Open Compute Project Hardware License – Rationale Document

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This document discusses the basis for our development of the Open Compute Project License, which is an open hardware license intended to promote the adoption of technology specifications released by the Open Compute Project Foundation.

Open hardware licensing, unlike open source software licensing, is still an emerging licensing paradigm. The goal of keeping hardware free to use is a challenging one. This document will not discuss all the additional challenges of moving from the software to the hardware context. But there are a few differences we needed to consider:

- The intellectual property rights related to specifications are not the same as those relating to implementations of specifications. In open source software licensing, the software serves both as the specification and the implementation, and the primary intellectual property involved is copyright. In open hardware licensing, copyright is of limited importance. The functional ideas in a specification are not governed by copyright.
- The materials necessary to enable licensees to practice a specification are particular to a technology field. For software, it is easier to define what is necessary to modify the software. In other words, what is the "source" needed to make "open source" hardware?
- Contributors to open hardware specifications need certainty about the scope of patent licenses they are expected to grant. No matter how you feel about patents, one thing is sure: if companies cannot understand the patent rights they are giving up by making a contribution, they will be less likely to contribute.

We are also mindful that others have tackled this task before us. (Examples are the TAPR and CERN licenses, and the Open Definition, all of which have been very helpful and instructive.) We do not intend this license to be a criticism of those efforts, and we welcome the possibility that eventually, we may be able to harmonize our efforts with theirs. But doing so may take time, and we wanted to move forward in the meantime to make our specifications available.

At the outset, though, we observe that there are two approaches one could take to creating a patent commons. The first is a standards-setting approach. In this paradigm, companies with patents to assert relating to the standard are asked to make a commitment to anyone who wishes to practice the standard. In this approach the standard setting organization decides what the standard will be, and what changes will be made to it.

The open hardware approach is different. It does not assume there is one standard to adhere to. It allows anyone to make changes to the specification, as long as they grant rights relating to their contributions.

In drafting this license, we have straddled these approaches.

Here are the features that we have focused on in developing this license:

Clear Scope for Patent Grants

It is important to us that companies with significant patent portfolios to protect will be able to participate in our project. These companies need to have a high level of certainty about which of their patents will be licensed under the open hardware license. We have therefore sought to draft our patent license in a way that clearly articulates the patents that are covered, and the scope of the license that applies to them.

- **Elective Elements.** Our definition of Necessary Claims relating to the initial specification includes a carve-out for elective elements in the specification. In this respect, we have followed the paradigm that has been used by standard setting organizations for many years. We have used the initial specification to bound the initial patent grant, and allowed for the possibility that non-essential elements can be excluded from the grant of patent rights. For instance, expect that our specifications will use certain off-the-shelf components, and if these are generally commercially available, we do not see the need to dictate the management of patent rights for them. We expect that those wishing to use our specifications will simply buy these products, and by doing so, avoid the need receive patent licenses for them, due to exhaustion principles.
- **Compliant Products.** Also, the initial patent grant and cross-license is limited to products that comply with the specification; this is intended to create a strong "patent commons" for products that comply with the initial specification.
- **WYSIWYG.** We have also included an express reservation of rights, so that no implied licenses are granted. This feature is key to give patent licensors comfort that they understand the scope of patent licenses granted, and it a common clause in patent license agreements.

Patent Licenses as the Fundamental Intellectual Property Basis for Copyleft Obligations

This is the area that presents the most theoretical difficulty in open hardware licensing. In our license, we have made the assumption that our Initial Contributors do have enforceable Necessary Claims. The quid pro quo for the requirements of the license is freedom from these claims being asserted. In this respect, we have taken the standards setting approach.

Application to Our Technology Space

Our license applies to computer servers, racks, and similar technology. We have therefore outlined in detail the "Complete Production Files" necessary to enable licensees, on a practical level, to implement the specifications. These files include CAD-generated system schematic; system board layout, component bill of materials, printed circuit board (PCB) manufacturing files, stack-up information , pick-and-place information, schematic board component placement map and stack-up, three-dimensional CAD-generated schematics, and firmware. The practical requirements of manufacture mean that some of these materials may be in proprietary formats, but we have required, where we think it is feasible, that these materials be in open formats.

Downstream Contributions

We have chosen to draft the license to allow downstream contributors to add their Improvements, without necessarily contributing them back up to the "top of the stack" at our Foundation. In this respect, we are using the open hardware approach, rather than the approach typically taken by standards setting organizations.

Scope Defined by Distributed Products

In open source software licensing, the trigger for abiding by conditions of the license is usually distribution of the software. Here, we have taken a similar approach, but the trigger is distribution of a product embodying the Specification. We want people who buy products that are made using our specifications to be able to understand how they were made, and improve them.

Defensive Termination. It is only fair that if a licensee enjoys a patent license for a specification, the licensee should not be suing others for patent infringement based on the specification. We have modeled our defensive termination provision on that of Apache 2.0. This means that a licensee cannot enjoy the benefits of the patent licenses if that licensee is suing others based on the use of the Specification. We also require every licensee to grant a license to its own Necessary Claims, to provide comfort to all licensees practicing the Specification. The grant back is a benefit to all licensees, which they can exercise regardless of other licensee's behavior. The defensive termination provision discourages patent litigation by all licensees.

Reasonable Notice Requirements. The requirement to deliver a copy of the license, and complete production files, can be fulfilled by making the materials available on the Web. We think this is an important feature of open licenses, given that printed materials are less practical and more rarely used every day.

Scope of Improvements

This is also a significant conceptual challenge. Defining an improvement is like defining a derivative work in open source software licensing – and it is inherently difficult. For the "copyleft" version of our license, this definition sets the scope of what downstream contributions must be covered by the license.