

FPGA-based Power Electronics Toolbox (eHS)

Comparison Chart

Features	eHSx16	eHSx32	eHSx64	eHSx128
Targeted platforms	OP4200 (Zynq 7030)	OP4200 (Zynq 7030) OP4510 (Kintex7 325t)	OP4510 (Kintex7 325t) OP5707 (Virtex 7 485t)	OP4510 (Kintex7 410t) OP5707 (Virtex 7 485t)
Number of eHS core available	1	1	1 (OP4510) 3 (OP5707)	2
Number of inputs	16	32	64	128
Number of outputs	16	32	64	128
Number of switches	24	48	72	144
LCA capability*	Yes			
Maximum number of states**	84	112	168	344
Number of resistors	Unlimited			
Switches type supported	IGBT/Diode, Diode, Breaker, Thyristor, Ideal Switch			
Non-switching devices supported	Resistor, Inductor, Capacitor, Ideal Transformer, Mutual inductance, PI Line			
Calculation power	6.4 GFLOPS	12.8 GFLOPS	25.6 GFLOPS	51.2 GFLOPS
Maximum number of test scenarios***	Up to 512 scenarios			
Circuit editors compatible	Simscape Electrical™ (formerly SimPowerSystems™ and SimElectronics®), PLECS, PSIM, NI Multisim and OPAL-RT Schematic Editor			

* LCA stands for Loss Compensation Algorithm. This feature optimizes losses for standard topologies such as 2-level converter and NPC 3-level converter arms.

** Estimated values. The maximum number of states depends on the number of inputs and outputs that needs to be computed as well. There is no hard coded limit.

*** The number of scenario available for a given circuit depends on the circuit complexity.

About OPAL-RT TECHNOLOGIES

OPAL-RT is the world leader in the development of PC/FPGA-based Real-Time Digital Simulator, Hardware-In-the-Loop (HIL) testing equipment and Rapid Control Prototyping (RCP) systems to design, test and optimize control and protection systems used in power grids, power electronics, motor drives, automotive industry, trains, aircraft and various industries, as well as R&D centers and universities.