NEXCOMM asia

GOWIN
PROGRAMMING FOR FUTURE

Arora®

Arora® Family is designed to offer the best-in-class performance cost ratio FPGA. With abundant logic, high-performance DSP resources and high speed I/O, the family is optimized for co-processing to offload the application processor on intensive computation tasks. The Arora® family is also the first FPGA with embedded pSRAM in the industry, which gives customers more usable device I/O.

GW2A Series FPGA

MIPI D-PHY Support

mipi®

The GW2A series of FPGA products are the first generation products of Arora family, with features of abundant internal resources, high-performance DSP resources, high-speed LVDS interfaces, and abundant B SRAM memory resources. These embedded resources in combination with optimized FPGA architecture and 55nm process technology make the GW2A series of products ideal for high performance and low-cost applications

GW2A Family Table

Device	GW2A-18	GW2A-55
LUT4	20,736	54,720
Flip-Flop (FF)	15,552	41,040
Shadow SRAM S-SRAM(bits)	41,472	109,440
Block SRAM B-SRAM(bits)	828K	2,520k
Number of B-SRAM	46	140
18 x 18 Multiplier	48	40
PLLs+DLLs	4^2+4	6+4
I/O Bank Number	8	8
Max. User I/O	319	607
Core Voltage	1.0V	1.0V

Package Options and Max I/O

Package	Pitch(mm)	Size(mm)	E-Pad size (mm)	GW2A-18	Size(mm)
QN88	0.4	10 x 10		66(22)	
LQ144	0.5	22 x 22		119(34)	-
EQ144	0.5	22 x 22	9.74 x 9.74	119(34)	-
MG196	0.5	8 x 8		114(39)	
PG256	1.0	17 x 17		207(73)	-
PG256S	1.0	17 x 17		192(72)	
PG256C	1.0	17 x 17		190(64)	
PG484	1.0	23 x 23		319(77)	319(75)
PG1156	1.0	35 x 35		-	607(96)

*Refer to the latest datasheet for details

GW2AR Series FPGA

The GW2AR series of FPGA products are the first-generation SIP (System in Package) products of the AroraTM family integrated with abundant DDR/SDR SDRAM based on GW2A series, the GW2AR series provides multiple package such as LQFP package for easy PCB mounting and the QFN package taking the balance between area and size. The GW2AR series of FPGA products can be widely used in LED display control system, Image and video timing control systems, industrial control systems, and other applications.

GW2AR Family Table

Device	GW2AR-18
LUT4	20,736
Flip-Flop (FF)	15,552
Shadow SRAM S-SRAM(bits)	41,472
Block SRAM B-SRAM(bits)	828K
Number of B-SRAM	46
pSRAM(bits)	64M
DDR SDRAM (LQ176 pkg only)	128M
18 x 18 Multiplier	48
PLLs+DLLs	4+4
I/O Bank Number	8
Max. User I/O	140
Core Voltage	1.0V

Package Options and Max I/O

Package	Pitch(mm)	Size(mm)	E-PAD Size(mm)	GW2AR-18
LQ144	0.5	22x22	-	120(35)
EQ144	0.5	22x22	9.74 x 9.74	120(35)
QN88	0.4	10x10	-	66(22)
LQ144	0.4	22x22	-	140(45)
EQ176	0.4	22x22	6 x 6	140(45)
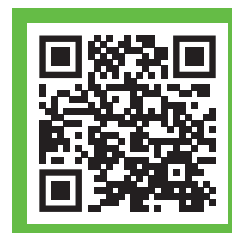
IP AND REFERENCE DESIGN

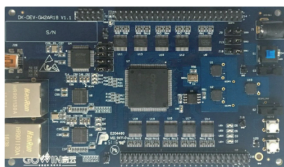# Development Platform
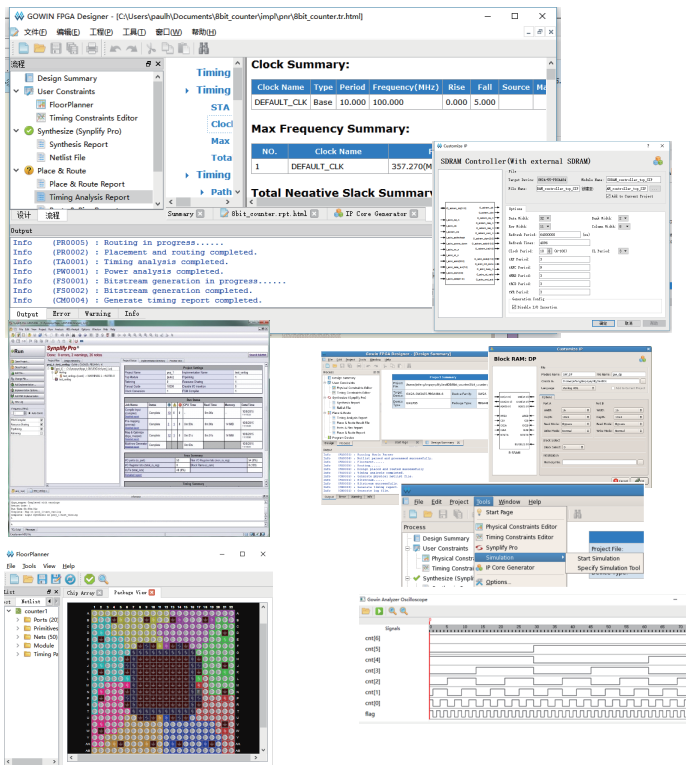

Synplify Pro®

Yunyuan®

Gowin Yunyuan Software is a new generation of FPGA hardware development environment developed and patented by Gowin. Gowin Yunyuan Software supports all Gowin FPGA devices. The software is embedded with Synplify Pro licensed by Synopsys, and supports the mixed programming of Verilog, VHDL, etc. Gowin Yunyuan Software also integrates with IP Core Generator, Floorplan, online logic analyzer GAO, static timing analyzer, timing constraints, power analyze and programmer, provides FPGA designers one-stop environment from synthesizing, layout, place and routing, data bitstream generation, download and programmed from of high to low density of Gowin FPGA products.
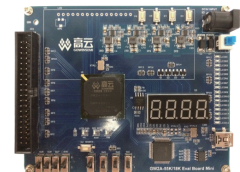
Development Kits

DK-DEV-GW2AR18 Development Board

The DK-DEV-GW2AR18 development board indudes two gigabits Ethernet interfaces and PHY. Combined with abundant GPIO resources, the hardware development and test platform with high integration and stable performance can be provided for users in LED and industrial control application. Besides a sliding switch, a press button switch are also provided on the development board for developers.
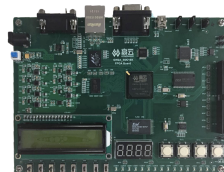
DK-DEV-GW2A55 Development Board

The DK-DEV-GW2A55 development board incl -udes GW2A-55LV7PG484C FPGA chip, VGA interface, RS232 interface, Ethernet interface, GPIO, SRAM, Flash, DDR2 SDRAM memory module, 4 keys, 8 dial switches, 16 LEDs, Cha -racter lattice LCD, 4 7-segment digital tubes.

DK-MINI-GW2A55 Development Board

The resources provided by the development board include GW2A-55LV7PG484C FPGA, 4 keys, 4 dial switches, 16 LEDs, 4 7-segment digital tubes, and expansion I/O.

Nexcomm Asia Pte Ltd

13 Braddell Tech, #06-04,
Toa Payoh, Lorong 8, Singapore 319261
Tel: +65 6891 2335
Fax: +65 6766 8117

nxm-enquiry@nexcomm-asia.com

www.nexcomm-asia.com

Bengaluru
M: +91 80 4203 2277
Malaysia
Tel: +03 7652 2813

China
Tel: +86 13923 707318

Hyderabad
M : +91 99639 92277
Indonesia
Tel: +6221 2934 9381

Soho Vietnam
HP: 0905474745

Delhi
M: +91 95912 31147
Soho Mayanmar
Tel: 09 400467496

Pune
M: +91 88056 66002