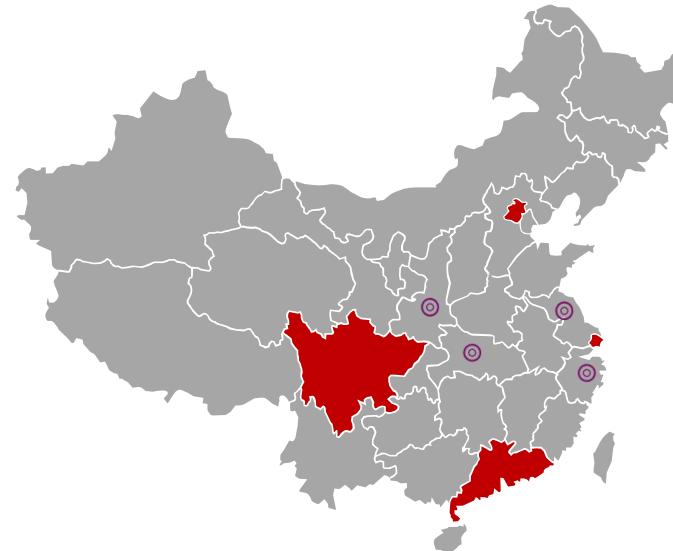




# Company Overview

- Founded in 2013, Pango is now the leading FPGA company in China
- Providing FPGA devices, EDA software tools, and system solutions to customers



**800+**  
Employees

**700+**  
Patents

**50+**  
Products

**\$286M**  
Revenue  
in 2023

**Shenzhen HQ**  
(580+ Emp)

R & D, Ops, Mkt,  
Admin

**Beijing Br.**  
(10+ Emp)

SW, Sales, FAE

**Shanghai Sub.**  
(70+ Emp)

R&D, Sales, FAE

**Chengdu Br.**  
(150+ Emp)

R&D, Sales, FAE

◎ Nanjing, Hangzhou, Xian, Wuhan site



### Titan Family FPGA

- 40nm & 28nm CMOS process
- 70-400K logic cells, high performance and optimized power efficiency



### Kosmo Family SoPC

- 28nm CMOS process
- Providing the optimal system-on-chip solutions for the various embedded applications



### Logos Family FPGA

- 40nm & 28nm CMOS process
- 20-200K logic cells, low power and cost effective
- Widely used in high volume and cost sensitive applications



### Compa Family CPLD

- 55nm Embedded Flash process
- 1-15K logic cells, low power, low cost, small form-factor, and instant-on
- Targeting wide range of applications such as IO bridging & expansion, board level management, etc



- **Titan-2 in production, Titan-3 lauched**

- **Key Features**

- ✓ 28nm CNOS and advanced FinFET technology
- ✓ 70K~400K logic cells
- ✓ 13.1Gbps SERDES
- ✓ High-speed DDR4/3 controller
- ✓ 100GE/50GE/40GE/25GE/10GE hardcore (Titan-3)

- **Application**

- ✓ Communication
- ✓ Data Center
- ✓ Broadcast & video
- ✓ Measurement



# Titan-2 Product Table

	Device	PG2T70H	PG2T160H	PG2T390H1	PG2T390HX	
Logic element	logic Cells	68160	165120	389760	389760	
	Flip-Flop	85200	206400	487200	487200	
RAM	Distributed RAM(Kbit)	843.75	2187	4712	4712	
	DRM(36Kbit)	135	350	480	480	
	Total DRM(Kbit)	4860	12600	17280	17280	
Clock	GPLL+PPLL	6+6	8+8	10+10	10+10	
IO	MAX User IO	300	400	500	500	
	MAX Diff IO(pair)	144	192	240	240	
	DDR3/4(Mbps)	1866	1866	1866	1866	
Hardcore	APM 25*18	240	600	840	840	
	ADC/Monitor	1	1	1	1	
	PCIE Gen3x8	0	1	1	1	
	PCIE Gen2x8	1	0	0	0	
	HSST(13.125Gbps) Lane	8	8	16	16	
Package	Size(mm)	Pitch(mm)	HRIO(3.3V)/HPIO(1.8V)/HSST			
FBB484	23*23	1	185/100/4	185/100/4		
FBB676	27*27	1	200/100/8			
FFBG676	27*27	1		250/150/8	250/150/8	250/150/8
FFBG900	31*31	1			350/150/16	350/150/16
<p>Note:</p> <p>1、Titan-2 HRIO supports 1.25Gbps LVDS、HPIO supports 1.5Gbps LVDS, PG2T390H HRIO supports 1.0Gbps LVDS、HPIO supports 1.4Gbps LVDS</p> <p>2、PG2T160H and PG2T70H supports PVT Monitor, PG2T390H与PG2T390HX supports ADC hardcore</p>						



- Logos and Logos-2 Series in massive production

- Features

- ✓ 28/40 nm tech node,
- ✓ 12K to 200K logic cells
- ✓ Up to 6.6 Gbps SerDes supported
- ✓ DDR3 up to 1066Mbps
- ✓ Hard core PCIe up to Gen2x4
- ✓ Various I/O interface: MIPI, LVDS, up to 1.25Gbps

- Application

- ✓ Communication
- ✓ Broadcast and video processing
- ✓ Industrial
- ✓ Electric control
- ✓ Medical





# Logos-2 Product Table



	Device	PG2L25H	PG2L50H	PG2L100H	PG2L100HX	PG2L200H
Logic Elements	Logic Cells	26700	53700	99900	99900	232800
	Flip-Flops	35600	71600	133200	133200	356800
RAM	Dis-RAM(Kbit)	352	742	1273	1273	2944
	DRM(36Kbit/pcs)	55	85	155	155	415
	DRM(Kbit)	1980	3060	5580	5580	14940
Clock	GPLL+PPLL	3+3	5+5	6+6	6+6	10+10
I/O	Max User I/O	150	250	300	300	500
	Max Diff I/O(pair)	72	120	144	144	240
	DDR3(Mbps)	1066	1066	1066	1066	1066
Hardcore	APM(25*18)	80	120	240	240	740
	ADC	1	1	1	1	1
	PCIe Gen2x4	1	1	1	1	1
	AES	1	1	1	1	1
	HSST(6.6Gbps)	4	4	8	8	16
Package	Size(mm)	Pitch(mm)	User IO/HSST			
MBG324	15 x 15	0.8		210/0	210/0	210/0
MBG325	15 x 15	0.8	150/4			
FBG484	23 x 23	1.0		250/4	285/4	285/4
FBB484	23 x 23	1.0				285/4
FBG676	27 x 27	1.0			300/8	300/8
FBB676	27 x 27	1.0				400/8
FFBG1156	35 x 35	1.0				500/16



# Logos Product Table



	Device		PGL12G	PGL22G	PGL22GS	PGL25G	PGL50G	PGL50H	PGL100H
Logic Elements	Logic Cells		12480	21043	21043	27072	51360	51360	102451
	Flip-Flops		15600	26304	26304	33840	64200	64200	128064
RAM	Dis-RAM(Kbit)		84	71	71	242	544	544	993
	DRM(18Kbit/pcs)		30	48	48	60	134	134	286
	DRM(Kbit)		540	864	864	1080	2412	2412	5148
Clock	PLL		4	6	6	4	5	5	8
I/O	Max User I/O		160	240	140	308	341	304	498
	Max Diff I/O(pair)		80	120	68	154	170	152	249
	DDR3 (Mbps)		—	800	800	800	800	800	800
Hardcore	APM(18*18)		20	30	30	40	84	84	188
	ADC		1	1	—	—	—	—	—
	PCIe Gen2x4		—	—	—	—	—	1	1
	AES		1	1	1	—	1	1	1
	HSST(6.375Gbps)		—	—	—	—	—	4	8
Package	Size(mm)	Pitch(mm)	User IO/Diff/HSST						
LPG144	22 x 22	0.5	103/51/0						
FBG256	17 x 17	1.0	160/80/0	186/93/0		186/93/0			
MBG324	15 x 15	0.8		240/120/0		226/113/0	218/109/0		
LPG176	22 x 22	0.4			140/68/0				
FBG484	23 x 23	1.0				308/154/0	332/170/0	296/148/4	
FBG900	31 x 31	1.0							498/249/8



**Instant-on and compact with  
low cost & low power consumption**

Compa Family® CPLDs

- **Compa Series in massive production**
- **Features**
  - ✓ 55nm tech node, non-volatile eFlash devices
  - ✓ 1K~10K logic cells
  - ✓ 3.3/2.5V core voltage or 1.2V core voltage supported
  - ✓ MIPI, LVDS, I2C, SPI, OSC, RAM, PLL
  - ✓ Dual Boot function with no external Flash
  - ✓ Max User IO up to 384
  - ✓ Package size down to 2.5x2.5mm
- **Application**
  - ✓ Communication
  - ✓ Acceleration Computing in Data Center
  - ✓ Industrial
  - ✓ Consumer



# Compa Product Table



	Device <sup>1</sup>	PGC1K	PGC2K	PGC4K	PGC7K	PGC10K
Logic Elements	Logic Cells	1276	2428	4761	7104	9907
	Flip-Flop	1596	3036	5952	8880	12384
RAM	Dis-RAM(Kbit)	11	16	39	56	78
	DRM(9Kbit/pcs)	7	8	11	26	45
	DRM(Kbit)	63	72	99	234	405
Flash	UFM(Kbits) <sup>2</sup>	350	80	1520	2070	3016
Clock	PLL/Global Clock	1/16	2/16	2/16	2/16	2/16
I/O	IO Banks	4	6	6	6	6
	Max User I/O	207	207	280	336	384
	Max Diff I/O	14	14	18	21	24
Hardcore	I2C	2	2	2	2	2
	SPI	1	1	1	1	1
	Counter	1	1	1	1	1
	OSC	1	1	1	1	1
Package	Size(mm)	Ptich(mm)	User IO/Diff			
UWG36 <sup>4</sup>	2.5 x 2.5	0.4	29/3 <sup>3</sup>			
UWG49	3.2 x 3.2	0.4		39/5		
UWG81	3.8 x 3.8	0.4			64/10	
SSBG256	9 x 9	0.5		207/14	207/14	
LPG100	14 x 14	0.5	80/4	80/4		
LPG144	20 x 20	0.5	112/4	112/4	115/9	115/9
MBG256	14 x 14	0.8	207/14	207/14	207/18	207/19
FBG256	17 x 17	1.0	207/14	207/14	207/18	
MBG324	15 x 15	0.8			280/18	
MBG400	17 x 17	0.8				336/21
MBG484	19 x 19	0.8				384/24

Note: 1.PGC1K/PGC2K include G-type(General) and L-type(Low-power); PGC4K includes L-type and D-type(Dual-Boot); PGC7K/PGC10K include D-type; 2. UFM(User Flash Memory) means the user available Flash memory without extra bitstream for Dual-Boot function; 3.29/3 represents 29 user I/O, 3 pairs of Differential IO, the same with other number pairs;

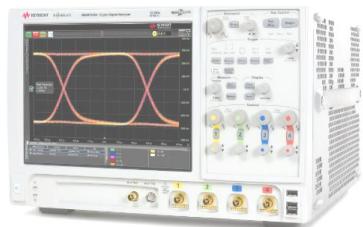
4.UWG and SSBG packages are only available for 1.2V low-power devices

**Wireless****Kosmo strength**

- 1.linux OS supported
- 2.Flexible design: JESD204B, DPD、CPRI(eCPRI)

**ADAS****Kosmo strength**

- 1.ARM co-processing
- 2.Flexible design: real-time computing, image process;

**Measurement****Kosmo strength**

- 1.ARM co-processing
- 2.Flexible design: analog signal collection, advanced data process

**Industrial****Kosmo strength**

- 1.linux、RTOS supported
- 2.Flexible design: MIPI hardcore, PCIe hardcore, image process, motion algorithm;

- 28nm CMOS tech node, suitable for embedded application, providing optimal solution on chip in terms of performance, power, and cost
- **First independent SoC+FPGA system platform in China, sample and eval board available**

**PANGO**

**Optimal system-on-chip solutions enabling innovation.**

**Kosmo Family® SoPCs**

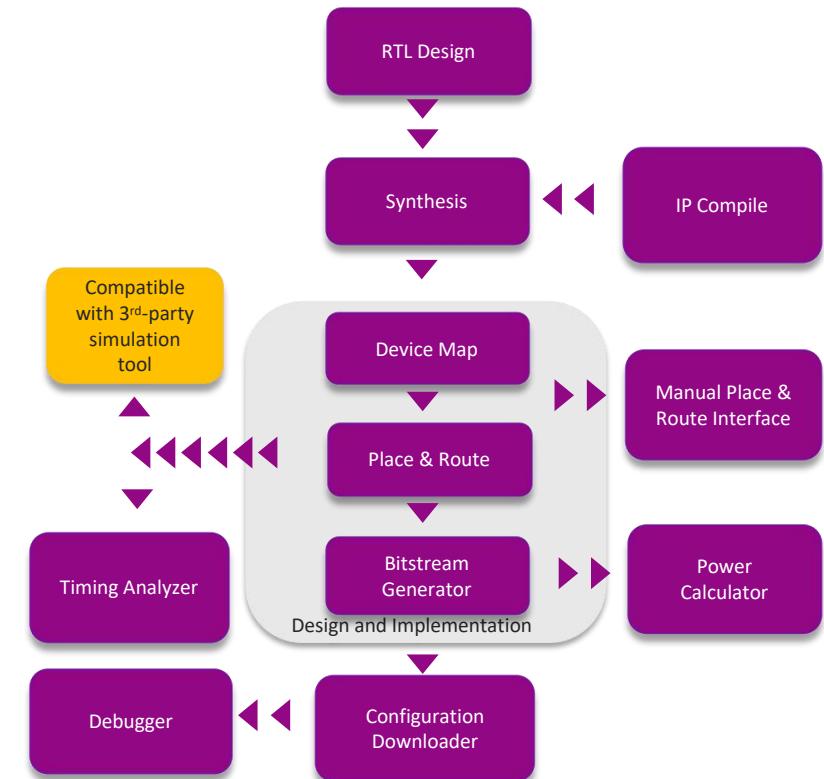
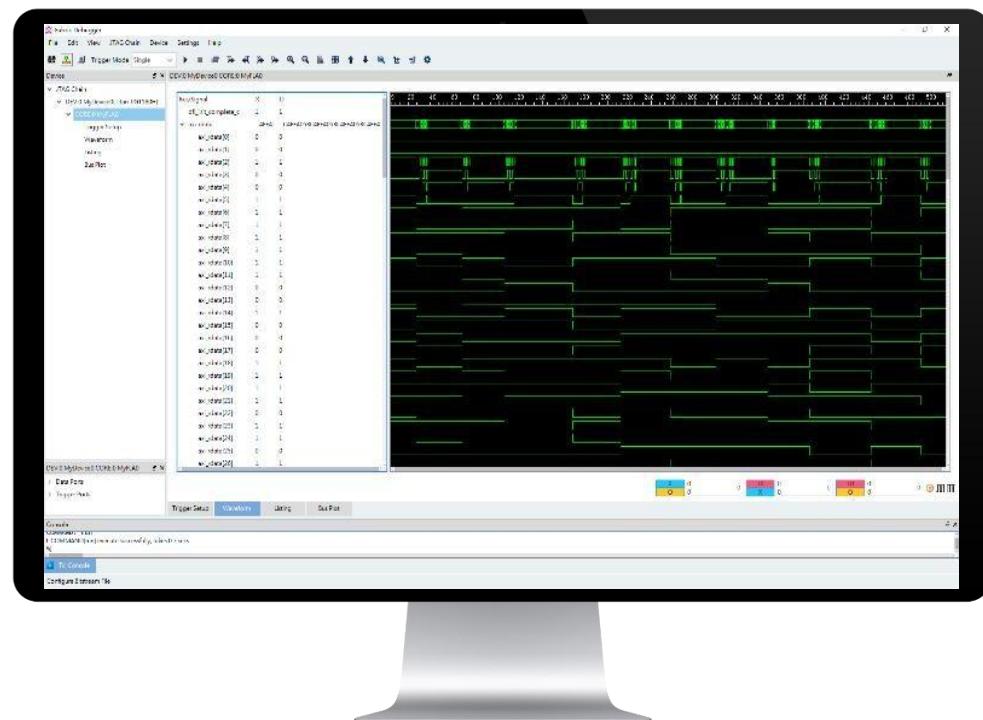


# Kosmo Series Product Table

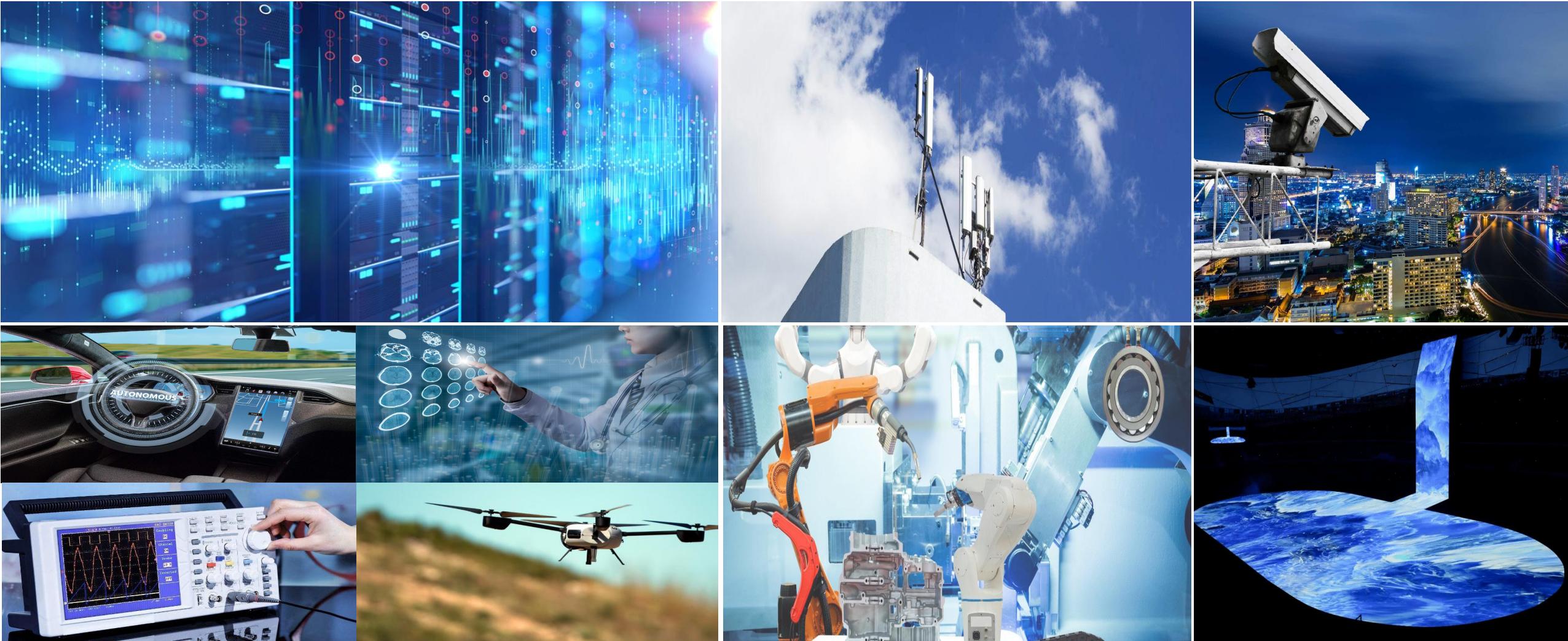


	Device	PG2K100	PG2K400
PU	Processor	Dual-core Cortex-A53	
	Max Frequency	1GHz	
	Processor Expansion	NEON、FPU、Crypto	
	L1 cache	32KB I Cache, 32KB D Cache w/ECC	
	L2 cache	512KB w/ECC	
	RAM	256KB	
	External Memory	LPDDR4、DDR4、LPDDR3、DDR3、DDR3L	
	External Memory Static	OSPI、QSPI、NAND、NOR、eMMC	
	DMA	8	
	Low-speed interface	2*UART、2*CAN-FD、2*I2C、2*SPI、GPIO	
	High-speed interface	2*USB2.0 (OTG)、2*GEthernet、2*SD/SDIO	
	Security	RSA、SHA、AES、SM2/3/4	
PU&PA connectivity		1 set of 128bit ACP	
		4 set of DDR (2x128bit/64bit, 2x64bit/32bit) ,	
		2 set of 64bit/32bit system interface	
		2 set of 64bit/32bit PA interface	
		20 interrupts	
PA	LUTs	53,600	218,400
	Logic Cells	85,760	349,440
	Flip-Flops	107,200	436,800
	DRM (36Kbits/个)	5.06Mb	19.4Mb
	DRM quantity	144	540
	APM	256	900
	GPLLs + PPLLs	4+4	8+8
	ADC hardcore	PVT senior only	1
	HSST hardcore	/	16 (12.5Gbps)
	PCIE hardcore	/	Gen3x8
	MIPI D-PHY (2.5Gbps/lane)	2*MIPI RX CORE + 2*MIPI TX CORE	2*MIPI RX CORE + 1 MIPI TX CORE
Package	Size (mm*mm)	Pitch (mm)	PU IO,PA HSST,PA HR IO,PA HP I/O
MBG485	19*19	0.8	
MBG400	17*17	0.8	128,0,125,0
MBG484	19*19	0.8	128,0,200,0
MBGM484 (automotive)	19*19	0.8	128,0,155,0
FFBGM676	27*27	1	128,8,66,150
FFBG676	27*27	1	128,8,100,150
FFBG900	31*31	1	128,16,212,150

## The leading FPGA software tools & technology

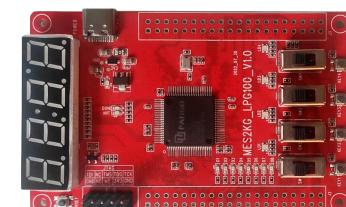
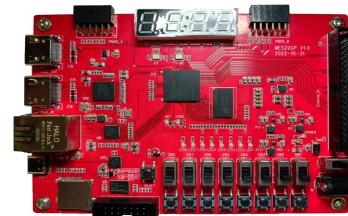
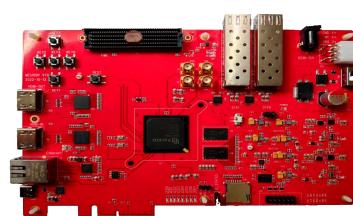
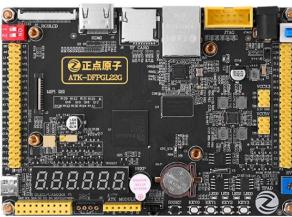


Devices are widely used in various applications, including Comm, Industrial, Consumer, Medical, Video&Vision etc.





# Partners and Eval Boards



# Thank you

