



## Patent Sharing and Protection of Members' Patent Portfolio

The aim of this document is to answer possible concerns that prospective members of the HyperTransport Technology Consortium (HTC) may have about safeguarding their own corporate patent portfolio when becoming Consortium members.

### 1 – Patent Pooling

HTC's mission has been to foster an advanced interconnect technology community in which members may both share and tap, royalty-free, a common pool of collective HyperShare™-related and/or HyperTransport®-related patents, with little, if any, to share and a lot to gain. At the same time, the advanced nature of HyperShare™ and/or HyperTransport® (hereinafter referred to as "HTC Technology") and the industry stature of companies that have invested in them, compelled HTC, from its very inception, to ensure that the patent portfolios of its member companies are properly safeguarded.

HTC's approach to patents management is a departure from the typical "reasonable and non-discriminatory" (RAND) approach to patents management adopted by many other consortiums and organizations. In fact, the RAND approach requires member companies to license each and every necessary patent from as many HTC members that own them and to pay for their respective royalty fees, as applicable.

### 2 – Patent Pool Inclusions

The only patents that go into HTC's patent pool are patents that:

- A) Are **owned** by HTC members;
- B) **Relate** to HTC Technology specifications (hereinafter referred to as "Specifications");
- C) Are **necessary and indispensable** for the implementation and proper operation of HTC Technology implementations; and
- D) **Are necessarily infringed by the implementation of the Specifications**, whereas such infringement could not be avoided by means of other non-infringing implementations.

Please note that the term "**necessarily infringed**" at point 2.D above is a legal expression referring to patents that are infringed by the implementation of the Specifications. In this case, the patent in question is considered **necessary and indispensable to HTC Technology implementations** and therefore must be shared royalty-free in HTC's patent pool. An hypothetical example of such a patent would be a patent covering the clever method that the line-CRC timeslots in an HyperTransport® implementation are reused for clock matching. If such patent were to exist and owned by an HTC member, any implementation of HyperTransport® specifications would infringe on this patent. Therefore, this patent would have to be shared royalty-free in the HTC patent pool.

If the case of an HTC patent pool contribution were to exist for a member, that member would have the obligation to share the patent in question royalty-free **only with HTC members** through HTC's patent pool, while patent ownership would **always remain with the original member**.

### 2 – Limitations to Patent Pool Inclusions

It is important to stress the "**necessity and indispensability**" cited at point 2.C above for an HTC Technology-related patent as **necessary requisite** for the HTC member who owns it to share it royalty-free with other HTC members. In the case of HyperTransport® technology, for instance, the same is already well covered by AMD's

patents currently in HTC’s patent pool. It is unlikely that any other member may come up with a technology and/or technique proving **necessary and indispensable** for the already predefined and market-proven HyperTransport® interconnect standard. For that reason, HTC members - other than AMD - have historically been able to tap the HTC patent pool royalty-free **without having to contribute any of their own patents**.

Additional limitations to patent pooling obligations are described in section 4.2 below.

### 3 – Patent Pool Exclusions

Patents that do not fall into the HTC patent pool and for which their member owners have no obligation to license royalty-free to any other HTC member, are patents that cover:

- A) **Alternate or special ways of implementing** HTC Technology functionality as defined by the Specifications that could be achieved and implemented through other means and/or technology approaches – e.g. a more integrated, or less noise-prone driver circuitry;
- B) **Enabling technologies** that are not specified by the Specifications and that the member may utilize to meet the objectives of the Specifications – e.g. semiconductor manufacturing technology, x86 architecture, processor micro-architecture, compiler technology, basic operating system technology;
- C) **Implementation of specifications referred to** by HTC Technology specifications **but not developed by/for** HTC;
- D) **Application programming, drivers and all portions of peripheral devices not required** to implement Specifications-compliant interconnects; or
- E) That is **un-related** to HTC Technology.

### 4 – HTC Membership Agreements and Patent Pooling

There are three levels of commercial HTC Membership Agreements. The table below shows their respective rights and obligations respectively to HTC Technology licensing and patent pooling.

<b>Membership Agreement Level</b>	<b>Technology Licensing and Patent Pooling</b>
Promoter	HyperShare™ and HyperTransport®
Contributor	HyperShare™ and HyperTransport®
Adopter	HyperTransport®

Within each of the above membership agreements, there are three sections dedicated to patent pooling and patent protection that relate to the considerations of Section 1 above. They are the “Electrical Necessary Claims” section, the “Necessary Claims” section and the “Scope” section, whose numbers are detailed in the table below.

<b>Section</b>	<b>Promoter Agreement Rev 2.2</b>	<b>Contributor Agreement Rev 2.2</b>	<b>Adopter Agreement Rev 2.2</b>
Electrical Necessary Claims	1.14	1.14	1.12
Necessary Claims	1.16	1.16	1.14
Scope	1.17	1.17	1.15

Sections “Electrical Necessary Claims” and “Necessary Claims” describe the claims (e.g. patents owned by member company) that must be licensed royalty-free to the rest of the Consortium companies – i.e. added to the HTC patent pool - by virtue of Consortium membership.

The sections of the “Electrical Necessary Claims” and “Necessary Claims” pertaining to the HyperTransport® specifications, although bearing very similar wording, are distinct because the HyperTransport® pre-Consortium specification (LDT) was originally divided into two separate parts, i.e. electrical and protocol. In current HyperTransport® specifications, such distinct parts have been bound into one document. Therefore, the “Electrical Necessary Claims” section refers to Section 13 through 19 and Appendices J through M of the specifications, while the “Necessary Claims” section refers to Section 1 through 12 and Appendices A through I of the specifications.

## 4.2 – Contractual Limitation to Patent Pool Inclusion

Sections “Electrical Necessary Claims” and “Necessary Claims” of the agreements above significantly limit the possibilities by which member companies are bound to share their patents in HTC’s patent pool. Such limitation is further reinforced by the last paragraph of each same sections, stating that Electrical Necessary Claims/Necessary Claims: “...**do not include any claims other than those set forth above even if contained in the same patent as ... Necessary Claims**”.

## 4.3 – Contractual Patent Pool Exclusions

A further contractual step to minimize members’ patent obligations toward HTC’s patent pooling is represented by the “Scope” section of the HTC Membership Agreements. As already anticipated in Section 3 above, The Scope section clearly and specifically **excludes** from patent sharing obligations any and all patents that pertains to:

- A) **Enabling technologies** that the member may utilize to meet the Scope and that are not specified by the Specifications (with specific references to semiconductor manufacturing technology, x86 architecture, processor microarchitecture, compiler technology, basic operating system technology as examples of such exclusions);
- B) Implementation of **specifications referred to** by the Specifications **but not developed by/for** the HyperTransport® Consortium; or
- C) **Application programming, drivers and all portions of peripheral devices not required** to implement Specification-compliant interconnects.

## 5 – Conclusions

Overall, HTC members with or without sizeable patent portfolios appreciate the HTC patent pooling approach as its delivered benefits vastly outweigh its unlikely obligations. Ultimately, the widespread investment in HTC Technology and Consortium membership by patent-rich industry leaders like Advanced Micro Devices, Apple, Cisco Systems, HP, IBM, NEC, Renesas, Sun Microsystems and Texas Instruments among others, should serve as testament to the effectiveness of HTC’s approach toward patent sharing and the safeguarding of its members’ patent portfolios.

### Disclaimer

Clarifications provided in this document constitute HTC’s effort to explain certain provisions of its membership agreements in plain words exclusively for the convenience of prospective members that are evaluating HTC’s Membership Agreements. Such descriptions are in no way meant to be legally enforceable in any way for the purpose of overriding or superseding in whole or in part any of the HyperTransport® Consortium’s membership agreements and clauses, which remain the sole legal instruments defining and having jurisdiction on the relationship between HTC members and HTC.

For more information or clarification on these subjects, please contact our General Manager directly:  
Mario Cavalli - [mario.cavalli@hypertransport.org](mailto:mario.cavalli@hypertransport.org)