

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APTIV SERVICES US, LLC
Petitioner,

v.

MICROCHIP TECHNOLOGY INC.,
Patent Owner.

Case No. PGR2024-00646
U.S. Patent No. 9,471,074

PATENT OWNER'S OBJECTIONS TO EVIDENCE

Pursuant to 37 C.F.R. §42.64(b)(1), Petitioner submits the following objections to evidence associated with Petitioner's Petition (Paper 1) in this proceeding.

- Exhibit 1002 (Declaration of Dr. Michael S. Chen): Patent Owner objects to Exhibit 1002 as irrelevant, lacking foundation, assuming facts not in evidence, calling for legal conclusion, and mischaracterizing evidence. Patent Owner further objects to this exhibit to the extent it includes expert opinions for which the factual bases have not been disclosed, for which Dr. Chen does not have personal knowledge (FRE 602), and to the extent that Dr. Chen's opinions constitute unreliable expert testimony under FRE 702 and 703. Patent Owner objects to EX1002 as cursory, incomplete, misleading, irrelevant, confusing the issues and wasting the parties' and the Board's resources/time, and as far more prejudicial than probative (F.R.E. 403). For example, Dr. Chen recites an incorrect claim construction standard (recited in ¶14) that he applies throughout the entirety of his declaration when performing his analysis. In particular, Dr. Chen then performs claim construction (including analysis of the '074 specification and extrinsic evidence) regarding the claim term "current buffer." See EX1002, ¶¶54-55. Such testimony, using an incorrect legal standard is

irrelevant, confusing, and prejudicial. As another example, Dr. Chen states “I note that some of my opinions assume specific interpretations of claim elements with which I do not necessarily agree. I present these opinions because I have been asked to consider whether a POSITA would find the claims obvious over the petitioned grounds if these interpretations applied. I will identify these opinions as they arise below.” EX1002, ¶5. But Dr. Chen fails to identify which interpretations he disagrees with. As another example, in ¶23, Dr. Chen asserts “personal knowledge that the general LDO structure shown above was widely known in the field in 2006, and certainly by 2013.” But Dr. Chen does not provide any information or explanation regarding his purported “personal knowledge.” Patent Owner objects to the portions of Exhibit 1002 not discussed or cited in the Petition as not being relevant to any issue on which trial has been instituted. Additionally, if the objected to material was not discussed or cited in the Petition, Patent Owner has had no fair opportunity to respond to Petitioner’s unstated contentions (if any) regarding the same. Such information is irrelevant and its consideration would be unfairly prejudicial to Patent owner. In particular, at least ¶¶1-18, 29-31, 35, 39-40, 48-49, 77, 86, 97, 116, 124-125, 138, 177, and 191 were not cited

or discussed in the Petition. Accordingly, at least those paragraphs are objected to as not being relevant to any issue in this inter partes review (IPR). Patent Owner further objects to the entirety of Dr. Chen's analysis and opinions as being based on an incorrect POSITA standard/definition. *See* EX1002, ¶38.

- Exhibit 1003 (uncertified Prosecution History of U.S. Patent No. 9,471,074): Patent Owner objects to EX1003 under FRE 1002 as it is not a certified copy of the file history.
- Exhibit 1004 (Mohammad Al-Shyoukh, et al., "A Transient-Enhanced Low-Quiescent Current Low-Dropout Regulator with Buffer Impedance Attenuation," IEEE Journal of Solid-State Circuits, Vol. 42, No. 8 (Aug. 2007)): Patent Owner objects that this exhibit lacks proper authentication and foundation. *See* FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to offer sufficient evidence that this exhibit is what Petitioner claims it to be. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as

not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites pages 1732-1736, 1738, 1740, and Fig. 8. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner.

- Exhibit 1007 (Miranda J. Ha, "A Low-Power, High-Bandwidth LDO Voltage Regulator with No External Capacitor" (May 23, 2008)): Patent Owner objects to EX1008 as not being relevant to any issue in this IPR. Petitioner cites this exhibit only twice in the Petition. See Pet., 37 ("[EX1007] explains that bandwidth is important 'in voltage regulator design,' and that the higher the bandwidth, 'the more quickly it can react to changes in input and power supply.'"), 75 (similar). This exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. See FRE 401-403. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites page 8. Accordingly, all

other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner. Petitioner further objects that this exhibit lacks proper authentication and foundation. See FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to offer sufficient evidence that this exhibit is what Petitioner claims it to be.

- Exhibit 1008 (Le Ye, et al., “Highly Power-Efficient Active-RC Filters with Wide Bandwidth-Range Using Low-Gain Push-Pull Opamps,” IEEE Transactions on Circuits and Systems—I: Regular Papers, Vol. 60, No. 1 (Jan. 2013)): Patent Owner objects to EX1008 as not being relevant to any issue in this IPR. Petitioner cites this exhibit only twice in the Petition. See Pet., 37 (“[EX1008] also notes that a relatively low-

gain op-amp with high gain-bandwidth product improves power efficiency for a high-bandwidth closed-loop circuit (e.g., an LDO).”), 75 (similar). This exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. *See* FRE 401-403. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites pages 96-97. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner’s unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner. Petitioner further objects that this exhibit lacks proper authentication and foundation. *See* FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to

offer sufficient evidence that this exhibit is what Petitioner claims it to be.

- Exhibit 1009 (Mikhail Popovich, “High Performance Power Distribution Networks with On-Chip Decoupling Capacitors for Nanoscale Integrated Circuits” (2007)): Patent Owner objects to EX1009 as not being relevant to any issue in this IPR. Petitioner cites this exhibit only twice in the Petition. *See* Pet., 49 (“[EX1009], for example, teaches that the ‘power and signal integrity problems in the overall system’ caused by noise from one component propagating to another can be solved using ‘decoupling capacitors’ placed at different points in the circuit.”), 85 (“teaching that decoupling capacitors can alleviate ‘power and signal integrity problems’ caused by noise”). This exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. *See* FRE 401-403. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites page 12 and 217. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond

to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner. Petitioner further objects that this exhibit lacks proper authentication and foundation. *See* FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to offer sufficient evidence that this exhibit is what Petitioner claims it to be.

- Exhibit 1010 (U.S. Patent No. 7,345,547): Patent Owner objects to EX1010 as not being relevant to any issue in this IPR. Petitioner cites this exhibit only twice in the Petition. Pet., 4950 (“[EX1010] teaches that in ‘common battery-powered applications,’ the bias voltage is often connected to a power supply by ‘a suitable network of decoupling capacitors.’”), 85 (“using a bypass capacitor to hold voltage constant ‘despite fluctuations’ from an RF signal”). This exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. *See* FRE 401-403. Patent Owner objects to the

portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites col. 4:59-61 and 2:64-3:1. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner.

- Exhibit 1011 (Micrel Inc., MIC59300 Datasheet (Jan. 2009)): Patent Owner objects to EX1011 as not being relevant to any issue in this IPR. Petitioner cites this exhibit only twice in the Petition. See Pet., 50 (“MIC59300 similarly recommends ‘[s]mall ceramic capacitors from VBIAS-to-ground [to] help reduce high frequency noise from being injected into the control circuitry from the bias rail.’”), 85 (“recommending decoupling capacitors to keep noise out of a bias circuit”). This exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. See FRE 401-403. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial

has been instituted. In particular, the Petition only cites page 10. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner. Petitioner further objects that this exhibit lacks proper authentication and foundation. See FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to offer sufficient evidence that this exhibit is what Petitioner claims it to be.

- Exhibit 1012 (U.S. Patent No. 7,644,217): Patent Owner objects to EX1012 as not being relevant to any issue in this IPR. Petitioner cites this exhibit only twice in the Petition. Pet., 50 (“proposing a USB voltage regulator as part of a method for saving power”), 86 (“identifying a method to conserve power in a USB capable device that

includes providing ‘a USB voltage regulator’”). This exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. See FRE 401-403. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites col. 2:29-33. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner’s unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner.

- Exhibit 1013 (U.S. Patent No. 6,046,577): Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites the Abstract, col. 1:10-59 3:26-43 3:55-62 4:10-5:21 7:19-4,4 claim 7, and Figs. 1, 3. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to

Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner.

- Exhibit 1014 (Gabriel A. Rincon-Mora, "A Low-Voltage, Low Quiescent Current, Low Drop-Out Regulator," IEEE Journal of Solid-State Circuits, Vol. 33, No. 1 (Jan. 1998)): Patent Owner objects that this exhibit lacks proper authentication and foundation. See FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to offer sufficient evidence that this exhibit is what Petitioner claims it to be. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites pages 36-38, 42, and includes no discussion of the figures. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's

unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner.

- Exhibit 1015 (Gabriel A. Rincon-Mora, “Current Efficient, Low Voltage, Low Dropout Regulators” (Nov. 1996)): Patent Owner objects to EX1015 as not being relevant to any issue in this IPR. Petitioner cites this exhibit only twice in the Petition. *See* Pet., 72 (“The Rincon-Mora Dissertation, for example, discloses using such a capacitor, C_c , in an LDO’s curvature corrected bandgap reference to provide stability.”), 85-86 (“The Rincon-Mora Dissertation discloses such a use of capacitors in a curvature corrected bandgap circuit that supplies a reference voltage to the error amplifier of an LDO, to limit ‘noise bandwidth of the reference circuit’ and thus ‘enhanc[e] noise performance.’”). This exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. *See* FRE 401-403. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites page 109. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being

relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner. Petitioner further objects that this exhibit lacks proper authentication and foundation. *See* FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to offer sufficient evidence that this exhibit is what Petitioner claims it to be.

- Exhibit 1016 (U.S. Patent No. 6,084,475): Patent Owner objects to EX1016 as not being relevant to any issue in this IPR. Petitioner cites this exhibit a single time in the Petition, and only for the proposition that it “teaches that ‘a Miller-compensating capacitance’ was a ‘well known technique for improving phase margin’ and improving stability of a circuit ‘having feedback,’ and discloses a circuit with such a capacitor (shown in orange below) between an output PMOS (red) and a cascode node of an amplifier (yellow).” Pet., 72-73. This exhibit is

not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. *See* FRE 401-403. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites Fig. 2, col. 1:11-16, and 3:1-9. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner.

- Exhibit 1017 (Michael Day, "Understanding Low Drop Out (LDO) Regulators," 2006 Texas Instruments Portable Power Design Seminar (2006)): Patent Owner objects to EX1017 as not being relevant to any issue in this IPR. Petitioner cites this exhibit a single time in the Petition, and it is unclear for what purpose Petitioner cites it. *See* Pet., 3. Petitioner does not cite to any specific portion(s) of the exhibit and provides no analysis or discussion of the exhibit. Additionally, this exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial. *See* FRE 401-403. All

pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner. Petitioner further objects that this exhibit lacks proper authentication and foundation. *See* FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to offer sufficient evidence that this exhibit is what Petitioner claims it to be.

- Exhibit 1018 (Chester Simpson, "Linear and Switching Voltage Regulator Fundamental Part I" (2011)): Patent Owner objects to EX1018 as not being relevant to any issue in this IPR. Petitioner cites this exhibit a single time in the Petition, and only for the proposition that "basic principles of LDOs were well understood in the field as of March 14, 2013" Pet., 3. This exhibit is not relied upon as prior art in the challenged grounds, and thus is irrelevant and/or unduly prejudicial.

See FRE 401-403. Patent Owner objects to the portions of this exhibit not discussed or cited in the Petition, as not being relevant to any issue on which trial has been instituted. In particular, the Petition only cites pages 18-19. Accordingly, all other pages, sections, and figures which are not cited or discussed in the Petition are objected to as not being relevant to any issue in this IPR. Patent Owner has had no fair opportunity to respond to Petitioner's unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner. Petitioner further objects that this exhibit lacks proper authentication and foundation. See FRE 901. Patent Owner objects to this exhibit as containing hearsay to the extent that Petitioner attempts to rely on it to prove the truth of any matter described therein under FRE 801 and FRE 802. For example, Petitioner fails to offer sufficient evidence this exhibit was publicly accessible in its presented form as of the alleged publication date. Petitioner fails to offer sufficient evidence that this exhibit is what Petitioner claims it to be.

- Exhibit 1019 (U.S. Provisional Patent Application No. 61/780,985): Patent Owner objects to EX1019 as not being relevant to any issue in this IPR. Petitioner cites this exhibit a single time in the Petition, and

only for the proposition that “[t]he effective filing date of the challenged claims is therefore no earlier than March 11, 2014,” because “the ‘enable/disable function’ was not disclosed in the provisional application to which the ’074 patent claims priority.” Pet., 9. But Petitioner has not asserted that any of its alleged prior art references qualify as intervening prior art between the filing of the provisional application and the application that resulted in the ’074 patent. No specific portion of this exhibit is cited or discussed anywhere in the Petition and it is therefore irrelevant to any issue on which trial has been instituted. Patent Owner has had no fair opportunity to respond to Petitioner’s unstated contentions (if any) regarding the same. Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner.

- Exhibit 1021 (District Court Claim Construction Memorandum): Patent Owner objects to EX1021 as not being relevant to any issue in this IPR. This is a district court *Markman* memorandum from a different proceeding where the ’074 patent is not at issue. EX1021 never cites or discusses the ’074 patent, nor does Petitioner ever cite or discuss EX1021. Patent Owner has had no fair opportunity to respond to Petitioner’s unstated contentions (if any) regarding the same.

Accordingly, this exhibit is irrelevant and its consideration would be unfairly prejudicial to Patent Owner.

Dated: October 9, 2024

Respectfully submitted,

/Travis Jensen/

Travis Jensen

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CERTIFICATE OF SERVICE

The undersigned certifies that on October 9, 2024, a copy of the following was served in its entirety via electronic mail, upon the following attorneys of record for the Petitioner:

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/Karen Johnson/

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