

Frequently Asked Questions about the Logicircuit Safe IP™ Catalog

What is the Safe IP™ catalog?

The Safe IP catalog is a portfolio of commercial off the shelf (COTS) intellectual property (IP) that has been developed to be compliant to DO-254 DAL A. This IP comes with a Certification Data Package (CDP), which includes the IP itself¹ in encrypted form, and provides evidence of compliance, along with artifacts and information that is necessary to support reuse of the IP-level compliance to support chip-level compliance. Each IP in the catalog has been sponsored by a customer for use on a program that has undergone or is currently undergoing certification.

Can your IP be used in other Safety Critical domains?

Yes, medical, automotive, nuclear and other domains may be able to use the Logicircuit DO-254 DAL A Safe IP library in their programs subject to their own industry compliance guidance. In the medical domain, we have done an analysis of IEC 62304 (which can apply to FPGA firmware) and apart from different document naming conventions, the process itself maps very nicely to DO-254. The new ISO 26262 standard in the automotive domain also acknowledges DO-254 for electronics. A new standard in the nuclear naval domain maps very closely to the objectives and activities of DO-254. Each of the domains, and others with safety (and possibly security) concerns can potentially use the compliance effort already employed in our IP catalog.

What is included in a Subscription?

A subscription provides access to all IP in the catalog, along with support² (to assist with both design and compliance integration) for the period of one year. Subscribers get access to the Safe IP catalog via an FTP download site, and can download whatever IP is desired during the period of a year.

What happens when the year is over?

You will be sent a courtesy reminder at least 30 days prior to your subscription renewal date. If you renew, your subscription will be extended for another year (or however many years you've opted to sign up for). If you choose not to renew the subscription, at the end of the one year period, the IP will no longer operate in the Xilinx design environment.

How long is the promotion going on?

The offer of \$25K USD for a one year subscription is good throughout August 31, 2015.

Is there a minimum number of years that I have to subscribe to?

No. There is no minimum, but you can purchase multiple years in advance to lock in this rate, as the rate will go up after the promotional introduction.

¹ Note that several of the IP in the catalog require a purchase of the commercial version as a pre-requisite to acquiring the DO-254 compliant version offered by Logicircuit.

² Support is available via phone and email for up to 10 hours per year per subscription

How many years can I purchase at the promotional rate?

You can buy up to 3 years at the promotional rate to lock in the price. But the multi-year purchase PO must be received by Logicircuit by Aug 31, 2015.

Can I renew at promotional rates?

Renewals will be at the normal rate, unless another promotion is being run.

Is your IP compliance process accepted by the FAA and EASA?

Our IP compliance process, which we call a re-engineering for compliance process, has been accepted for use in both FAA and EASA programs. This approach supports the position presented in the new [CAST 33](#) paper on COTS IP. We follow a process that upgrades a design baseline (i.e., the initial commercial IP) for DAL A compliance. Our approach is a combination of developing the IP to DO-254 compliance and reverse engineering the IP to be compliant, which are the acceptable methods presented in this position paper. While our processes support the recommendations of this paper, DO-254 compliance occurs at the FPGA level. So the entire process of the IP acceptance also includes the incorporation of the IP into the FPGA. See "[What do I as an IP user need to do to show compliance at the FPGA level?](#)" below for more information on this aspect.

Where can I learn more about your IP compliance process?

We have a whitepaper that covers our process generally that is available by request on our [Resources](#) page. We also have a very detailed whitepaper that describes our process and how it supports CAST 33. You can request it from info@logicircuit.com. We are also happy to set up a discussion with your team.

What do I, as an IP user, need to do to show compliance at the FPGA level?

Logicircuit provides a "Credit Sought" table with each IP. This table identifies all DO-254 objectives and data and provides information on which have been fully, partially, or not met in the compliance process for that IP. For each objective not fully met, the table provides guidance as to what the IP User needs to do to achieve compliance at the chip level for the IP function.

Do you provide the IP source?

No. In order to protect the interests of our commercial IP partners, we do not provide the source but rather an encrypted version. The encrypted version can be used in simulation, synthesis, place and route, and so on. There is no need for the IP User to acquire the source code. All the DO-254 compliant tasks associated with the source have been done by Logicircuit and we provide the documentation and artifacts that demonstrate this in the CDP that comes with the IP.

What data do you provide to demonstrate compliance?

Each IP comes with a Certification Data Package, or CDP. This CDP includes all the documents and artifacts needed to demonstrate that a DO-254 DAL A compliance process has been performed on the IP. The IP User will need to reference various documents from the CDP at their FPGA level of compliance.

Do you offer any licensing other than Subscription?

Logicircuit offers two alternative sorts of licenses: Sponsor/Perpetual and Standard. Each IP in the Safe IP catalog is requested first by a customer. This customer is the "Sponsor." The Sponsor pays for a "Sponsor License." This Sponsor License gives them perpetual site usage (unlimited

projects/instantiations, no royalties or per unit costs) and bug fixes (for the purchased version) along with one year of support for the specific IP being sponsored. The Sponsor License price is a fraction of the actual cost for Logicrocket to develop the compliant IP. Future sales to other customers help recover the remaining engineering costs.

Once an IP has been sponsored, it becomes part of the IP catalog where it is typically sold under the subscription model but can be sold under the “Standard License” model. A Standard License, which is half the price of a Sponsor License, is a timed (one year) site license (unlimited projects/instantiations, no royalties or per unit costs) and comes with one year of support for the specific IP being requested. This support helps the purchaser both integrate the IP itself into the design as well as reuse the DO-254 compliance work already done on the IP as part of device level compliance effort. If the design development process goes beyond one year, annual support will need to be purchased to enable ongoing design work (i.e., use of the IP in the Xilinx design environment and ability to generate a bitstream). Customers on support/subscription will also receive new versions of the IP (which include new features, not just bug fixes). Annual support is 25% of the Standard License price. Annual support is included in the subscription price.

Customers who want Perpetual access can purchase under the Sponsor license model. This provides perpetual access to the specific version of IP, and includes one year of support. If additional support is needed/wanted it can be added.

Can multiple users use the same IP at the same time?

IP can be used in multiple projects simultaneously. However only one user at a time can be using the IP in the Xilinx back-end (i.e., synthesis, P&R, etc.) toolset. If multiple users want to use the same IP in this way at the same time, the second user will have to wait for a license to be freed. Multiple subscription seats can be purchased if needed.

What if we have multiple sites who want to use the IP?

Each site will need to purchase their own subscription to the Safe IP library. If a company wants to purchase for multiple sites, we may be able to offer a discounted, corporate level contract.

How is the IP licensed?

We offer both server-based or node-locked licensing via FlexLM.

What is included in your support?

Logicrocket support includes email/phone assistance regarding both the use and integration of the IP itself along with using the compliance data provided in the CDP for the chip level DO-254 compliance.

What if I don't need DAL A compliance?

All Logicrocket IP is re-engineered for DAL A compliance. This IP can be used in programs with any DAL level. We do not offer packages with lower DALs. The compliance work is done to DAL A and cannot be un-done.

Can I evaluate your IP?

Yes, we can provide 30 day evaluation codes of any available IP if a project team is willing to sign a NDA and is seriously considering a purchase.

How does an IP get on your roadmap?

The roadmap IP are all either being sponsored or are in final sponsor discussions.

How do I request an IP to get it on your roadmap?

We get new IP requests all the time. That is how we build our roadmap. If you need an IP not currently in our catalog or on our roadmap, contact us to discuss the situation. Most likely you would become the Sponsor for this new IP and would purchase under the Sponsor license model.

What is your association with Xilinx?

We are the exclusive Xilinx partner to support DO-254 use of IP in Xilinx FPGAs. Xilinx also recommends Logiccircuit to their customers who may need assistance with general DO-254 and DO-178C compliance.

What is your association with Patmos Engineering Services?

Tammy Reeve, President of Patmos Engineering Services, is the FAA consultant DER we work with on our IP compliance processes. Tammy was instrumental in helping us establish a process for both compliance and reuse that has been accepted by certification authorities. Tammy also performs SOI-1 to 4 audits on all of our IP so our customers and certification authorities can be assured we followed all appropriate compliance requirements.

What is your association with Great River Technology?

We provide DO-254 compliant versions of the Great River Technology (GRT) ARINC 818 core. Customers interested in this IP must first discuss their needs and purchase the core through GRT. Then they can discuss their compliance needs with Logiccircuit.³

What is your association with Zipcores?

Zipcores is one of our commercial IP partners. Zipcores customers can request compliant versions of Zipcores IP through Logiccircuit. Logiccircuit includes some Zipcore IP in the Safe IP catalog, but the commercial versions must first be purchased from Zipcores prior to unlocking the DO-254 version in the Safe IP catalog.

What if I have additional questions?

Contact us at info@logiccircuit.com.

³ ARINC 818 is a special case requiring some customized services work to ensure full compliance of the customer's specific configuration.