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Datasheet for the decision of 11 January 2023

Case Number: T 1776/20 - 3.5.05

Application Number: 14833448.5

Publication Number: 3090491

IPC: G06F13/38

Language of the proceedings: EN

Title of invention:
INTEGRATED CIRCUIT AND ASSOCIATED APPARATUS

Applicant:
MediaTek Inc.

Headword:
IC comprising a USB connector with reduced EMI / Mediatek

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (no)

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Beschwerdekammern

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Case Number: T 1776/20 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 11 January 2023

Appellant: (Applicant)	MediaTek Inc. No. 1, Dusing Road 1 Science-Based Industrial Park Hsin-chu City 300 (TW)
Representative:	Krauns, Christian Wallinger Ricker Schlotter Tostmann Patent- und Rechtsanwälte Partnerschaft mbB Zweibrückenstraße 5-7 80331 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 19 May 2020 refusing European patent application No. 14833448.5 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	A. Ritzka
Members:	P. Tabery
	K. Kerber-Zubrzycka

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 did not meet the requirements of Articles 56 and 123(2) EPC.

III. The documents referred to by the examining division included:

D8 Ashraf Takla et al: "M-PHY benefits and challenges", EE Times, 11 April 2011, XP055139457

D9 US 2013/191568 A1

IV. In its statement of grounds of appeal, the appellant requested that the decision of the examining division be set aside and that a patent be granted on the basis of the claims underlying the decision under appeal. In the event that these were not found to be allowable, oral proceedings were requested.

V. The board issued a summons to oral proceedings. On 6 October 2022, it also set out its preliminary opinion on the case (Article 15(1) RPBA 2020).

The board concurred with the findings of the examining division that the application did not meet the requirements of Article 56 EPC.

VI. In a reply dated 9 December 2022, the appellant provided an amended set of claims replacing the previous set of claims, an amended description, and further arguments.

VII. Oral proceedings were held on 11 January 2023. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of claims 1 to 6 and description pages 1 to 8, all filed with letter dated 9 December 2022.

VIII. Claim 1 reads as follows:

"An integrated circuit (22) comprising:

a signaling circuit (30) for signaling with a programmable frequency, and

an interface (28) coupled to the signaling circuit (30), for interfacing the signaling circuit (30) with a USB connector (11a, 11b);

characterized in that the signaling circuit (30) is further arranged to suppress interference at a wireless band by programming the programmable frequency of signaling to be different from a frequency of a standard USB interconnect, and the frequency of the standard USB interconnect is not in the wireless band;

wherein the signaling with the programmable frequency is a differential signaling, and wherein the signaling circuit (30) is arranged to program the programmable frequency of the differential signaling, and wherein the signaling has a notch near 2.5 GHz."

Reasons for the Decision

1. The present application concerns an integrated circuit comprising a USB connector with reduced electromagnetic interference.

2. In view of the board's assessment on lack of inventive step provided below, the board leaves open the admission of the amended request into the proceedings

under Article 13 RPBA. Notably, in the present case, the board considers it to be of no avail to investigate whether its considerations on lack of inventive step were already apparent *prima facie*.

3. Novelty (Article 54(1) EPC)

In the decision under appeal, the examining division held that the features of the preamble of claim 1 were known from document **D9**, which it considered to represent the closest prior art.

Following the examining division's analysis, the board holds that document **D9** discloses the following features of **claim 1** (the references between parentheses relate to said document; strike-through is used to indicate features it does not disclose):

An integrated circuit
(see [0044] and [0045])
comprising:

a signaling circuit for signaling with a programmable frequency, and
("M-PHY^{SM} physical layer standard defining a data rate of 10 Kbps to 5.8 Gbps per lane", see [0005] and [0006])

an interface coupled to the signaling circuit, for interfacing the signaling circuit with a USB connector;
(see [0006])

~~characterized in that the signaling circuit is further arranged to suppress interference at a wireless band by programming the programmable frequency of signaling to be different from a frequency of a standard USB interconnect, and the frequency of the standard USB interconnect is not in the wireless band;~~

wherein the signaling with the programmable frequency is a differential signaling, and
*("receiver differential pair and transmitter differential pair", see [0028] and fig. 2 of **D9**)*

~~wherein the signaling circuit is arranged to program the programmable frequency of the differential signaling, and wherein the signaling has a notch near 2.5 GHz~~.

The features indicated by strike-through constitute the distinguishing features of claim 1 over what is disclosed in document **D9**.

4. Inventive step (Article 56 EPC)

4.1 The board holds that document **D8** discloses the distinguishing features identified above as follows (the references between parentheses relate to document **D8**):

[wherein] the signaling circuit is further arranged to suppress interference at a wireless band by programming the programmable frequency of signaling to be different from a frequency of a standard USB interconnect, and the frequency of the standard USB interconnect is not in the wireless band;
(see page 5, lines 1-4)

wherein the signaling circuit is arranged to program the programmable frequency of the differential signaling, and
(see page 5, lines 1-4)

wherein the signaling has a notch near 2.5 GHz.
(see fig. 8)

The board concurs with the examining division that the combination of documents **D9** and **D8** is obvious, because document **D8** is an explanation of the MIPI Alliance's M-

PHY physical layer standard described in document **D9**. Thus, the skilled person would have arrived at the subject-matter of claim 1 without employing any inventive skill.

4.2 The appellant emphasised that what document **D8** actually disclosed was "*moving common mode M-PHY signal away from sensitive RF LNA signals such as GPS LNA*". This differed from what was claimed, which could be understood as "*to protect a wireless band, moving frequency of wired signaling away from a given WIRED signal frequency (the frequency of standard USB interconnect),* ***wherein the given WIRED signal frequency is NOT in the wireless band to be protected.***" (emphasis by the appellant). Consequently, when combining the disclosures of documents **D9** and **D8**, the skilled person would not have arrived at the claimed solution.

The board notes that documents **D8** and **D9** both relate to the M-PHY standard. Further, document **D8** discloses using one of two possible frequencies, implied by "*data rates A and B*", see page 4, last line to page 5, line 1. Thus, no matter which of these USB frequencies the claimed "*a frequency of a standard USB interconnect*" relates to, document **D8** discloses the use of another frequency which is "*different from a frequency of a standard USB interconnect*". Furthermore, the board asserts that the term "*a wireless band*" in claim 1 is limited only in that it does not comprise the frequency of the standard USB interconnect. In particular, it may be different from the claimed "*notch near 2.5 GHz*". Hence, the term "*a wireless band*" could relate to any other wireless frequency band, no matter how broad or narrow. Consequently, when moving the data rate from A to B (or vice versa), there certainly exists, somewhere, a wireless band where interference is reduced. Thus, the board considers that, due to its

broad possible interpretation, the feature "*suppress interference at a wireless band*" wherein "*the frequency of the standard USB interconnect is not in the wireless band*" is known from document **D8** as indicated above.

4.3 Furthermore, with respect to section 11 of the decision under appeal, the appellant argued that the term "*common frequency*" was not used in document **D8**. The appellant then speculated about the meaning attributed to this term by the examining division.

The board notes that the respective sentence in the decision under appeal reads as follows:

> "*However, p. 5 disclose [sic] to modify the data rate to move the M-PHY signal, which is a wired signal, away from his [sic] wired common frequency so to avoid sensitive RF signals.*"

The board considers it to be evident from this context that the "*wired common frequency*" is the frequency of the M-PHY signal before it is modified, i.e. the frequency causing interference with a sensitive RF signal. The board thus attributes to the term "*common*" the meaning of "*occurring or appearing frequently*" (see the entry for "*common*" in the Merriam-Webster online dictionary, item 3a). Since the board disagrees with all of the interpretations presented by the appellant, it does not concur with the appellant's conclusion that the statement of the examining division "*would either result into a contradiction, or it would lead away from the solution as taught by the claim 1*".

4.4 The appellant further argued that, due to the rapid progress in the technical field of semiconductors, an inventive step had to be acknowledged even for slight differences over the prior art.

The board is not convinced that inventive step should be assessed differently than in any of the neighbouring fields.

5. Finally, the appellant submitted that patents had been granted for corresponding applications in other jurisdictions.

The board notes that the outcome of proceedings in other jurisdictions is not decisive for the proceedings before the EPO.

5.1 In view of the above, the board holds that the subject-matter of claim 1 is not inventive over the teaching of document **D9** in combination with that of document **D8**.

6. Therefore, the appellant's request is not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

K. Götz-Wein A. Ritzka

Decision electronically authenticated