's favorable position with respect to the main request, there is no need to discuss the auxiliary requests.

4. Requests for reimbursement of the appeal fee

4.1 In the statement of grounds of appeal, the appellant requested to reimburse the appeal fee, since the decision of the examining division failed to address independent method claim 10. The appellant considered this to constitute a substantial procedural violation.

Pursuant to Rule 103(1)(a) EPC, the appeal fee shall be reimbursed in full where the appeal is allowable and a substantial procedural violation occurred in the proceedings before the examining division. The board asserts that no substantial procedural violation occurred. The board notes that, in order to demonstrate that an application does not comply with the requirements of the EPC, it is sufficient to justify as to why a single provision is not complied with. In the present case, the examining division provided a reasoning as to why it considered that claim 1 of each request did at least not comply with the requirements of Article 56 EPC. The board thus holds that the examining division complied with the requirements of Rule 111(2) EPC, that decisions open to appeal shall be reasoned.

Therefore, the board decides to reject the request for full reimbursement of the appeal fee.

4.2 Furthermore, in the letter dated 8 December 2022, together with the withdrawal of the request for oral

proceedings, the appellant requested partial reimbursement of the appeal fee.

The board notes that it issued its communication in preparation for the oral proceedings on 7 December 2022. The appellant withdrew the request for oral proceedings on 8 December 2022, i.e., within one month, thereby fulfilling the requirements for a reimbursement of the appeal fee at 25% according to Rule 103(4)(c) EPC.

Therefore, the board holds that the appeal fee shall be reimbursed at 25%.

5. Consequently, the appeal and the appellant's request for partial reimbursement of the appeal fee are allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The appeal fee is reimbursed at 25%.
3. The case is remitted to the examining division with the order to grant a patent in the following version:

Description, Pages: 1-11 filed on 30-11-2016

Claims, Numbers: 1-15 as filed with the appeal

Drawings, Sheets: 1-4 as published

The Registrar:

The Chair:



K. Götz-Wein

A. Ritzka

Decision electronically authenticated