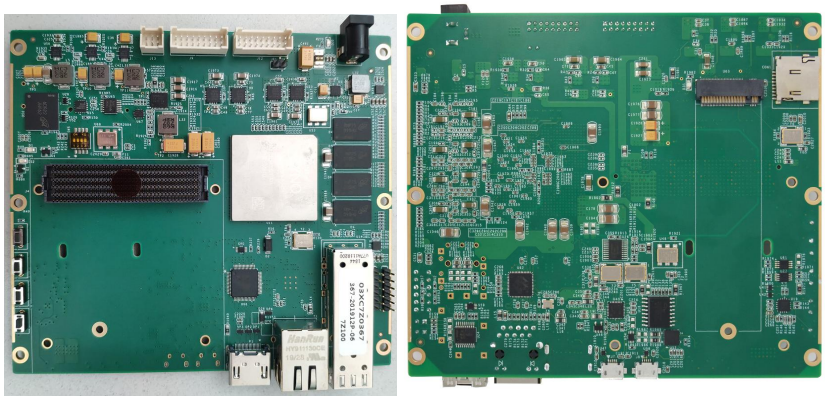
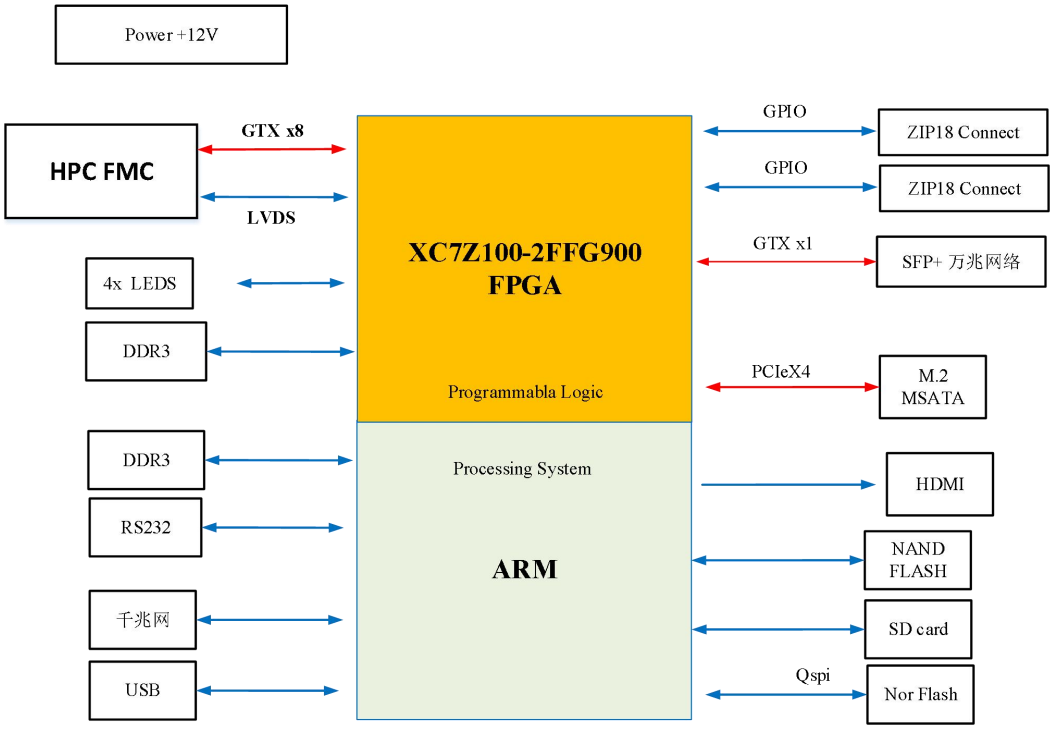
Universal computing platform based on Zynq XC7Z100 FMC interface



1.Overview

The SoC XC7Z100-2FFG900i chip is used to complete the processing of control and digital signal . XC7Z100 is internally integrated with two ARM Cortex-A9 core and a kintex 7 FPGA, and extends FMC, fiber, IO and other interfaces through PL terminal FPGA. PS terminal ARM extends network, USB, RS232 and other interfaces. The board card is suitable for image processing, vibration, communication, radar and other front-end signal processing or hand-held device development.



2. Specification

Functions	Parameters	Contents
PL End	FMC	FMC-HPC,ASP-134486-01 8GTX,LA HA HB
	Optical fiber	One channel SFP+,Configurable gigabit and gigabit Ethernet protocols
	Storage	One channel M.2 PCIeX4 storage interface
	IO	12bit 1.8V IO@J12,12bit Vfmc@J9
	DDR	DDR3 1GB,32bit @800MHz
	LED	4bit
	HDMI	One channel（Internal transfer to ARM）
PS End	DDR	DDR3 1GB 32bit@800MHz
	QSPI Flash	256Mb
	EMMC	8GB
	SD Card	16GB SD card
	RS232	Two channel RS232
	USB	1channel USB2.0, 1channel RS232transfer USB Debug port
	Internet	One channel RJ45 Gigabit Ethernet
Size	139X122X20mm	
Weight	（with heat sink）	
Power supply	+12V@2A	
Power consumption	20W	
Working temperature	Industrial -20℃ to +70℃	
Support Sheet	Orihard board	FMC144、FMC210、FMC177、FMC213、FMC450、FMC214

3.Software

Function	Parameters of the content	
The main processor	XC7Z100-2FFG900I	
Software version	Vivado2017.4	
Programming language	Verilog	
PL end test program	DDR3 test program	
	LED test program	
	IO test program	
	FMC test program（Combine FMC sub-cards）	
	AXI Bus DMA test program	
PS end bare-machine test program	DDR3 test program	
	Internet test program	
	RS232 test program	
	QSPI Flash test program	
	Emmc test program	
	SD Card test program	
	AXI trunk DMA test program	
PS end operating system program	Uboot version	U-Boot 2017.01
	LINUX kernel version	LINUX-4.6.0-g399574f
	A serial port software	Xshell6；secureCRT7.0
	Vivado version	7z100_vivado2017.4@2017.4
	PS end DDR3 read and write	
	HDMI display interface	
	USB interface	
	Gigabit Ethernet interface	
	RS232interface	
	QSPI Flash storage	U16
	SD card start-up test	
	EMMC storage	
	PCIe M.2 storage	Undeveloped

4.Application

Processing software radio platform

Graphics image tracking processing

Analog edge embedded computing