UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROCHIP TECHNOLOGY INC.,
Petitioner,

v.

APTIV TECHNOLOGIES AG,
Patent Owner.

U.S. Patent No. 11,176,072

Inter Partes Review No. IPR2024-00230

PATENT OWNER'S MOTION TO STRIKE

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I. INTRODUCTION

Pursuant to Board authorization on January 29, 2025, Patent Owner moves to strike new argument belatedly presented for the first time in Petitioner's Reply (Papers 29, 30), along with portions of its concurrently filed evidentiary support. Specifically, Patent Owner moves to strike Section IV.A.3.b of the Reply; corresponding paragraphs 6-17 and 44-57 of the Reply Declaration of Eric Welch (EX1102, "Reply Declaration"); and Exhibit 1103 in its entirety.

The 2019 Consolidated Trial Practice Guide ("CTPG") makes clear that "a reply or sur-reply may only respond to arguments raised in the preceding brief," and "a reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered." (CTPG, 74.) The Board should grant the Motion because the Reply improperly presents new theories of unpatentability with belated supporting evidence that could have been presented in the Petition itself.

II. BACKGROUND

The Petition challenged the claims of the '072 patent as obvious based on the references Chang and Chang II, in view of the knowledge of the person of ordinary skill in the art (POSITA). (Petition (Paper 1), 4-5.) The POSITA's knowledge is argued to supply USB multiplexing switch components to meet the claimed USB signal routing limitations that are absent from Chang and Chang II. (*See*, *e.g.*, *id.*, 60-72.) The Patent Owner Response (POR (Paper 25)) responded

by, in part, explaining how the Petitioner's proposed prior art combination features a structural flaw: when a device connected to a downstream USB port operates in USB device mode, the purported USB multiplexing switch bypasses the same detection unit that the combination apparently relies on to control the switch. (POR, 23-34.) With the detection unit disconnected from the switch, the proposed combination enters a dead-end state, from which it does not return, and in which it is unable to respond to mode changes of the downstream device. (*Id.*) (Petitioner refers to this flaw in its Reply as the "dead-end problem.")

The dead-end problem defeats the Petition's obviousness case because, as explained in the POR, it prevents the proposed combination from meeting the claim limitations; and rebuts any motivation of the POSITA to combine the references with a reasonable expectation of success. (*See, e.g.*, *id.*, 34-36, 44-48, 52-53.) For example, the POSITA would not be motivated to combine the prior art in a manner that impairs usability, such as by causing the combination to enter a state from which it cannot return; or in a manner that compromises USB "hot swapping" functionality. (*Id.*, 47-48.)

The dead-end problem was evidently not anticipated by Petitioner, and thus was not addressed in any way in the Petition or its supporting evidence. For example, the Petition and its supporting declaration (EX1013) neglected to identify

the dead-end problem, or to explain how the dead-end problem could be avoided in the proposed prior art combination.

III. PETITIONER'S REPLY PRESENTS NEW ARGUMENT

In Section IV.A.3.b. of its Reply, Petitioner proposes new modifications to the Petition's prior art combination to circumvent the dead-end problem.[1] For example, the Reply argues that "a POSITA would understand the combination still works, *provided the mux reverts to a default state (viz., routing to the bridge) when a mode change occurs*." (Reply, 12 (emphasis added).) Specifically, the Reply proposes, with the support of the Reply Declaration and Exhibit 1103, that the prior art combination could be modified by "the upstream host sending a signal that would be logically 'ORed' (*e.g.*, using the well-known OR gate) to reset the mux select line(s) to route to the bridge", such that "the mux would revert to its initial/default/reset state to route incoming signals to the bridge's detection unit for host/device determination." (*Id.*, 12-15.)

The Reply Declaration explains what these new modifications require:

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[1] In IPR2024-00228 and IPR2024-00229, Section IV.A.3.b of Petitioner's Reply proposes modifying the behavior of a crossbar switch, rather than that of a multiplexer, as in the present proceeding. In those proceedings, Petitioner's Reply is improper for reasons analogous to those discussed here.

> For the Mux Implementations, all that is required is sending a signal from the upstream host that will toggle the mux to its initial/default state (*i.e.*, routing signals to the bridge) when the upstream host knows that a data connection has been closed (*viz.*, in response to SE0). The well-known "OR" gate (or even a wired OR function that adds no addition gates) could be used to allow the head end signal to reset the mux select line(s) without disrupting normal operation of the detection unit.

(Reply Declaration, ¶54.)

The Reply Declaration further describes, at paragraphs 6-14, and with citation to Exhibit 1103, USB and electronics concepts (*e.g.*, "Reset Circuit," "Power On Reset," Single Ended Zero," "Attachment," "Removal") newly relied upon to support the proposed modifications. (*Id.*, ¶¶6-14.)

These proposed modifications are absent from the Petition. For example, Patent Owner's expert, Dr. Houh, testified that "There's no such discussion of default state in the proposed combination that I recall seeing"; that a mux reverting to the bridge route upon termination of a host-device connection was "not laid out in the petition or in Mr. Welch's declaration"; and that a mux having a default state in which it is connected to the bridge was "a hypothetical that the petitioner did not raise in his petition, or Mr. Welch I don't believe addressed in his declaration." (EX1085, 278:7-21, 279:13-22, 280:13-22.) Moreover, the Petition is silent with respect to:

- reverting a mux or crossbar to a default state;
- returning to an initial/default/reset state when a mode switch occurs;
- sending signals from an upstream host to toggle a state of a mux or crossbar;
- configuring an upstream host to respond to an SE0 signal (or any other reset signal);
- using a head end signal to reset a select line; and
- adding custom new logic circuits to the proposed combination in order to implement any of the above.

Instead, the Petition concluded summarily that "it would have been obvious to employ, for example, multiplexing switches in Chang to switch between the bridge path (when a host connects) or bypass route around the bridge (when a device connects)." (Petition, 64.) In lieu of detailing how the multiplexing switches would operate, the Petition suggested simply that "upon detection of the consumer product in host mode, the switch would connect the port to the bridge"; and that "upon detecting a product in device mode, it would be obvious to implement the switch to route USB signals to the embedded host by bypassing the bridge." (*Id*., 67, 70.) Nowhere did the Petition disclose, as in Section IV.A.3.b of the Reply, that the proposed switching would only be operable "provided the mux reverts to a default state (*viz.*, routing to the bridge) when a mode change occurs."

(Reply, 12.) Petitioner attempts to correct these defects for the first time in its Reply.

IV. PETITIONER'S NEW ARGUMENT IS NOT RESPONSIVE TO THE PATENT OWNER RESPONSE AND SHOULD BE STRICKEN

Petitioner's belated new modification impermissibly falls outside the scope of a proper reply. *See* 37 C.F.R. § 42.23(b) ("A reply may only respond to arguments raised in the corresponding opposition, patent owner preliminary response, patent owner response, or decision on institution."). Rather than respond to the POR, Section IV.A.3.b rewrites how the Petition's prior art combination would operate, in view of the defects highlighted by Patent Owner. (*See* CTPG, 74 ("'Respond,' in the context of 37 C.F.R. § 42.23(b), does not mean proceed in a new direction with a new approach as compared to the positions taken in a prior filing.")); *Ariosa Diagnostics v. Verinata Health, Inc*, 805 F.3d 1359, 1367 (Fed Cir. 2015) (explaining that under the Board's rules, a petitioner's reply is "limited to a true rebuttal role").

To the extent Petitioner's position is that the challenged materials do not include new argument because they raise "no new grounds, prior art references, or combinations" (*see* EX3001), that position would be incorrect and misleading. Even if the Reply did not present new grounds, prior art references, or combinations, the Reply is improper for modifying the prior art in new and distinct ways to make out a *prima facie* case of unpatentability. (*See* CTPG, 73; *see also*

Ariosa, 805 F.3d at 1367 (affirming the Board's rejection of a "meaningfully distinct contention" made in a reply).) For example, as described above, Petitioner's new modifications add new circuit behaviors and logic to the prior art—improperly revising the way in which the prior art would be combined to meet the signal routing claim limitations. *See Arista Networks, Inc. v. Cisco Sys., Inc.*, IPR2016-00308, Paper 42, 14 (PTAB May 25, 2017) (granting motion to strike where Petitioner's Reply included "a new mapping of the claims to the prior art in light of the gaps that Patent Owner pointed out in its Response"). Petitioner additionally provides new rationales for making the combination, at least by Mr. Welch's suggestion that implementing the new modifications would be "helpful" because "persistence is maintained for an existing host-to-host connection and any other downstream USB products subsequently plugged in will be routed as host-device connections." (Reply Declaration, ¶55; Reply, 14; *see Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1370 (Fed. Cir. 2016) (affirming Board's exclusion of reply brief where petitioner "relied on an entirely new rationale" for motivation to combine).)

V. PETITIONER'S NEW ARGUMENT AND SUPPORTING EVIDENCE COULD HAVE BEEN PRESENTED EARLIER

As the Federal Circuit has explained, "[T]he expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute." *Intelligent Bio-Sys.*, 821 F.3d at 1369; *see also SAS Inst. v. Iancu*, 584 U.S. 357,

363 (2018) ("in an inter partes review the petitioner is master of its complaint"). Under the CTPG, "Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g.[,] to make out a prima facie case of unpatentability." (CTPG, 73.) Petitioner should have been aware of the dead-end problem before filing the Petition. (*See* EX1085, 288:17-20 (Dr. Houh testifying that "I think petitioner had the opportunity to think through some of this beforehand, Mr. Welch as well.").)

In his initial declaration, Mr. Welch cautioned that "the detection unit must connect to the downstream port to detect the mode, as shown in Chang II." (EX1013, ¶193.) But, as the POR made clear, disconnecting the detection unit from the downstream port presents precisely the dead-end problem that Petitioner now wishes to correct. Petitioner was thus put on notice of the dead-end problem before the Petition was filed, at least by Mr. Welch's guidance in his initial declaration. Yet Petitioner chose instead to present in the Petition a prior art combination in which the detection unit is cut off from the downstream ports by the actions of the multiplexing switch. By neglecting to present in the Petition a modification to this combination that would avoid the dead-end problem, Petitioner waived its reliance on any such modification in this proceeding.

Similarly, the challenged material of Mr. Welch's Reply Declaration could have been presented in the initial declaration, at least in connection with Mr.

Welch's above guidance regarding the detection unit. And with respect to Exhibit 1103, this exhibit presents new pages (533-536) of the same textbook that was previously excerpted as Exhibit 1069 and provided with the Petition; there is no reason the pages of Exhibit 1103 could not have been included with Exhibit 1069.

VI. PATENT OWNER IS DEPRIVED OF A FULL AND FAIR OPPORTUNITY TO RESPOND TO THE NEW ARGUMENT AND EVIDENCE

The Petitioner relies on new argument and supporting evidence to Patent Owner's detriment. By attempting on Reply to retroactively address the flaws in its proposed combination, Petitioner deprives Patent Owner of a full and fair opportunity to respond. For example, Patent Owner must address Petitioner's untimely Reply arguments on sur-reply and at oral hearing on a compressed timetable, and without the benefit of additional evidence, including direct expert testimony. *See Laboratoire Francais du Fractionnement et des Biotechnologies S.A. v. Novo Nordisk Healthcare AG*, IPR2017-00028, Paper 109, 19-20 (PTAB April 13, 2022) (granting Patent Owner's motion to strike where Petitioner's new arguments "should have been instead been [sic] made in the Petition as part of Petitioner's *prima facie* case so that Patent Owner would have had a reasonable opportunity to respond"). This is an unfair burden placed on Patent Owner. *See Lenovo Holding Company, Inc., et al. v. DoDots Licensing Solutions LLC*, IPR2019-01279, Paper 25, 6 (PTAB Sept. 9, 2020) (rejecting "Petitioner's

characterization of Patent Owner's time and effort in addressing an untimely argument in its Sur-Reply as 'minimal' and limited to the cost of deposing [Petitioner's expert]"); *see also Apple Inc. et al. v. e-Watch, Inc.*, IPR2015-00412, Paper 50, 44 (PTAB May 6, 2016) (declining to consider new arguments in a petitioner's reply because "[a]ccepting such belatedly presented new arguments would be unjust to the Patent Owner").

Finally, Petitioner's belated argument improperly burdens the Board. Rather than "help crystalize issues for decision" (CTPG, 74), Petitioner's Reply instead introduces new issues previously waived by the Petitioner, placing undue demands on the Board's limited time and resources in adjudicating this matter.

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Certificate of Service (37 C.F.R. § 42.6(e)(4))

I hereby certify that the attached PATENT OWNER'S MOTION TO STRIKE was served as of the below date on the Petitioner via e-mail (by agreement) to the following counsel of record:

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