

RISC-V INTERNATIONAL ASSOCIATION
AMENDED AND RESTATED INTERNAL REGULATIONS

The following amended and restated internal regulations for RISC-V International Association (“Association”) are hereby adopted by the Board of Directors on February 17, 2022 (as the same may be amended or superseded or supplemented from time to time, the “Regulations”). These Regulations shall supplement the RISC-V International Association Articles of Association dated March 6, 2020 as they may be amended from time to time (“Articles”), and shall be binding pari passu with the Articles on the Association, the Board of Directors and Members of the Association, and all other relevant persons and entities, as further provided herein:

ARTICLE 1 - DIRECTORS

- (1) As provided by the Articles, the Board of Directors (“Board of Directors” or “Board”) shall be comprised of the number of directors equal to then current number of Premier BD Members as of the relevant date of determination plus at least five (5) additional directors (collectively, “Directors”). One (1) of the directors shall be designated as the Individual Community Director; one (1) of the directors shall be designated as the Organizational Community Director; three (3) of the directors shall be designated as the Strategic Directors; and the remaining directors shall be designated as the Premier BD Directors. All directorships shall be voting.
- (2) In addition to the members of the Board of Directors enumerated in Section 1 above, the initial Board of Directors of the Association shall also include all of the directors of RISC-V Foundation, a US Delaware nonstock corporation (“RISC-V US”), as determined immediately prior to the date of the formation of this Association (“US Directors”). The US Directors shall be counted in the same manner as the other directors of this Association. Each of the US Directors shall serve as a director of this Association by virtue of this subsection for a time period equal to the earlier of (i) the expiration of his or her current term as a director of RISC-V US (without any extension or renewal), or (ii) the event of his or her earlier death, incapacitation or resignation, whichever is the earliest (“Termination Event”). Upon the Termination Event, the directorship for such US Director shall permanently terminate and the number of authorized directors of this Association shall be reduced accordingly, provided that such individual shall be eligible at any time to be elected as a regular member of the Board of Directors in his or her own right representing a class or series of Members.
- (3) Each Director other than the US Directors shall hold office until the earliest to occur of (i) the expiration of the term for which such Director was elected or appointed, as the case may be, and such Director’s successor being elected or appointed and qualified, (ii) the expiration or termination of Membership of the Member that appointed such Director if such Director is appointed by a single Member, (iii) the death, resignation or removal of such Director, or (iv)

for any Director other than the Individual Community Director, if requested by the Board of Directors upon such Director no longer being employed by or otherwise acting in a representative capacity of a Member in good standing.

- (4) A Director other than a US Director may succeed himself or herself in office.
- (5) Each Director (including the US Directors) by virtue of and as of the date of his or her election or appointment to the Board of Directors hereby accepts and agrees to all of the terms and conditions of these Regulations.
- (6) In the event that the Association also is required to have a Swiss resident director under Swiss law or for Swiss tax purposes, the Board of Directors in its sole determination may establish a Swiss resident directorship (“Swiss Director”) and nominate and elect the Swiss Director by the affirmative vote of a majority of the members of the Board of Directors then in office. Any Swiss Director may be removed with or without cause (as defined under Swiss law) and replaced by the affirmative vote of a majority of the members of the Board of Directors then in office.
- (7) In the case of the absence of a Director from any meeting of the Board of Directors, the Director may appoint a representative to attend such meeting as a nonvoting board observer. The appointment of a board observer shall be noticed in writing to the Association at least forty-eight (48) hours prior to the time of the meeting. The representative shall have no right to vote or to receive any separate notices concerning the meeting. In connection with such attendance, the Association shall provide such representative with copies of minutes and other materials that it provides to its Directors for the subject meeting; provided however that such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and provided further that the Association reserves the right to withhold any specific information and to exclude such representative from any specific meeting or portion thereof, in each case in the reasonable discretion of the Association.

ARTICLE 2 - MEMBERS

- (1) The Association shall have members as defined in the Articles (“Members”) holding memberships as provided in the Articles and these Regulations (“Memberships”). Members shall not have any ownership interest in or right to possess any of the assets of the Association. No Membership classes shall have any voting rights with respect to the Association or its purposes or affairs, other than as expressly provided in the Articles or these Regulations.
- (2) The Association may issue Memberships in the Association to any persons or entities that (i) enter into and are current parties to the RISC-V Membership Agreement then in force (“Membership Agreement”) and (ii) agree to be bound by the Articles and these Regulations including all fee obligations. Any

expiration or termination of the Membership Agreement of a Member shall be deemed an automatic termination of the Membership of such Member without the further action of the Board of Directors or any other person or entity. Notwithstanding any contrary provision of the Articles or these Regulations, no Affiliate of any individual Member shall be eligible to be or shall be a Member of the Association at any time, other than any Affiliate that independently joins the Association as a Member in its own right.

- (3) As provided in the Articles, there shall be three (3) classes of Memberships. In addition to its other rights and powers under these Regulations, the Board of Directors of Association may establish fees or charges for participation in meetings or for other benefits of Membership from time to time.
- (4) The first class of Membership shall be the Premier Members (“Premier Members” or “Premier Membership”). The following terms shall govern the Premier Members:

(A) Premier Membership shall be open to any type of legal entity, but shall not be open to individuals. To be eligible a Premier Member must enter into and be a current party to the RISC-V Membership Agreement then in force which designates such Member as a Premier Member and must be in full compliance with the terms of such Membership and the terms of these Regulations then in force.

(B) There will be two series of Members within the Premier Membership class, designated as “Premier BD Members” and “Premier Standard Members”. Premier BD Members shall pay an annual Membership fee to the Association of no less than Two Hundred Fifty Thousand Dollars (USD \$250,000), which may be adjusted by the action of the Board of Directors from time to time. Premier Standard Members shall pay an annual Membership fee to the Association of One Hundred Thousand Dollars (USD \$100,000), which also may be adjusted by the action of the Board of Directors from time to time. Except as otherwise stated in this Article 1, all Premier Members shall have the same rights and privileges.

(C) Each Premier BD Member shall be entitled to elect one (1) Premier BD Director as its representative on the Board of Directors by written notice to the Board of Directors. Such Director may be removed with or without cause and replaced with a successor Premier BD Director elected by subsequent written notice of the Premier BD Member to the Board of Directors. If and when the Premier BD Member ceases to hold its Premier BD Membership, the subject Premier BD Director shall be deemed removed from the Board of Directors automatically as of the termination of the Premier BD Membership of the Premier Member without the further action of the Board of Directors or any other person or entity.

(D) Premier Standard Member shall not have the right to elect their own directors but shall have the right to participate in the nomination and election of Strategic Directors as provided below.

(E) Each Premier Member shall be entitled to appoint one (1) representative or his or her successor to the Technical Steering Committee, provided that an employee or other representative of such Premier Member is not already then serving on such Technical Steering Committee. If and when the Premier Member ceases to hold its Premier Membership, its representatives shall be deemed removed from the Technical Steering Committee automatically as of the termination of the Premier Membership of the Premier Member, without the further action of the Board of Directors or any other person or entity.

(5) The second class of Membership shall be the Strategic Members (“Strategic Members” or “Strategic Membership”). The following terms shall govern the Strategic Members:

(A) Strategic Membership shall be open to any type of legal entity, but shall not be open to individuals. To be eligible a Strategic Member must enter into and be a current party to the RISC-V Membership Agreement then in force which designates such Member as a Strategic Member and must be in full compliance with the terms of such Membership and the terms of these Regulations then in force.

(B) Strategic Members shall pay an annual Membership fee to the Association based on the combined number of employees of the Strategic Member and its Affiliates as of the relevant date of determination: (i) an annual Membership fee of Thirty-Five Thousand Dollars (USD \$35,000) for Members with Five Thousand (5,000) or more employees; (ii) an annual Membership fee of Fifteen Thousand Dollars (USD \$15,000) for Members with more than Five Hundred (500) employees and less than Five Thousand (5,000) employees; and (iii) an annual Membership fee of Five Thousand Dollars (USD \$5,000) for Members with Five Hundred (500) or fewer employees; which in each case may be adjusted by the action of the Board of Directors from time to time.

(C) The Strategic Members and the Premier Standard Members voting together as a single class shall be entitled to elect three (3) Strategic Directors as their representatives on the Board of Directors by the process of polling of such Members as follows:

(I) The Board of Directors shall fix a date for the nomination of the three (3) Strategic Directors at least sixty (60) calendar days prior to the relevant date for election and at that time shall provide a written notice to all Strategic Members and Premier Standard Members which shall solicit nominations for such directors (“Initial Notice of Solicitation”);

(II) Each Strategic Member and each Premier Standard Member shall have the right to initially nominate one (1) person to serve as a Strategic Director (“primary nominations”);

(III) For a person to be eligible to be nominated as, be elected as, or serve as a Strategic Director, such person must be an employee, independent contractor, or other representative of either a Strategic Member or Premier Standard Member.

(IV) All primary nominations for Strategic Director shall be in writing and shall be delivered to the Association within thirty (30) calendar days following the date of the Initial Notice of Solicitation. Any primary nominations delivered after the thirty-day deadline shall not be valid;

(V) The list of the primary nominations shall be promptly compiled by the Association and a second written notice shall be provided by the Association to all Strategic Members and all Premier Standard Members including a written ballot listing all of the primary nominees and permitting the entry of a vote for the election of the nominees (“Final Notice of Solicitation”);

(VI) All written ballots must be returned to the Association within thirty (30) calendar days following the date of the Final Notice of Solicitation. Any ballots delivered after the thirty-day deadline shall not be valid;

(VII) The three (3) nominees receiving the highest number of votes in the ballots in this election process shall be deemed to have been elected as the Strategic Directors. In the event of a tie, the election of the relevant director nominee(s) shall be decided by the Board of Directors.

(D) In the event of the resignation or removal or death of a Strategic Director during his or her term or if the Strategic Director is unwilling or unable to serve, the person who received the next highest number of votes under this election process and is willing to serve shall be deemed to be elected as the replacement Strategic Director for such term. In the event no elected person is willing to serve, the Board of Directors may elect a replacement Strategic Director for such term.

(E) Strategic Member representatives shall be eligible to chair or serve on any Technical Committee and subcommittee of such Committee or other Member working groups then maintained by the Association, with all appointments to be approved by the Board of Directors or its delegate in its sole judgment.

(F) Any Strategic Director may be removed with or without cause (as defined by Swiss law) by the affirmative vote of a majority of the Members of record of the classes of Members with the right to vote for the Strategic Director, voting as a single class.

(6) The third class of Membership shall be the Community Members (“Community Members” or “Community Membership”). The following terms shall govern the Community Members:

(A) There will be two series of Members within the Community Membership class, designated as “Individual Community Members” and “Organizational Community Members”. Organizational Community Membership shall be open to any type of non-profit legal entity or post-secondary educational academic institution (e.g., a college or university) but shall not be open to individuals. Individual Community Membership shall be open to all individuals, but shall not be open to entities. Community Members shall not be required to pay an annual fee but must enter into and be a current party to the RISC-V Membership Agreement then in force which designates such Member as a Community Member and must be in full compliance with the terms of such Membership and the terms of these Regulations then in force.

(B) The Individual Community Members as a series shall be entitled to elect one (1) director (the “Individual Community Director”) as their representative on the Board of Directors, and the Organizational Community Members as a series shall be entitled to elect one (1) director (the “Organizational Community Director”); together with the Individual Community Director, the “Community Directors”) as their representative on the Board of Directors, in accordance with the following rules and procedures.

(I) No one person can serve as both the Individual Community Director and Organizational Community Director at the same time;

(II) The Board of Directors shall fix a record date for the election of the Individual Community Director and the Organizational Community Director at least sixty (60) days prior to the relevant election date and at that time shall provide a written notice to all Community Members which shall solicit nominations for such directors (“Notice of Solicitation”);

(III) Any Individual Community Member shall have the right to nominate up to one (1) Individual Community Director; and any Organizational Community Members shall have the right to nominate up to one (1) Organizational Community Director ;

(IV) Only Individual Community Members are eligible to be nominated as, be elected as, and serve as an Individual Community Director. Only employees, independent contractors, and other representatives of Organizational Community Members are eligible to be nominated as, be elected as, and serve as an Organizational Community Director.

(V) All nominations by the Community Members shall be in writing and shall be delivered to the Association within thirty (30) days following

the date of the Notice of Solicitation. Any nominations delivered after the thirty-day deadline shall not be valid;

(VI) (vi) The list of the primary nominations shall be promptly compiled by the Association and a second written notice shall be provided by the Association to all Community Members including a written ballot listing all of the nominees and permitting the entry of a vote for the election of the nominees (“Final Notice of Solicitation”);

(VII) All written ballots must be returned to the Association within thirty (30) calendar days following the date of the Final Notice of Solicitation. Any ballots delivered after the thirty-day deadline shall not be valid;

(VIII) The person receiving the highest number of votes as the Individual Community Director under this election process and willing to serve shall be deemed to have been elected as the Individual Community Director, and the person receiving the highest number of votes as the Organizational Community Director under this process and both qualified and willing and able to serve shall be deemed to have been elected as the Organizational Community Director. In the event of a tie, the election of the relevant director nominee(s) shall be decided by the Board of Directors.

(C) In the event of the resignation or removal or death of a Community Director during his or her term or if the elected Director is unwilling to serve, the person who received the next highest number of votes under this election process for such category of director and is willing to serve shall be deemed to be elected as the replacement Director for such term. In the event no nominated person is willing to serve, the Board of Directors may elect a replacement Director for such term.

(D) A Community Director may be removed with or without cause (as defined under Swiss law) by the affirmative vote of the majority of Members of record with the right to vote to elect the Community Director, voting as a single class or series of a class, as the case may be.

(E) Community Members may serve on any Technical Committee or subcommittee of such Committee or on any other Member working groups if then maintained by the Association, with all appointments to be approved by the Board of Directors or its delegate in its sole judgment.

- (7) At any given time, no Member may be represented by more than one (1) member of the Board of Directors in any class or category of directorship.
- (8) A Member may resign as a Member at any time by sending written notice of their resignation to the Association’s Executive Director or membership coordinator. Termination of such Member’s Membership shall be effective on the date such notice is provided, unless the notice states a later effective date

of resignation, in which case such Member's Membership shall terminate upon such later date. Any Membership fees already paid by such Member shall not be refundable in such event, and all Membership fees which have accrued and are unpaid as of such date shall remain due and payable.

ARTICLE 3 - TECHNICAL COMMITTEES

- (1) The Association shall establish a Technical Steering Committee which makes recommendations to the Board of Directors and has jurisdiction over all other Technical Committees or subcommittees or other Member working groups of the Association.
- (2) Subject to the express provisions of Article 2 of these Regulations regarding the rights of certain classes of Members to serve, the Board of Directors or the Technical Steering Committee shall have the sole authority to establish and appoint all technical committees ("Technical Committees") to (i) receive submissions or other disclosures of any technical information, concepts, proposed designs or improvements, recommendations, comments and other materials by a Member with respect to the Specifications or other Work Product, (ii) develop and release versions of the Specifications or other Work Product, or any part thereof, and (iii) perform related activities in furtherance of the purposes of the Association. Such Technical Committee may have subcommittees. The Board of Directors also may establish and appoint other working groups from time to time with respect to the purposes of the Association.
- (3) The Board of Directors may adopt rules and additional regulations from time to time pertaining to the appointment and conduct of the Technical Committees and any subcommittees and other working groups.

ARTICLE 4 - OFFICERS

- (1) The officers of the Association shall include, at a minimum, a Chair, Vice Chair, Secretary and Treasurer. Only members of the Board shall be eligible to be elected to serve as the Chair, Vice Chair, Secretary and Treasurer.
- (2) Officer Terms.
 - (A) Each officer shall serve for a term of one (1) year, and until his or her successor is duly appointed and qualified, or until his or her earlier death, resignation or removal or until he or she ceases to be a Director.
 - (B) Officers may be reelected and succeed themselves in office for one or more additional terms.
 - (C) All officers shall serve at the pleasure of the Board of Directors, and may be removed, with or without cause, by the Board.

(D) Any officer may resign at any time by giving written notice to the Chair or the Board of Directors. An officer's resignation shall take effect at the time specified in the notice of resignation, and, unless otherwise specified in said notice, acceptance shall not be necessary to make such resignation effective. If no effective date is specified in the notice, resignation shall be effective upon delivery of the notice.

(E) A vacancy in any officer position by reason of death, resignation, removal or otherwise may be filled by the Board for the remaining unexpired portion of the term of such officer.

(3) Officer Duties.

(A) The Chair shall preside over meetings of the Board of Directors, submit minutes for Board approval, and perform such additional duties as may be determined by the Board.

(B) The Vice Chair, in the absence of a Chair, or in the event of the Chair's inability or refusal to act, shall perform all the duties of the Chair, and when so acting shall have all the powers of, and be subject to all the restrictions on, the Chair.

(C) The Treasurer shall assist in the preparation of budgets for Board approval, monitor expenses against the budget and authorize expenditures approved in the budget, and perform such additional duties as may be determined by the Board and as are customarily incidental to the office of Treasurer. The Treasurer shall have the authority to authorize and approve expenditures by the Association in furtherance of the purposes of the Association, consistent with the Articles and these Regulations and the budget approved by the Board, of up to and including CHF 10 000,¹ either individually or in the aggregate to the same payee in a single fiscal year of the Association. Payments in excess of CHF 10 000, either individually or in the aggregate to the same payee in a single fiscal year of the Association, shall require approval by the Board, unless expressly authorized in the budget approved by the Board.

(D) The Secretary shall perform such duties as may be determined by the Board and as are customarily incidental to the office of Secretary.

ARTICLE 5 - INTELLECTUAL PROPERTY LICENSES

- (1) In addition to its other rights and obligations under these Regulations, the Association and each Member and any applicable Affiliates shall be subject to the terms and conditions of the Association's Intellectual Property Rights Policy attached as Appendix A of these Regulations as these same may be amended or superseded or supplemented from time to time (the "IPR Policy").
- (2) The IPR Policy including its schedules shall be an integral part of these Regulations for all purposes and all of the terms and conditions of the IPR Policy as then may be constituted are incorporated by reference into the main body of these Regulations as if fully stated here.

ARTICLE 6 - OTHER MEMBERSHIP TERMS

- (1) During the term of its membership in the Association, a Member is expected to support the free and open design, development and improvement of the Specifications, together with its software and hardware ecosystem for use in all computing devices.
- (2) A Member may publicly disclose that it is a member of the Association during the term of its Membership. However, the Member may not identify any product or service as being sanctioned by, sponsored by or authorized by the Association unless in accordance with policies and procedures which may be established by the Association from time to time. The Association has the right to include Member's name in any lists of Members published by the Association and to announce that Member is a member of the Association.
- (3) A Member will bear its own costs and expenses for its participation in the Association, including but not limited to travel, employee compensation, and incidental expenses.

ARTICLE 7 - COMPETITION AND ANTI-TRUST LAWS

- (1) A Member at all times shall comply with all applicable competition, antitrust and other unfair competition laws in any applicable jurisdiction (collectively, "Competition Laws") pertaining to Member's participation in the Association, in the design, development and improvement of Specifications or other Work Product, and in any other matters or transactions relating to the Specifications or other Work Product. Without limiting and in addition to the foregoing, a Member further shall fully comply at all times with remaining provisions of this Article 7 and any additional or supplemental Regulations or policies of the Association adopted from time to time by the Board of Directors of the Association. Nothing in these Regulations or such policies will be construed to require or permit conduct that violates any Competition Laws.
- (2) In this connection each Member acknowledges by virtue of its becoming a Member that the Association and its Members are committed to fostering

competition in the development of new products and services and that the Specifications and other Work Product are intended to promote such competition. Each Member further acknowledges that Members may compete with one another in various lines of business and that it is therefore imperative that each Member and its representatives act in a manner that does not violate any Competition Laws. Without limiting the generality of the foregoing, each Member acknowledges and agrees that Members that are or may be competitors shall not discuss issues relating to absolute or particular product costs, product pricing, methods or channels of product distribution, any division of markets, or allocation of customers or any other subject that would be prohibited by applicable Competition Laws. Each Member hereby assumes responsibility to provide appropriate legal counsel to its representatives acting according to these Regulations regarding the importance of limiting their discussions to subjects that relate to the purposes of the Association and that are not restricted by Competition Laws, whether or not such discussions take place during formal meetings, informal gatherings, or otherwise.

ARTICLE 8 - AMENDMENT

- (1) Notwithstanding any contrary provision of these Regulations, the Board of Directors may amend or supersede or supplement these Regulations (including but not limited to the IPR Policy attached as Appendix A) in whole or in part at any time in its sole judgment and without the consent of the Members or any class of Members or individual Members, by the affirmative vote of at least Eighty Percent (80%) of the members of the Board of Directors then in office (each an "Amendment"). All Amendments to these Regulations shall be effective thirty (30) calendar days after general notice of the Amendment by the Association to the Members by email or other form of electronic transmission, or by posting notice of the Amendment on the main webpage maintained by the Association which contains these Regulations as then constituted. The continuation by the Member of their Membership following the effective date of the Amendment shall be deemed to be the legally binding acceptance of the Amendment by the Member.

ARTICLE 9 - INTERPRETATION

- (1) The headings in these Regulations (including but not limited to the IPR Policy attached hereto as Appendix A) are for ease of reference only and do not affect its construction or interpretation. When the context requires, the plural shall include the singular and the singular the plural, and any gender shall include any and all other genders. Notwithstanding any contrary provision of these Regulations, whenever the words "include," "includes" or "including" or any other variation are used in this Agreement, such words shall be deemed, unless the context otherwise requires, to be followed by the words "without limitation." The English language version of these Regulations (including but not limited to Appendix A) shall prevail. In the event of any conflict between

the Articles and these Regulations, the provisions of the Articles shall prevail

ARTICLE 10 - NOTICE.

- (1) Whenever, under the provisions of the Articles or these Regulations, any notice, demand or other communication of any nature (including the exercise and delivery of any ballot) (collectively “notice”) is required or permitted to be given to any person or entity, such notice shall be given in writing and may be delivered by personal delivery or courier, prepaid mail, or by electronic mail or other form of electronic transmission, or where applicable by posting such notice on the main webpage maintained or designated by the Association for such purpose. Notice shall be delivered to the address designated by the recipient for notice, and shall be effective upon actual delivery in the case of a physical notice, or upon transmission of an email or other electronic transmission, or upon posting (as the case may be). Any person or entity may waive any notice required to be given by statute or under the Articles or these Regulations.

ARTICLE 11 - GOVERNING LAW

- (1) These Regulations and all matters or disputes arising from or relating to or in connection with these Regulations (including but not limited to Appendix A) shall be governed by and construed under, and the legal relations among the parties will be determined in accordance with, the laws of Switzerland, excluding conflicts of law or similar principles that would cause the application of the laws of any other jurisdiction.

APPENDIX A

INTELLECTUAL PROPERTY RIGHTS POLICY

1. Technical Contributions.

1.1 “Contribution” means the written or oral or graphical submission of any technical information, concepts, designs or improvements, recommendations, comments or other materials by a Member to any Working Group for proposed inclusion in a Specification, Software, or other Work Product, including but not limited to any submission made (a) by email or text or posting on any website or server or other electronic transmission or (b) during a Working Group meeting, where such submission has been recorded in the minutes of such meeting, and where the maker of the contribution has been identified in such minutes and not objected to such text as being inaccurate after the minutes have been posted for review by all Working Group participants within 30 days. Unless otherwise provided to the contrary by the express written resolution of the Board of Directors in the case of a particular Working Group or project, no Contributions by a Member or its Affiliates or its or their representative shall be considered to be confidential for any purpose and neither the Member nor its Affiliate shall make any claim of confidentiality or nondisclosure with respect to any Contribution.

1.2 No Member is required to make any Contributions to the Association whether on behalf of itself or its Affiliates. The Member acknowledges that the Association including any Working Group is not required to incorporate the Contribution or any part thereof into a Specification, Software, or any other Work Product. Member represents and warrants that to the best of its knowledge Member has the necessary rights to provide its Contributions to Association if, as and when provided. All Contributions made by Member shall be subject to the licenses and the other provisions of this Appendix A.

2. Grant of Patent License.

In the event a Member makes a Contribution to a Specification, such Member on behalf of itself and its Affiliates agrees to and hereby grants to each Implementer and its successors and permitted assigns a non-exclusive, fully paid-up, royalty-free, non-transferable, non-assignable, non-sublicensable right and license under such Member’s Necessary Claims to make, have made, use, sell, have sold, offer to sell, import, distribute and/or otherwise dispose of or exploit (directly and indirectly through intermediaries and without any obligation of accounting) Compliant Implementations throughout the universe during the term of such Implementer’s Implementation License. The foregoing license applies solely to any and all Necessary Claims which Read On any part of a Contribution of such Member or any Affiliate thereof which is incorporated into the applicable Specifications; provided, however that this license does not extend to any part or function of a product or technology or any combination in which a Compliant Implementation is incorporated but that is not itself part of the Compliant Implementation.

3. Grant of Copyright License to Association; Other Terms.

3.1 The Member on behalf of itself and its Affiliates further agrees to and hereby grants to the Association and its successors and permitted assigns a non-exclusive, perpetual, irrevocable, fully paid-up, royalty-free, non-transferable (other than as provided by Section 10 of this IPR Policy), non-assignable (other than as provided by Section 10 of this IPR Policy) and sublicensable right and license throughout the universe to copy, reproduce, distribute, display, perform (whether publicly or otherwise), prepare derivative works from, improve, modify, adapt and/or otherwise exploit any copyrightable matter, materials or other works constituting part of the Contribution made by Member and incorporated into a Specification or other Work Product (the "Copyright License").

3.2 The Member on behalf of itself and its Affiliates further agrees to and hereby does unconditionally and irrevocably waive and agree to not enforce against the Association or any other Member or its Affiliates or any licensee or sublicensee of any of the Copyright Licenses granted to the Association under Section 3.1 any moral rights or similar rights that any of Member or any Affiliate may have in any Contribution made by Member or any Affiliate and incorporated into a Specification, Software, or any other Work Product. The Member undertakes and also ensures that the Affiliates undertake to obtain from their employees, contractors and any other third parties who participated in the creation of a Contribution a waiver to not enforce any moral rights or similar rights that they may have in the Contribution.

3.3 The Member further agrees on behalf of itself and its Affiliates that, subject to Members' and their Affiliates' copyright ownership in their individual Contributions, any and all Copyrights in any Work Product collaboratively developed within a Working Group ("Collective Developments"), including without limitation the compilation of Contributions forming a Specification or other Work Product, shall exclusively belong to and be owned by the Association, and such Member for itself and its Affiliates hereby assigns and agrees to assign such Copyrights to the Association in all such Collective Developments. Each Member on behalf of itself and its Affiliates hereby waives any claims for profit sharing they might have with respect to the exploitation of Copyrights in any such Collective Developments pursuant to the applicable law.

3.4 The Member agrees on behalf of itself and its Affiliates to execute and deliver any additional documentation (if any) required by the Association and to otherwise cooperate with the Association to perfect and confirm all rights and licenses granted to the Association under this Appendix A.

3.5 For the avoidance of doubt, the Copyright License and this Section 3 do not include any license or immunity of any kind under any Patents.

3.6 Sublicensing. Without limiting the generality of the foregoing, the Association may grant sublicenses under the Copyright License in one or more tiers to any person or entity, including both Members and non-Members, (i) under or

pursuant to this IPR Policy and/or (ii) pursuant to any other license or similar agreement(s) as may be approved by the Board of Directors from time to time.

4. Software Projects and Contributions.

4.1 Open Source Projects. The Association may, through its Working Groups, establish one or more open source software projects (each, a “Software Project”). The Working Group governing a Software Project is free to choose, as the open source license for such Software Project (“Project License”), any of the following licenses:

- (a) the Apache License, Version 2.0 (available at <http://www.apache.org/licenses/License-2.0>);
- (b) the MIT License (available at <https://opensource.org/licenses/MIT>); or
- (c) the 2-Clause BSD License (<https://opensource.org/licenses/BSD-2-Clause>).

The Working Group governing such Software Project may select an alternative open source license as the Project License with approval by the Board of Directors.

4.2 Additional Policies Regarding Software Project Contributions. Upon notice to a Project’s governing Working Group, the Board may adopt and/or modify contribution policies for Contributions of code or other materials to any Software Project. The Working Group governing a Software Project may also provide for additional requirements with respect to contributions. For example, the policies governing a Software Project, whether adopted by the Board or by the applicable Working Group, may require that Contributions be accompanied by a Developer Certificate of Origin or a Contributor License Agreement.

4.3 Contributions to Software Projects. Any Member or its Affiliate that makes a Contribution of Software, documentation, or other materials to a Software Project agrees that (a) such Contribution shall be subject to the Copyright License and (b) additionally, such Member or its Affiliate, by making such Contribution to a Software Project, automatically licenses such Contribution to the Association and any recipients of the Software Project’s Work Product under the terms of the applicable Project License, unless different albeit compatible license terms for such Contribution are agreed to by the contributing Member and approved by the Board of Directors.

5. Grant of RISC-V Specification Copyright License to Members.

5.1 Subject to the material compliance by the Member and any Affiliate with the terms and conditions of these Regulations including but not limited to this Appendix A, the Association agrees to and hereby grants to the Member a non-exclusive, perpetual, fully paid-up, royalty-free, copyright-only right and license throughout the universe, for so long as Member remains an Association Member, to

use, reproduce, display, and implement the Final Specifications for the purpose of developing, manufacturing, distributing, selling, and otherwise exploiting Compliant Implementations (the "Member License").

5.2 The Member License granted to the Member in Section 5.1 may be freely assigned or transferred by the Member to (i) any of its Affiliates so long as its Affiliate becomes a Member of the Association and enters into a Membership Agreement prior to or as part of such assignment or transfer, or (ii) as an integral part of the merger or consolidation of Member with another entity or the sale or other transfer of all or substantially all of the assets of Member, so long as the surviving or transferee entity becomes a Member of the Association and enters into a Membership Agreement prior to or as part of such transaction.

5.3 The Member License granted to Member in Section 5.1 also may be sublicensed by the Member to any of its Affiliates (but only for so long as such Affiliate remains an Affiliate of such Member); provided however that notwithstanding any contrary provision of these Regulations including this Appendix, no individual Member shall have any right to sublicense the Member License to any Affiliate of such individual at any time for any purpose. Any sublicense by a Member to any Affiliate if otherwise permitted shall terminate automatically if the Affiliate ceases its affiliation with Member or if the Member License terminates.

5.4 The Member License granted to the Member in Section 5.1 also may be sublicensed by the Member or its Affiliates (if any) to service providers and subcontractors solely to the extent such sublicense is specifically granted for implementation of the Final Specifications for the purpose of developing, manufacturing, distributing, selling, or otherwise exploiting Compliant Implementations.

5.5 Except as expressly provided in the foregoing subsections of this Section 5, the Member License otherwise is not assignable or transferable or delegable or sublicensable by the Member or any Affiliate or its successor or assign. Any such attempted assignment, transfer or delegation or sublicense shall be null and void.

5.6 The Member License shall automatically terminate upon (i) any expiration or termination of the RISC-V Membership Agreement of the subject Member, or (ii) any material breach by the Member or its Affiliate of the terms and conditions of this Appendix A, not fully cured within thirty (30) days after written notice of breach by the Association to the Member, without the further action of the Board of Directors or any other person or entity.

6. No Suit or Proceeding.

6.1 Each Member shall not, and shall ensure that any of its Affiliates and any sublicensees of Member or such Affiliates (collectively with the Member, "**Claiming Member**") do not, file, institute, voluntarily participate in or threaten in

writing to bring (in the form of a cease and desist letter or otherwise) any litigation or other adversarial proceeding in any jurisdiction at any time against any of (a) the Association or any permitted sublicensee of the Association, or (b) any other Member or its Affiliate or any permitted sublicensee or acquiror of any other Member, or (c) any Implementer, in which such Claiming Member alleges that any version or implementation or practice of an ISA Specification constitutes (i) infringement of any Necessary Claim that Reads On any part of the Contribution of the Claiming Member or its Affiliate or the Original Specifications or (ii) an infringement or misappropriation of any other Intellectual Property Rights of the Claiming Member to the extent incorporating or embodying or referencing any part of the Contribution of such Claiming Member or the Original Specifications (including a cross-claim or counterclaim in a legal action or other adversarial proceeding) (collectively "**Claims**"), unless (1) the Claiming Member retracts, dismisses or otherwise cures the making of such Claims within thirty (30) days of written notice from the Association, such other Member or sublicensee thereof, or any Implementer (as applicable) referencing this Section 6; (2) such Claim is made in the form of a defensive cross-claim or counterclaim solely in response and in defense of corresponding litigation or other adversarial proceedings first brought against such Claiming Member by an unaffiliated third party (other than the Association or its successor or permitted assigns) regarding the subject matter hereof; or (3) such Claim by the Claiming Member is asserted against a non-Member Implementer as permitted by Section 6.3 below (with the foregoing (1), (2), and (3) collectively the "**Excepted Claims**").

6.2 In the case of any such Claims other than the Excepted Claims, and without limiting any other rights or remedies of the Association, (a) the Claiming Member and its Affiliates shall be deemed to be in material breach of the Membership Agreement and these Regulations, and (b) the licenses granted to the Claiming Member in Section 2 and Section 5 shall automatically terminate as to such Member and its Affiliates and any other sublicensee thereof without notice or the further action of the Association or any other person or entity.

6.3 In the event that a non-Member Implementer files suit or action against any Member alleging that the Member's manufacture, use or sale of a Compliant Implementation constitutes patent infringement, then, unless and until such non-Member Implementer withdraws such claims: (a) any license granted under this IPR Policy to such non-Member Implementer shall terminate as of the date such suit or action is filed; (b) all Members will be released from their obligation under Section 6.1 to refrain from asserting Necessary Claims and other Intellectual Property Rights against such non-Member Implementer; and (c) thereafter, any Member may seek and recover from such non-Member Implementer any and all past, present and future damages for infringement of such Member's Necessary Claims.

7. Transfer of Intellectual Property Rights to Third Parties. Each Member together with its Affiliates agrees that it will not transfer, and has not transferred, any Patents having Necessary Claims for the purpose of circumventing such Member's or its Affiliates' obligations under this IPR Policy. No party bound by this IPR Policy shall transfer any Patent having Necessary Claims, except to a successor that agrees in

writing to be bound by all commitments previously made by the direct or indirect transferor(s) under this IPR Policy with respect to such Patent. Any transfer by the Member or any of its Affiliates to a third party of any Patent having Necessary Claims or any other Intellectual Property Rights attributable to any Contribution of the Member or any Affiliate shall be subject to the terms and conditions of these Regulations including but not limited to this Appendix A and including but not limited to the licenses granted and patent non-assertion covenants agreed to by Member and its Affiliates hereunder.

8. Survival. Notwithstanding any contrary provision of these Regulations (including but not limited to this Appendix A), all licenses and other rights granted to the Association under this Appendix A or to the Association or other parties under any Project License, in either case by the Member hereunder on its own behalf or on behalf of any Affiliate, shall survive the expiration or termination of the Membership of the Member or the termination of the Member License and shall continue in full force and effect. Notwithstanding any contrary provision of these Regulations (including but not limited to this Appendix A), a Member whose Membership has terminated shall, together with its Affiliates, continue to be obligated to: (a) grant licenses under Section 2 of this Appendix A under any Necessary Claims that Read On such terminating Member's Contributions incorporated in any Final Specification adopted prior to or after the effective date of such Member's withdrawal or termination; and (b) refrain from asserting its Necessary Claims and other Intellectual Property Rights as provided in Section 6 of this Appendix A that Read On (i) any Original Specification or (ii) any Contribution made by such Member. The licenses and other rights granted to the Association, to the other Members, and to Implementers shall further survive and continue in full force and effect for the benefit of such parties in the event of any amendment, supersession or supplement of these Regulations including but not limited to this IPR Policy.

9. Trademarks. Trademarks created or used with permission by the Association, registered or otherwise, are the property of the Association and its licensors. Use of the Association's trademarks shall be governed by such policies, procedures and guidelines as may be established and approved by the Board of Directors from time to time (collectively, "Trademark Usage Guidelines"), and applicable law. The RISC-V logo and word mark may be used and displayed by Members to indicate their membership in the Association. Separate permission from the Association shall be required for: (a) use the RISC-V logo and word mark for other purposes, (b) use of the RISC-V logo or word mark by persons who are not Members, and (c) use of any other trademarks that the Association now or in the future owns or controls. Unless separately agreed to in writing by the Association, the RISC-V logo and word mark may not be used or displayed to promote products or services or imply that any company, product, service, or event is endorsed or certified by the Association.

10. Transfer of Rights. The Association may transfer, assign, delegate and/or sublicense any or all of its rights and/or obligations hereunder (i) in connection with the merger or consolidation or transfer of all or substantially all of the assets of the

Association to any successor entity or assignee or (ii) as otherwise may be provided in these Regulations.

11. No Warranties. EXCEPT AS EXPRESSLY PROVIDED IN THESE REGULATIONS INCLUDING BUT NOT LIMITED TO THIS APPENDIX A, AND TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ALL CONTRIBUTIONS, SPECIFICATIONS, AND OTHER WORK PRODUCT PROVIDED OR RELEASED HEREUNDER ARE PROVIDED AND RELEASED "AS IS" AND WITHOUT ANY WARRANTY OF ANY KIND, INCLUDING WITHOUT LIMITATION ANY EXPRESS OR IMPLIED WARRANTY OF NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

12. Limitation of Liability. EXCEPT WITH RESPECT TO BREACH OF ITS COVENANT NOT TO ASSERT NECESSARY CLAIMS UNDER SECTION 6 OF THIS IPR POLICY, AND TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL ANY MEMBER, ANY AFFILIATE OF A MEMBER OR THE ASSOCIATION BE LIABLE TO EACH OTHER OR ANY OTHER MEMBERS, ANY AFFILIATES OF OTHER MEMBERS OR ASSOCIATION FOR ANY INDIRECT, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES FROM LOST PROFITS RELATING TO OR IN CONNECTION WITH THE SPECIFICATIONS OR OTHER WORK PRODUCT, OR THE OTHER SUBJECT MATTER OF THIS AGREEMENT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS AGREEMENT SHALL LIMIT THE LIABILITY OF ANY MEMBER, MEMBER AFFILIATE OR THE ASSOCIATION FOR ANY MISAPPROPRIATION, INFRINGEMENT OR VIOLATION OF ANY INTELLECTUAL PROPERTY RIGHTS OR FOR FRAUD.

13. Bankruptcy, Composition Procedure, Liquidation, Cessation of Business. The respective licenses under this IPR Policy are licenses of rights to "intellectual property". With respect to such licenses:

13.1 The Association and its Affiliates, successors and assigns (each in their capacity as licensees of the relevant licenses) shall have all rights and remedies as licensees of intellectual property under any applicable bankruptcy or insolvency laws or proceedings involving any Member or its Affiliate (collectively, "Bankrupt Member").

13.2 Each Member and its Affiliates (each in their capacity as licensees of all applicable licenses) shall have all rights and remedies as licensees of intellectual property under any applicable bankruptcy or insolvency laws or proceedings involving the Association, another Member, or any of their respective Affiliates, successors or assigns.

14. Supplemental Policies. The Board of Directors of the Association may establish additional or supplemental terms, policies and procedures from time to time with respect to the provisions of this IPR Policy, provided that such terms, policies, and procedures are not inconsistent with the Regulations or this IPR Policy, including with regard to the use of the Trademarks of the Association by Members.

SCHEDULE 1 TO APPENDIX A - DEFINITIONS

For purposes of the Regulations including this Appendix A, the following terms will have the following definitions:

"Affiliate" means any person or entity that directly or indirectly, through one or more intermediaries, controls the Member, is controlled by the Member or is under common control with the Member, for so long as such person or entity remains an Affiliate of the Member. For purposes of this definition, "control" as to an entity means possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such entity whether through the ability to exercise voting power, by contract or otherwise.

"Base Specification" means an ISA Specification that includes "Base Integer Instruction Set" in its title.

"Behaviors, Instructions and/or States" means one or more operations, architectural states, and/or behaviors associated with operations and/or architectural states, in each case within a processor, expressed in the form of a document written primarily in English prose which may optionally include code from the formal Sail model.

"Compliant Implementation" means any system, device, product, service, operation, or method which fully implements all relevant Normative Elements of one or more applicable Final Specifications. A CPU or portion thereof shall be deemed a Compliant Implementation only if it fully implements all relevant Normative Elements of at least one Final Base Specification; such Compliant Implementation may also optionally fully implement all relevant Normative Elements of one or more Final Extension Specifications. For clarity, a Compliant Implementation does not have to implement portions of a Final Specification that are not mandatory; and parts of such system, device, product, service, operation or method that do not fully implement and are not required to implement all said relevant Normative Elements of such Specification are not part of the Compliant Implementation.

"Contribution" has the meaning given to it in Section 1.1 of this IPR Policy.

"Copyrights" means collectively any and all copyrights, registered and unregistered, as well as applications for registration, including in and to works of authorship and all other rights corresponding thereto throughout the universe, whether published or unpublished, including rights to prepare, reproduce, perform, display and distribute copyrighted works and copies, compilations and derivative works thereof.

"Draft Specification" means all versions of a document designated as a Draft Specification by a Working Group, including all Contributions thereto.

"Electronic transmission" means any form of communication, not directly involving the physical transmission of paper, that (i) contains information from which the recipient can determine the identity of the transmitting party, and (ii) creates a record that may be retained, retrieved, and reviewed by a recipient thereof in human language,

and that may be directly reproduced in paper form by such a recipient through an automated process.

“Extension Specification” means an ISA Specification that includes “Extension” in its title or is otherwise designated by the Association as an Extension Specification.

“Final Base Specification” means a Final Specification that is a Base Specification.

“Final Extension Specification” means a Final Specification that is an Extension Specification.

“Final Specification” means (a) an Original Specification or (b) a specification that has been adopted and approved by the Technical Steering Committee and ratified by the Board of Directors.

“Implementer” means a person or entity (a) who has been granted a license from the Association to use and implement a Final Specification for the purpose of developing, manufacturing, distributing, selling, or otherwise exploiting Compliant Implementations and (b) who is in compliance with the terms of such license. Implementers include, without limitation, Members exercising the rights granted to them under the Member License set forth in Section 5 of this Appendix A.

“Intellectual Property Rights” means any and all rights in any intellectual property and intangible industrial property rights, including any and all Patents, Copyrights, Moral Rights, Trademarks, Trade Secrets, mask work rights, industrial rights, and database rights; and any and all rights similar, corresponding or equivalent to any of the foregoing anywhere in the universe.

“Implementation License” means the written agreement or license terms under which the Association has granted an Implementer rights to use and implement a Final Specification for the purpose of developing, manufacturing, distributing, selling, or otherwise exploiting Compliant Implementations. The Member License granted to Members under Section 5 of this Appendix A is an Implementation License.

“ISA Manual” means a document containing multiple Specifications, including ISA Specifications, with a title that includes the phrase “RISC-V Instruction Set Manual”, including without limitation the “The RISC-V Instruction Set Manual, Volume I: Unprivileged ISA” and the “The RISC-V Instruction Set Manual, Volume II: Privileged Architecture.” For clarity, the ISA Manual is not itself a single Specification, but is a compilation of multiple Specifications.

“ISA Specification” means a Specification (which, for clarity, may be an Original Specification) that (a) specifies a portion of an instruction set architecture (ISA) for a CPU; and (b) describes a named set of Behaviors, Instructions, and/or States that, in the case of a Specification other than an Original Specification, are approved together or proposed for approval together by the Technical Committee. There are two types of ISA Specifications: Base Specifications and Extension Specifications.

"Licensable" means, with respect to a Patent or a claim of a Patent, the ability (whether through ownership, license or otherwise) of the Member to grant a license to Implementers with respect to such Patent or claim without violating any law, rule, regulation or other legal obligation or breaching any agreement with a third party in existence at the time of such grant, and without the payment of other than de minimis royalties or other fees by Member to any unaffiliated third parties.

"Moral Rights" means any and all rights of paternity, attribution, integrity, disclosure and withdrawal and any other rights that may be known as or referred to as "moral rights" or any similar rights under any applicable law, whether under Copyright, Trademark, unfair competition, defamation, right of privacy, contract, tort or other legal or equitable theory.

"Necessary Claims" of a Member means claims of Patents that are Licensable by such Member, other than design patents and design registrations, that (i) Read On (A) any Original Specification or (B) any part of a Contribution of such Member or its Affiliate which is included in any Normative Element of any Final Specification, and (ii) would necessarily be infringed by implementation of any Normative Elements, wherein in either case, a Patent claim is "necessarily infringed" because infringement cannot be avoided by another technically reasonable non-infringing alternative for implementing such Normative Elements of such Final Specifications. Necessary Claims for these purposes do not include any claims: (a) other than those claims set forth above, even if contained in the same Patent as the Necessary Claims; (b) that if licensed would require the payment of other than de minimis royalties or other fees by Association or Member or any Affiliate of such Member to any unaffiliated third parties; (c) that are infringed by any enabling technologies that may be necessary to make or use any product or technology or portion thereof but are not themselves expressly set forth in the relevant Final Specification; (d) that are infringed by the implementation of other technologies developed elsewhere and merely referenced to in the body of the Final Specification; or (e) that are infringed by any portions of any product or technology or any combinations thereof that are not a Compliant Implementation.

"Normative Elements" of the Final Specifications shall be deemed to include all mandatory architectural and interoperability requirements, including the Normative Elements of optional portions, of applicable Final Specifications. Mandatory requirements of optional features are considered "Normative Elements" whenever such optional features are implemented unless they are specifically and expressly identified in writing by the Technical Committee or any subcommittee thereof as informative. For clarity, those portions of a Final Specification, including any portions of an optional or alternative portion thereof, which are designated by the terms "must", "shall", "mandatory", "normative" or "required" shall be deemed mandatory. Implementation examples or any other material that merely illustrates the requirements of the Final Specifications are informative and not considered "Normative Elements."

"Original Specification" means an ISA Specification (i.e., a Base Specification or Extension Specification) included in any of the ISA Manuals listed in Schedule 2 to this Appendix A.

"Patents" collectively means any and all domestic, international and foreign patents and utility models, patents pending, provisional and non-provisional patent applications, patents on file, and any and all divisions, foreign counterparts, continuations, continuations-in-part, reissues, continuing patent applications, re-examinations, substitutions or extensions thereof, and equivalent or similar rights anywhere in the universe in respect of inventions or discoveries.

"Read On" means, (a) with respect to a Contribution and a Necessary Claim, that the implementation of the Contribution within a Compliant Implementation in the manner specified in the applicable Final Specification would, in the absence of a license granted under such Necessary Claim, infringe such Necessary Claim; and (b) with respect to an Original Specification and a Necessary Claim, that the implementation of any applicable Normative Element of such Original Specification would, in the absence of a license granted under such Necessary Claim, infringe such Necessary Claim.

"Software" means any combination of: text listings of commands to be interpreted or to be compiled, translated, or assembled into an executable computer program; text listings that describe data structures; text listings that specify an application programming interface (API) used to interact with some executable computer service (including access from an executable computer program, library, or remotely via a telecommunications interface); binary data files; executable, object, or other intermediate executable code files; and text listings that describe the behavior of modeled devices or objects.

"Specification" means any Draft Specification or Final Specification.

"Trademarks" means trade names, trademarks and service marks (registered and unregistered), trade dress and similar rights, and applications to register any of the foregoing.

"Trade Secrets" collectively means any and all trade secrets under applicable law and other rights in know-how and confidential or proprietary information, processing or manufacturing or technical information, and any and all documentation, data and/or databases related thereto.

"Working Group" means a Technical Committee established by the Board of Directors, or a subcommittee or working group of such a Technical Committee.

"Work Product" means any deliverable of a Working Group that is formally adopted or published by the Association or such Working Group, including without limitation Specifications, Software, and related documentation.

SCHEDULE 2 TO APPENDIX A

**ISA Manuals
Containing Original Specifications**

Andrew Waterman, Yunsup Lee, David A. Patterson, and Krste Asanović, “The RISC-V Instruction Set Manual, Volume I: Base User-Level ISA”
Technical Report UCB/EECS-2011-62, EECS Department, University of California, Berkeley, May 13, 2011

Andrew Waterman, Yunsup Lee, David Patterson, Krste Asanović, “The RISC-V Instruction Set Manual, Volume I: User-Level ISA Version 2.0”,
Technical Report UCB/EECS-2014-54, EECS Department, University of California, Berkeley, May 7, 2014

Andrew Waterman, Yunsup Lee, Rimas Avizienis, David A. Patterson, and Krste Asanović, “The RISC-V Instruction Set Manual, Volume II: Privileged Architecture Version 1.7” Technical Report UCB/EECS-2015-49, EECS Department, University of California, Berkeley, May 9, 2015.

Andrew Waterman, Yunsup Lee, David A. Patterson, and Krste Asanović, “The RISC-V Compressed Instruction Set Manual, Version 1.7”
Technical Report UCB/EECS-2015-157, EECS Department, University of California, Berkeley, May 28, 2015.

Andrew Waterman, Yunsup Lee, David Patterson, Krste Asanović, “The RISC-V Instruction Set Manual, Volume I: User-Level ISA Version 2.1”,
Technical Report UCB/EECS-2016-118, EECS Department, University of California, Berkeley, May 31, 2016.

Andrew Waterman, Yunsup Lee, Rimas Avizienis, David A. Patterson, and Krste Asanović, “The RISC-V Instruction Set Manual, Volume II: Privileged Architecture Version 1.9”, Technical Report UCB/EECS-2016-129, EECS Department, University of California, Berkeley, July 8, 2016