ZCU106 Evaluation Board评估

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| 文档编号 |  |
| 版 本 号 | V1.0.0 |
| 作 者 | wm |

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| 日期 | 更新人 | 版本 | 备注 |
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# 引言

## 编写目的

本文档内容对Xilinx Zynq UltraScale+MPSoC ZCU106开发进行评估。

## 预期读者和阅读建议

本文读者包括硬件成员、软件成员等。

## 参考资料

《UG1244》、《UG573》、《DS891》

## 参数定义

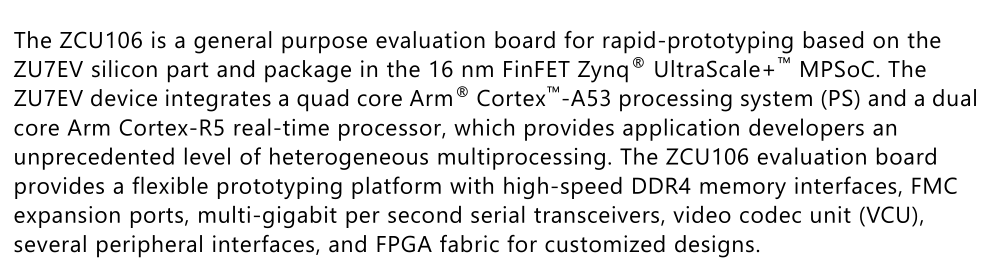
## 缩写术语

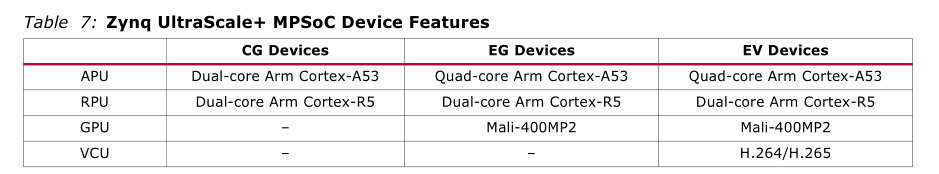


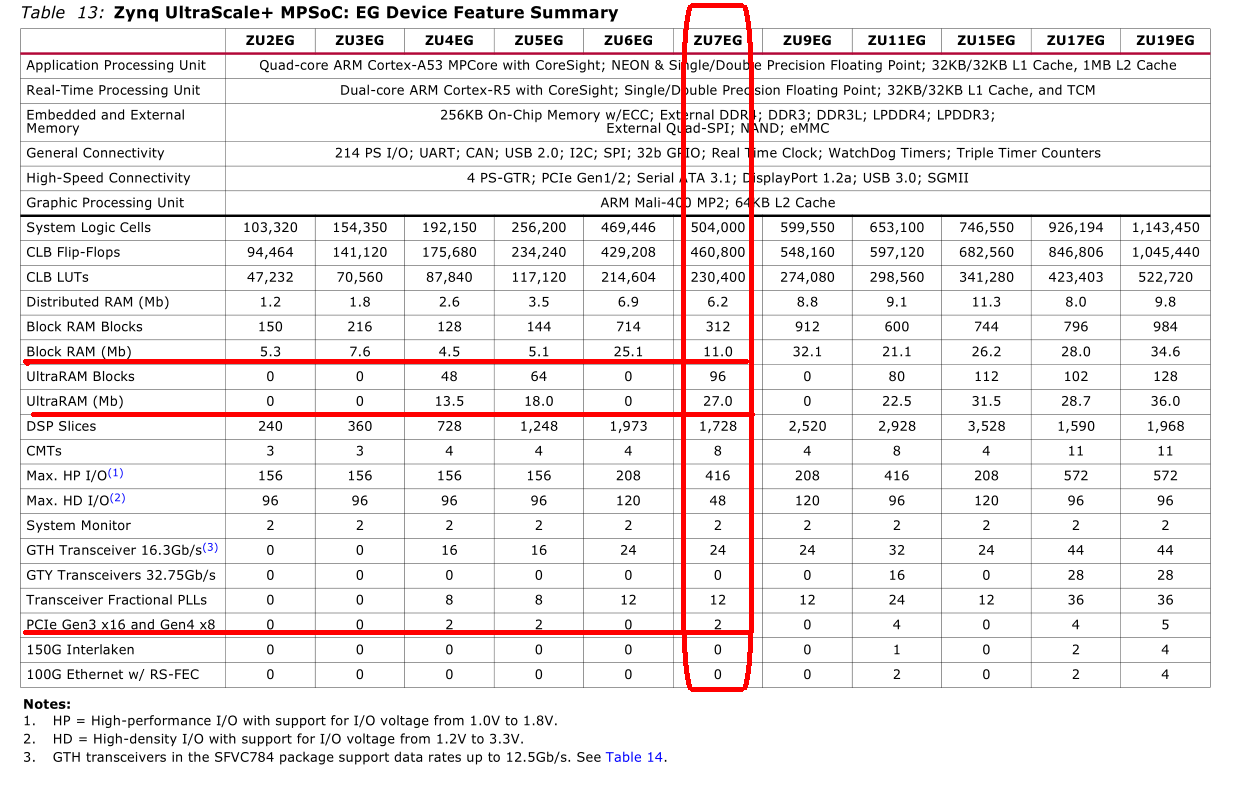
# ZCU106 Ev Device Feature Summary

## Overview

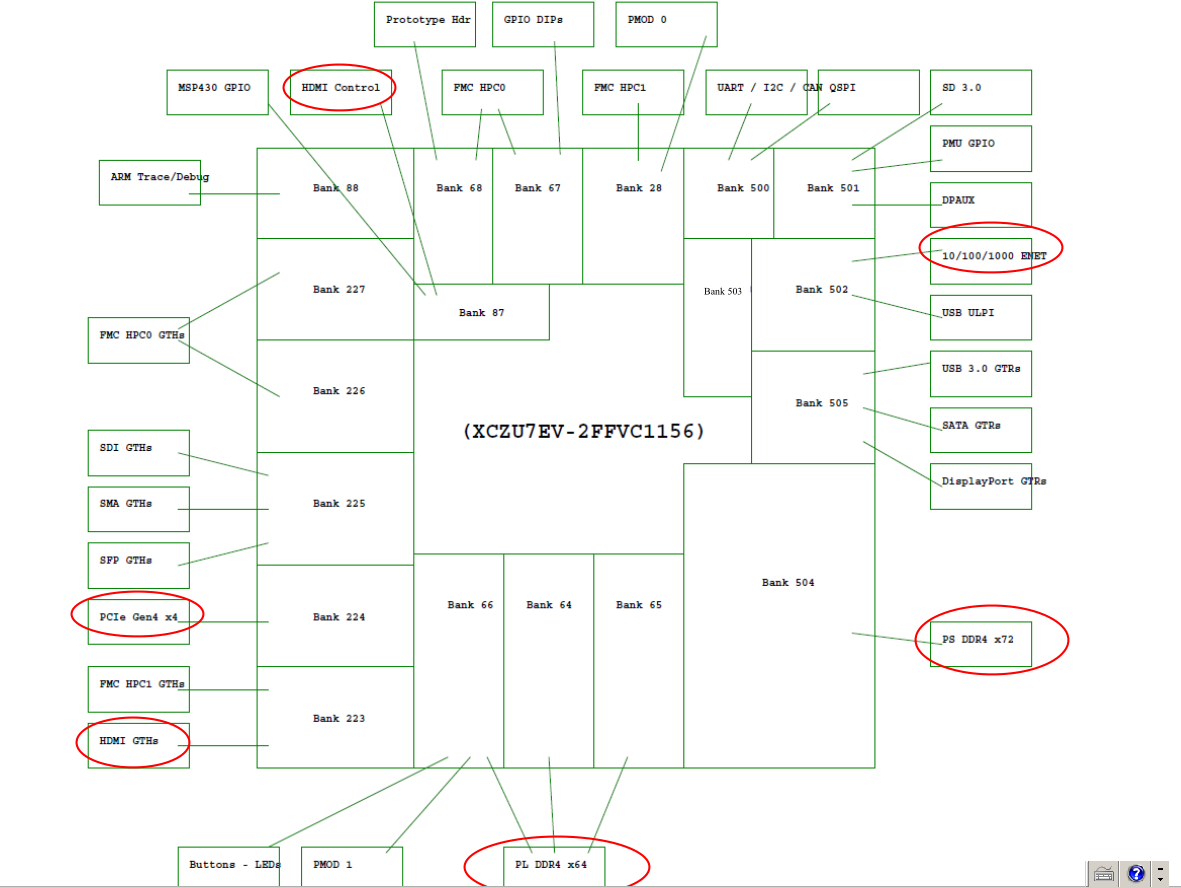
FPGA:XCZU7EV-2FFVC1156

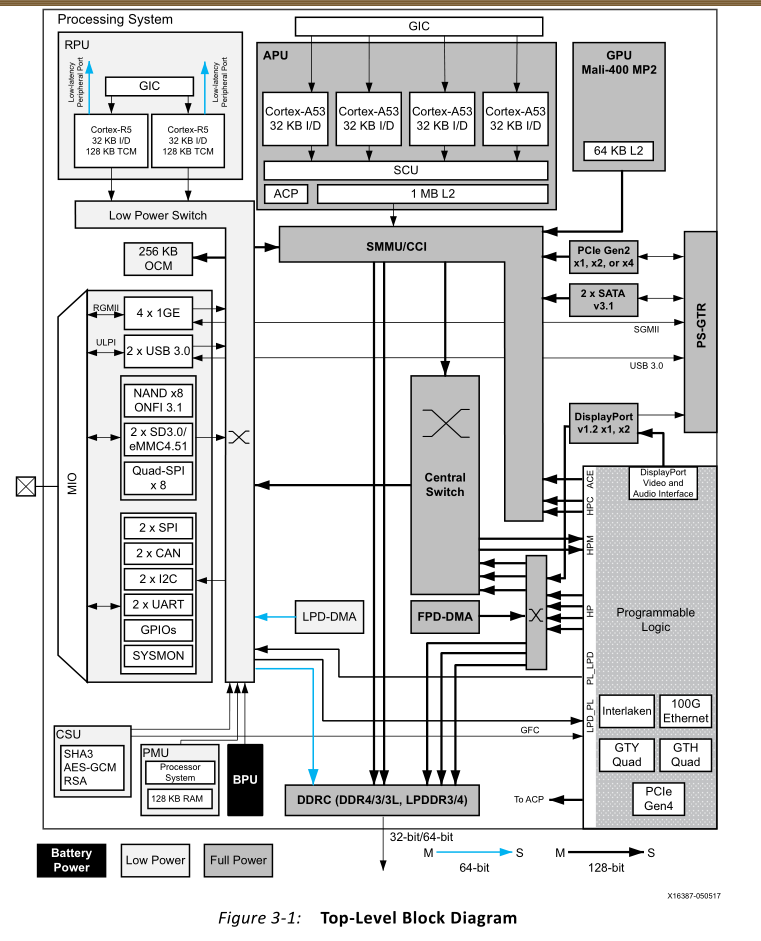




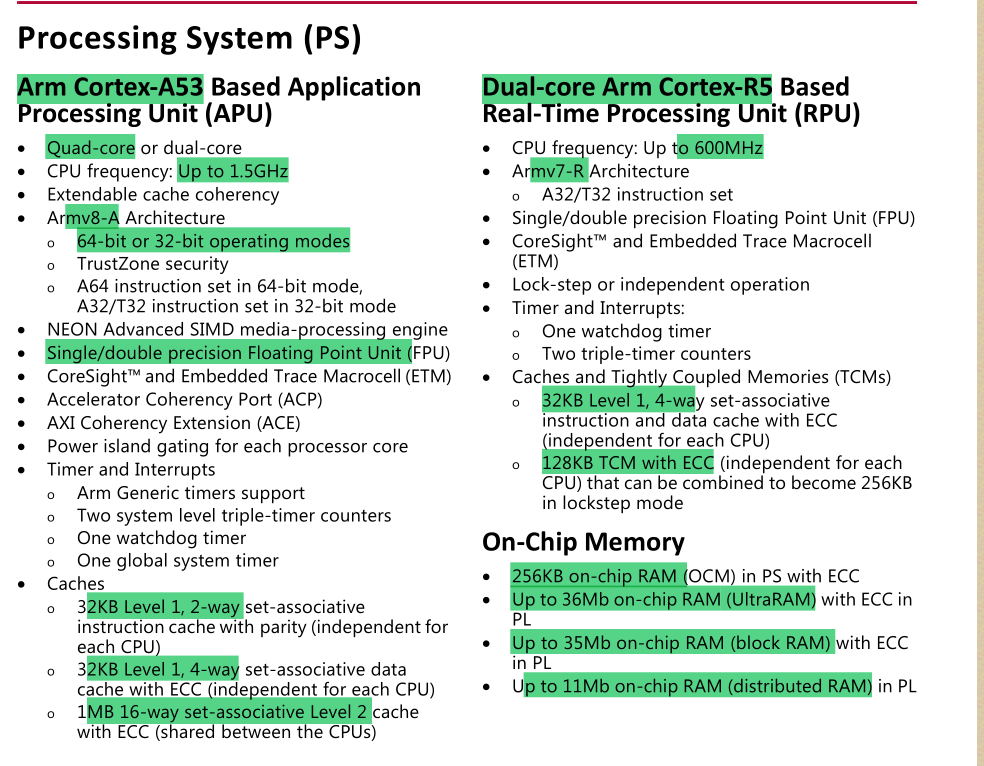


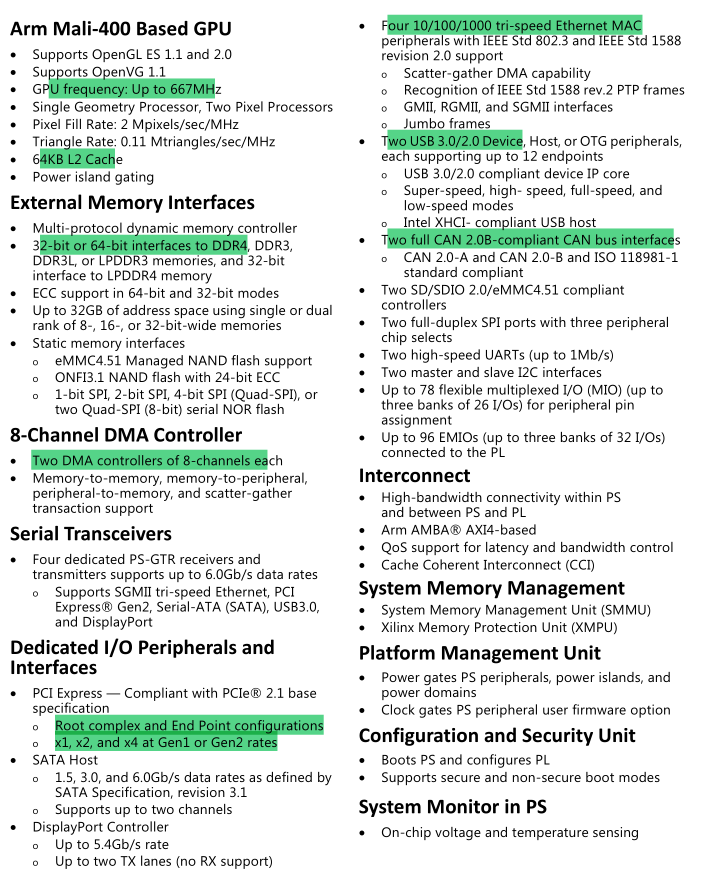
The ZCU106 board block diagram is shown in Figure 1-1.



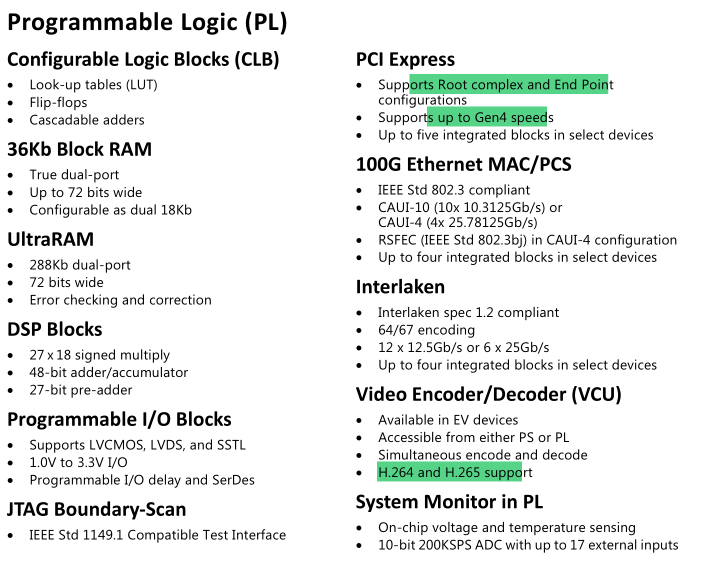


## PS

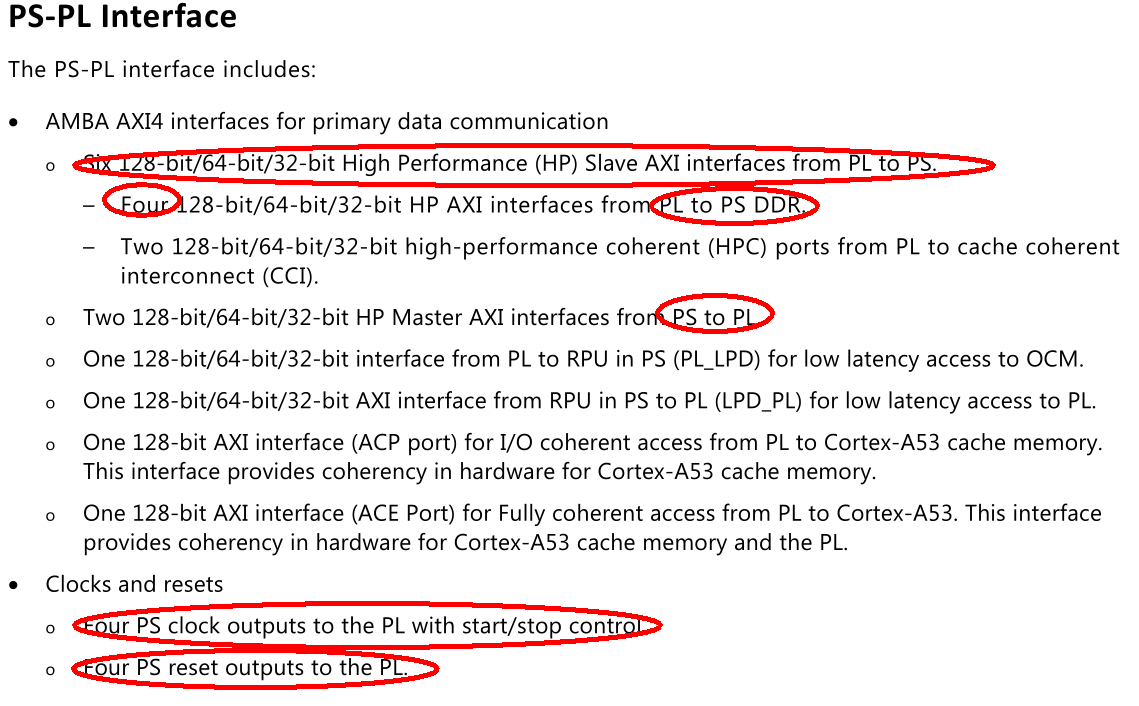




## PL



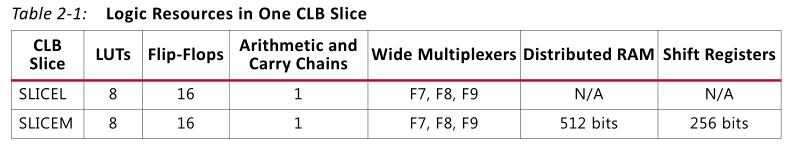
## PS-PL Interface



# 主要逻辑资源

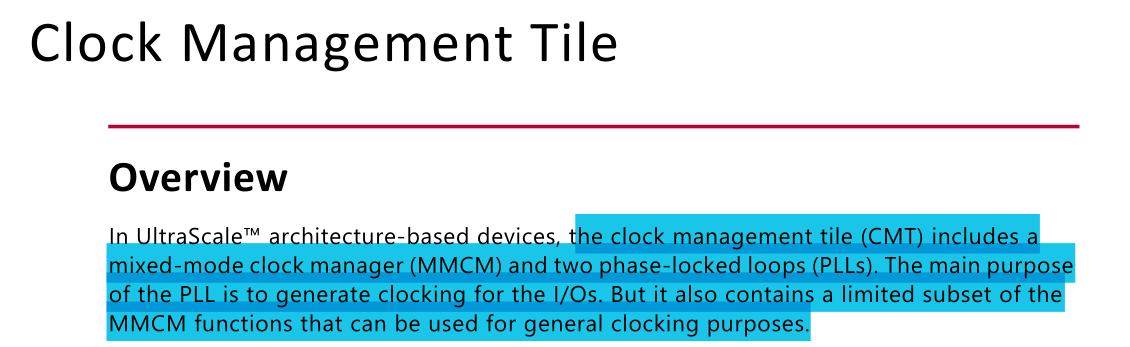
## CLB



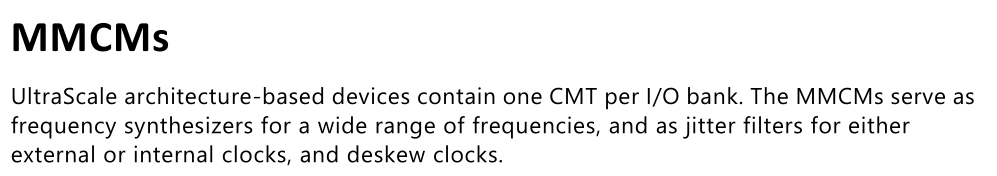


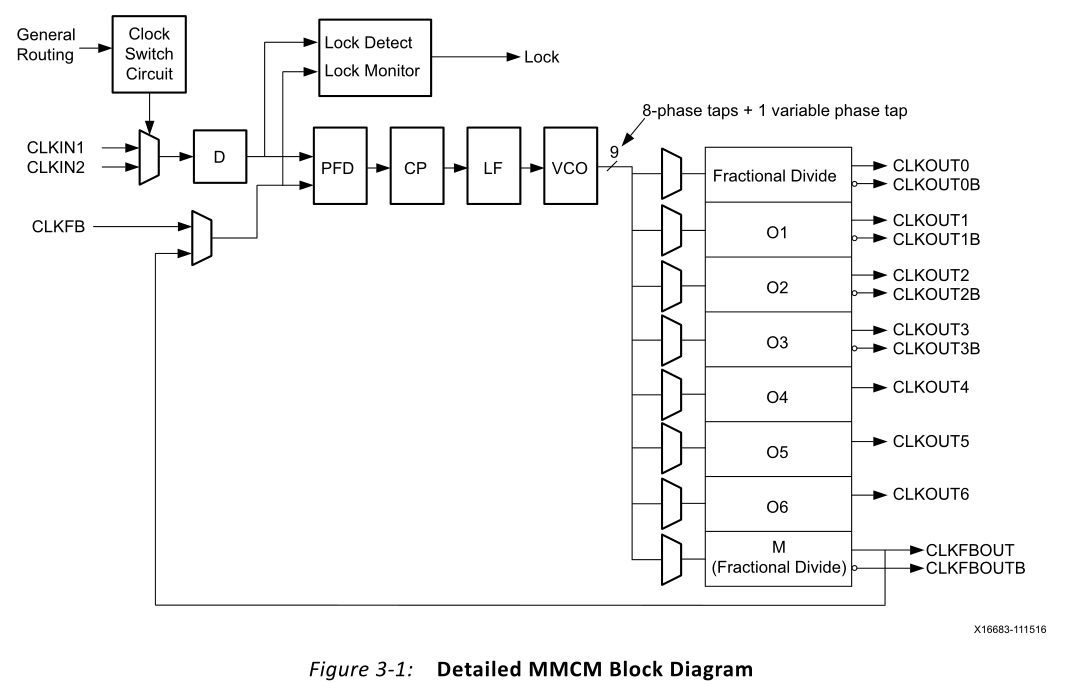
## Clock

外部全局时钟进去fpga需要走GC管脚。共8个CMT

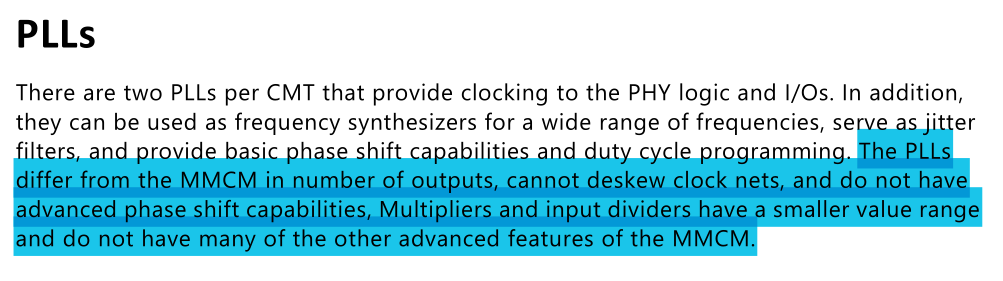


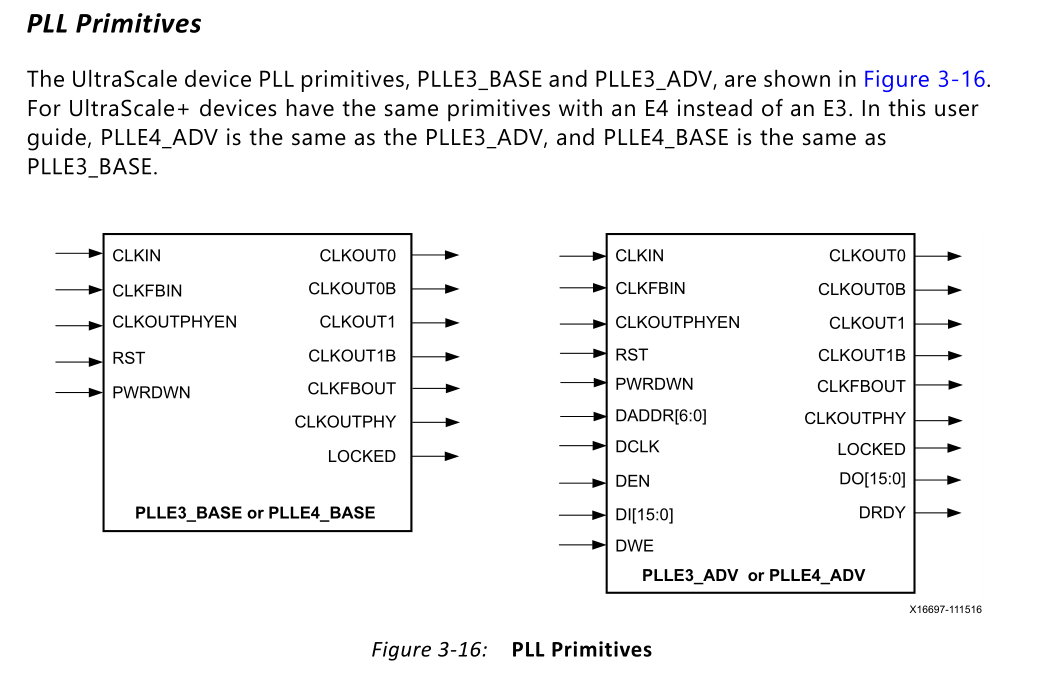
### MMCM





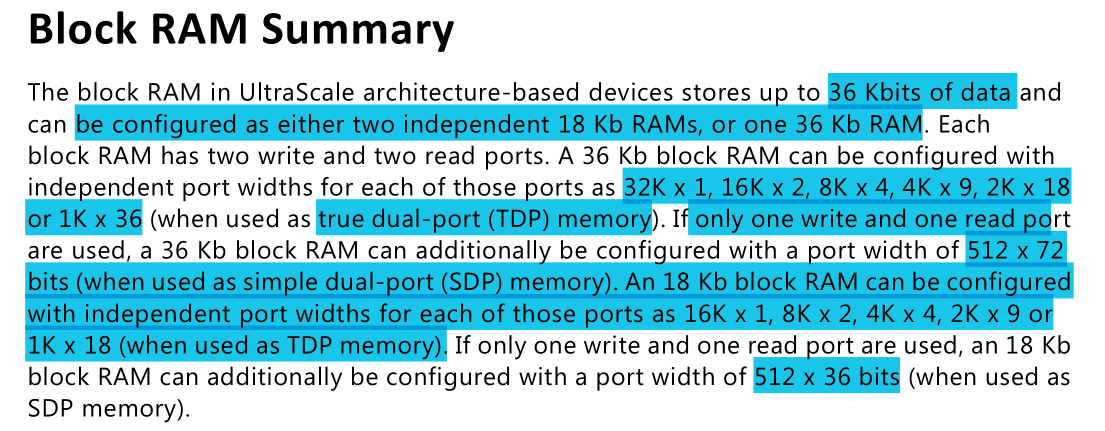
### PLL

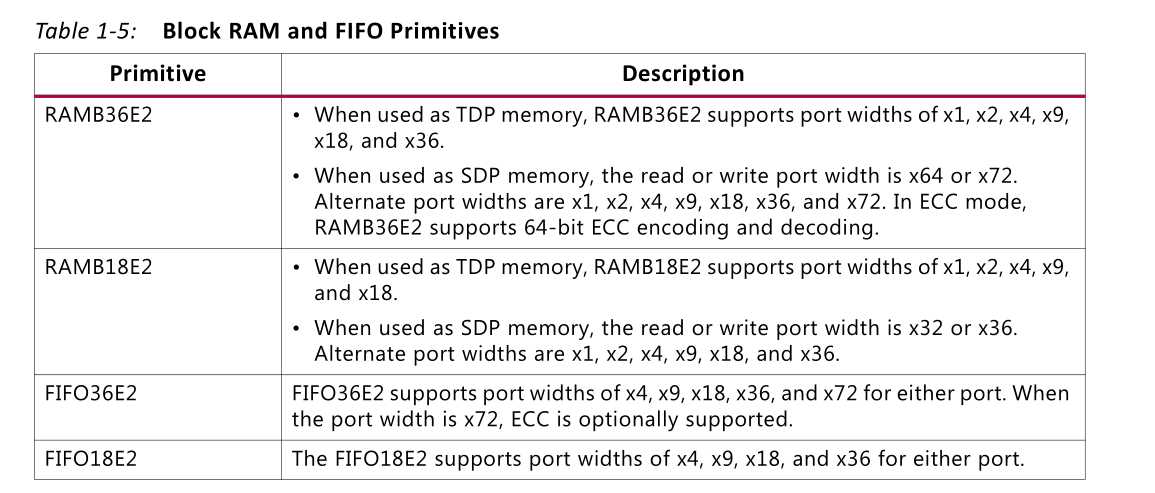


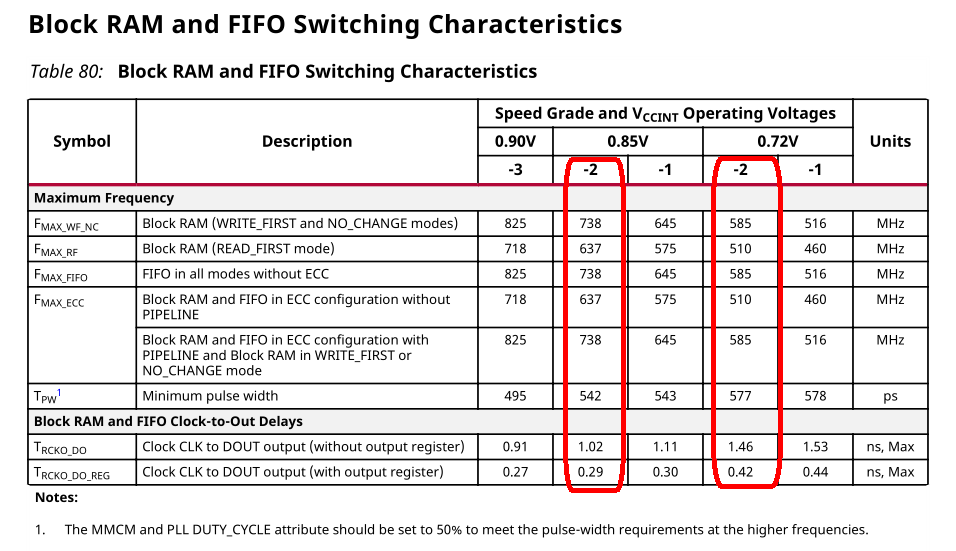


## Memory

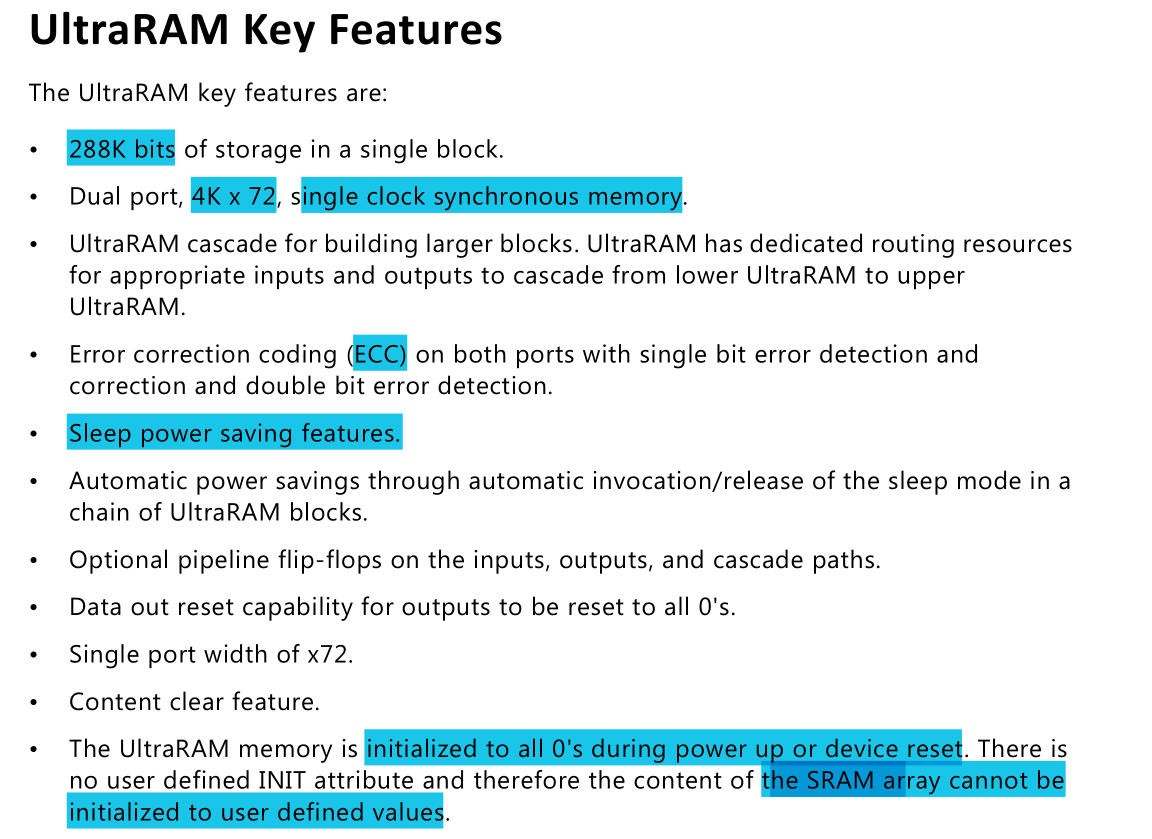
### Block Ram

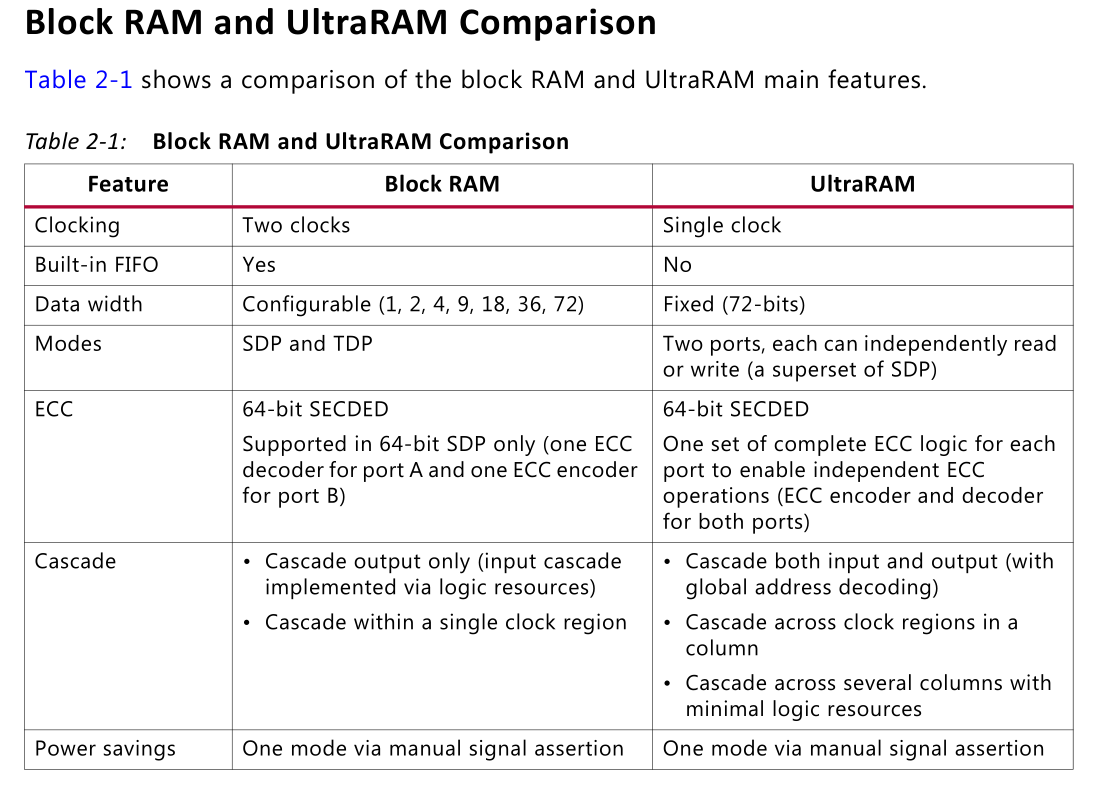


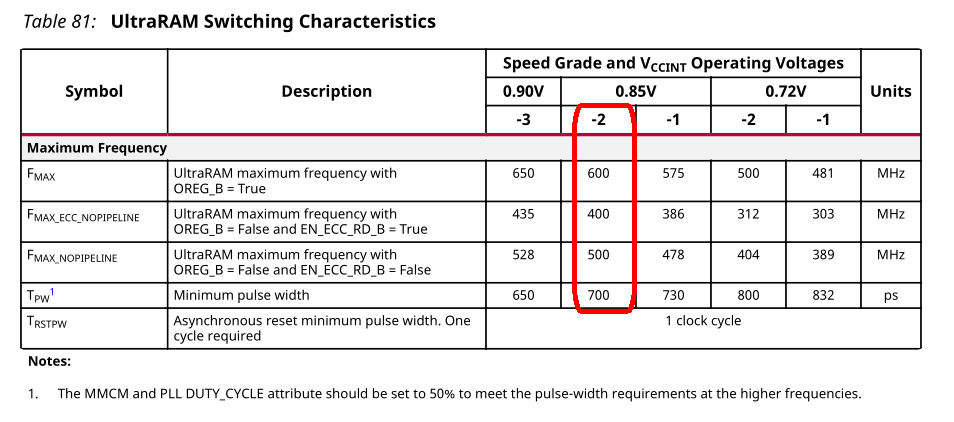




### UltraRam

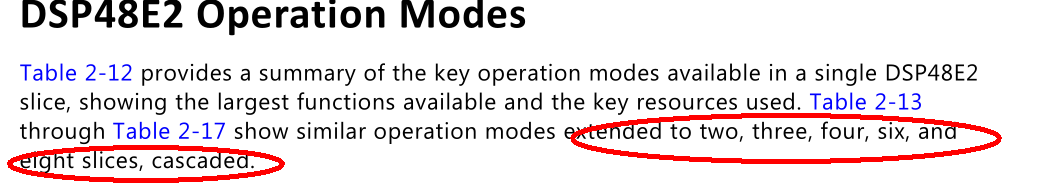


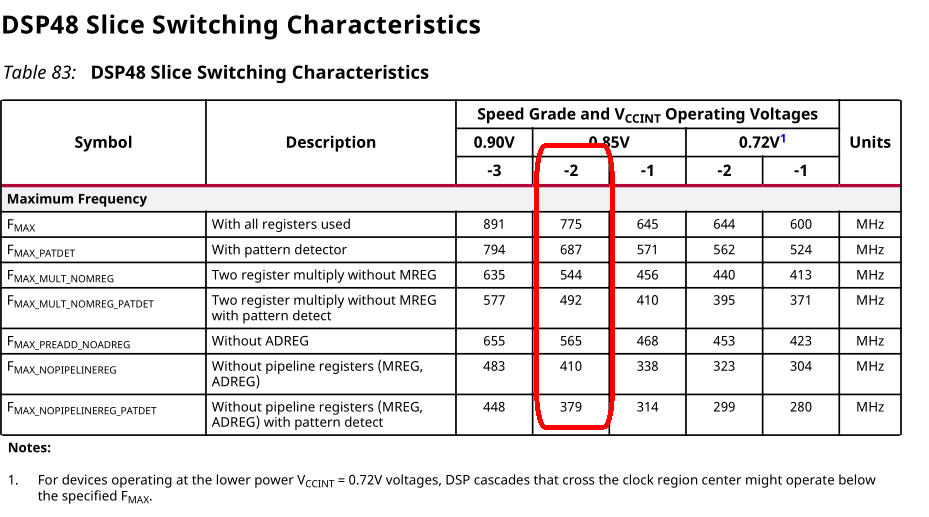




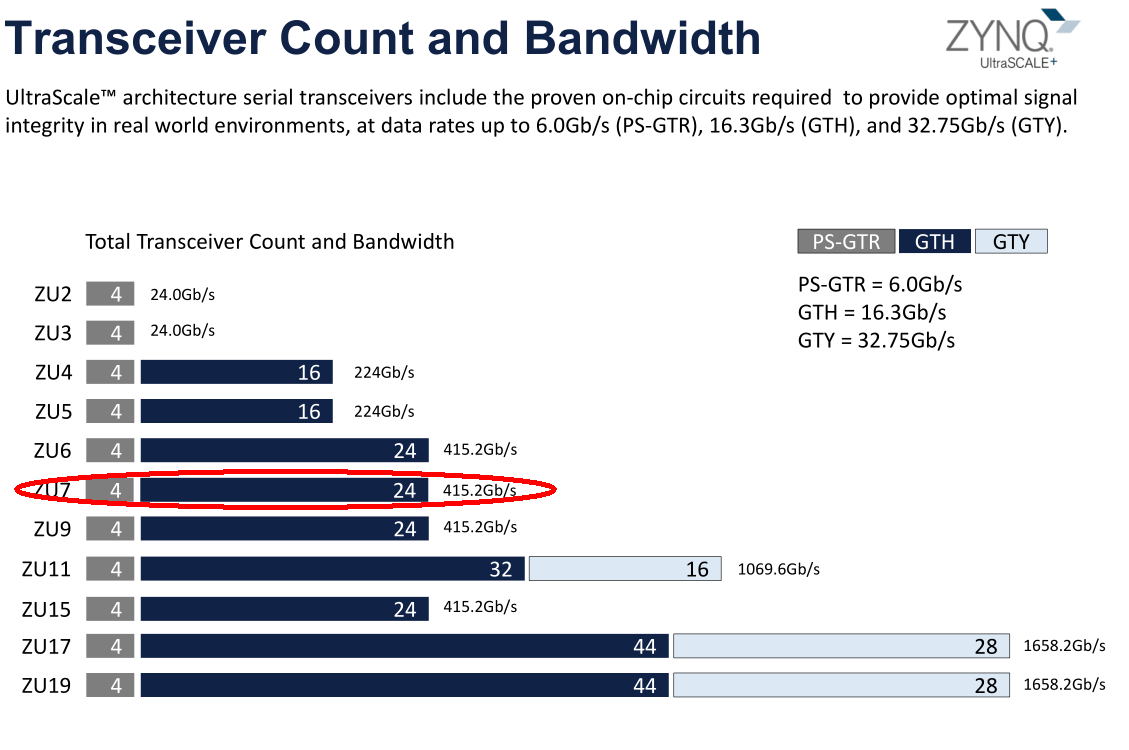
## DSP



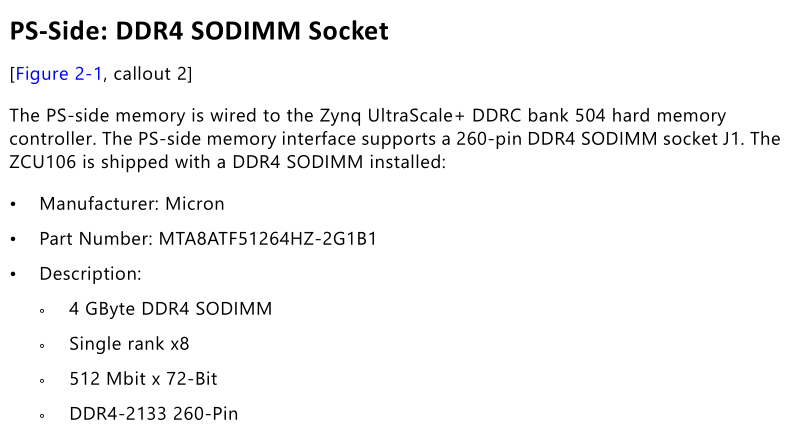




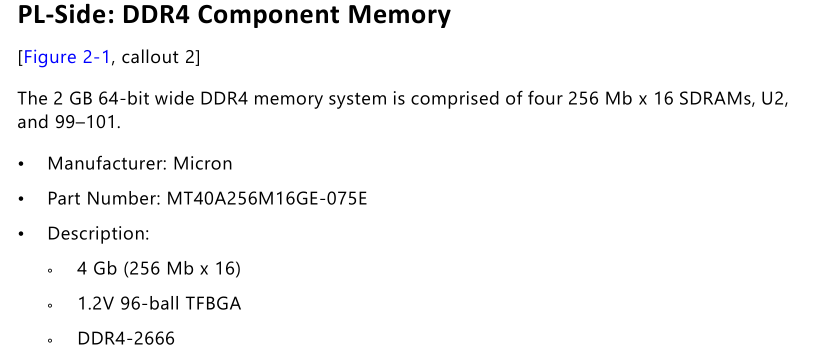
## High-Speed Serial Transceivers



### DDR4

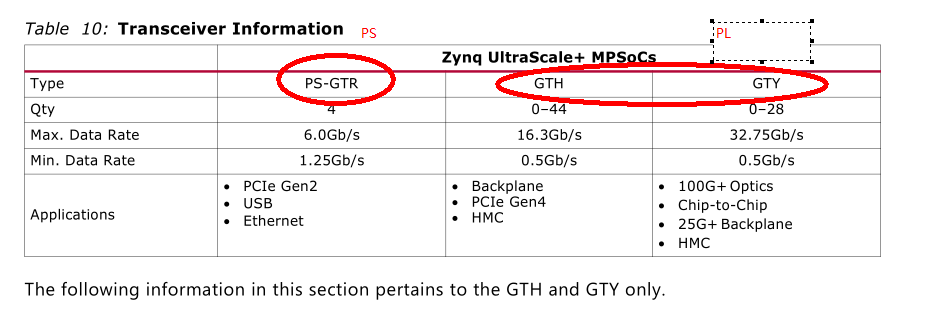


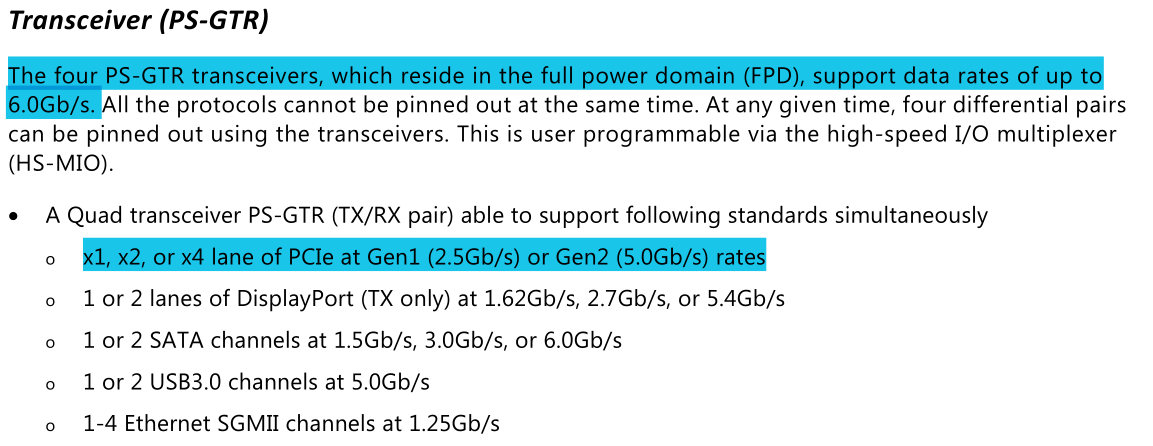
4GB

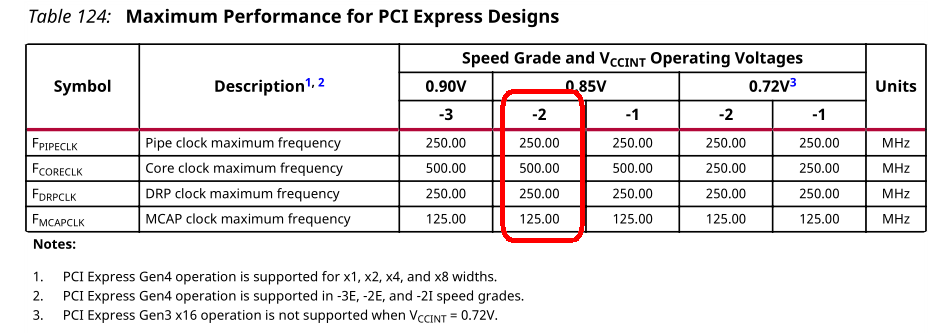


2GB

### PCIE

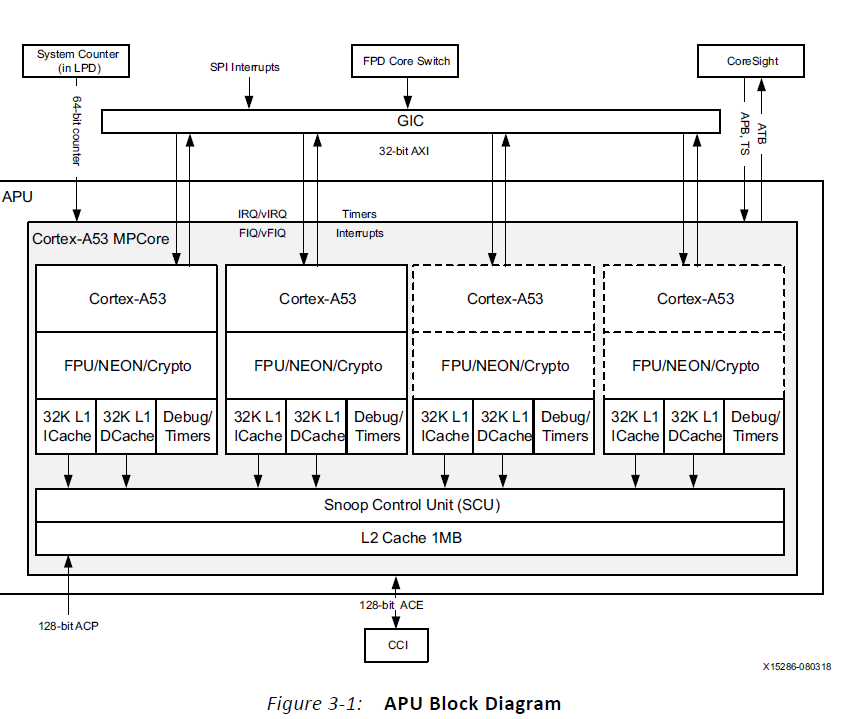






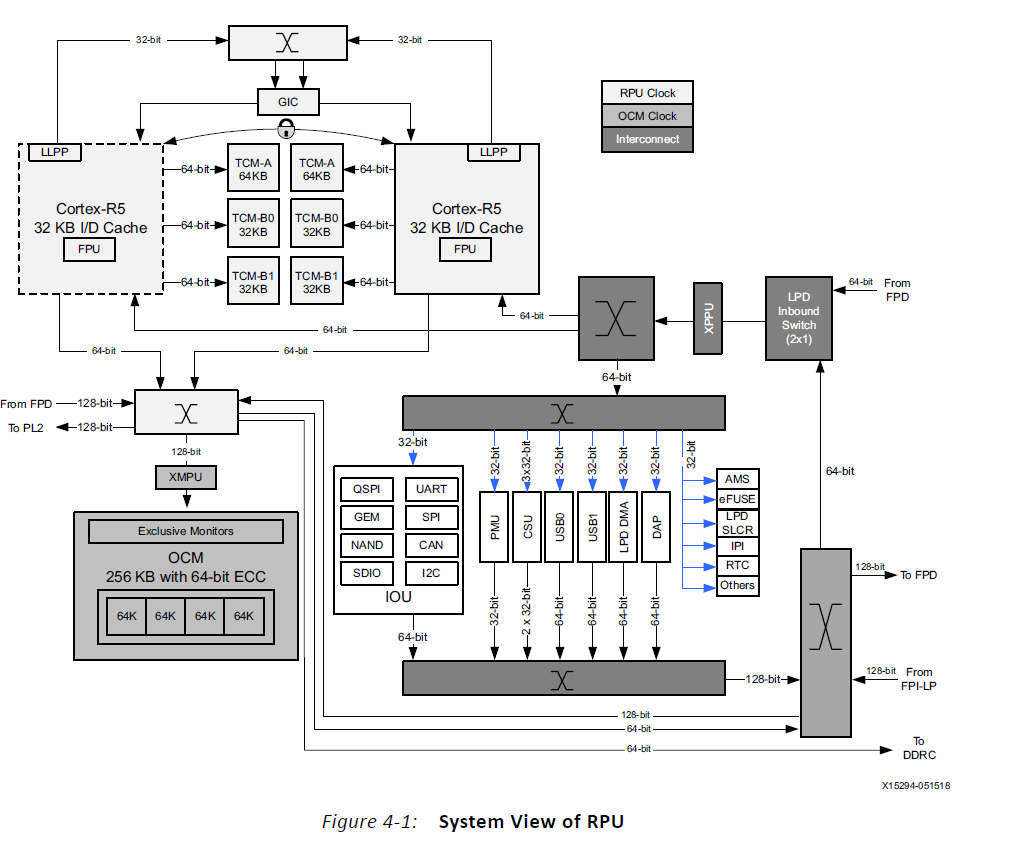
## APU

4核Cortex-A53,arm v8 架构，主频最高1.5Ghz



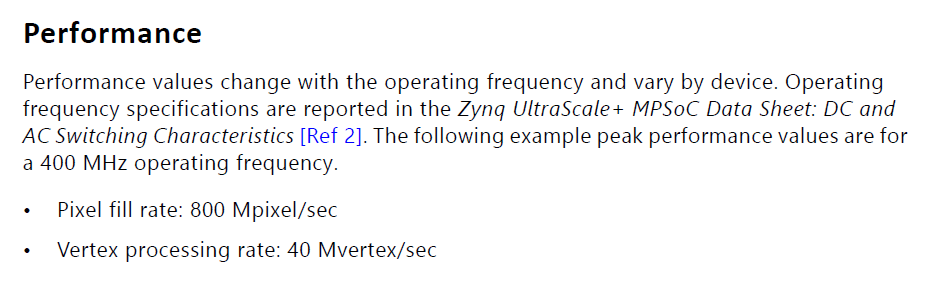
## RPU

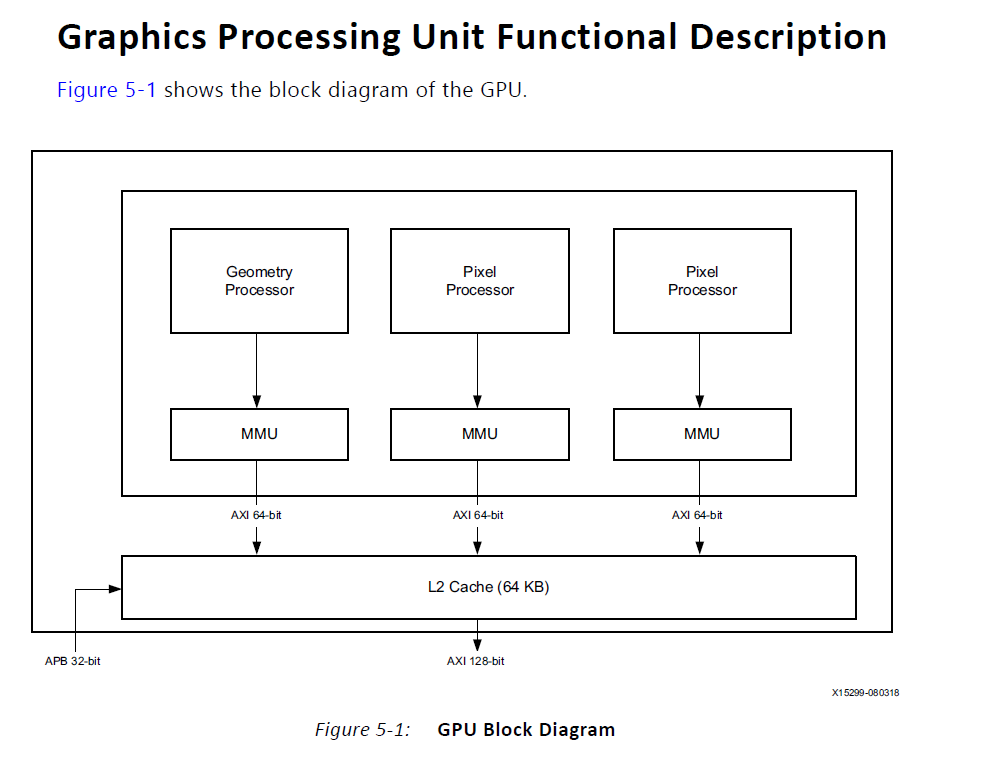
2核cortex-r5 processors for real-time processing，arm v7-r架构



## GPU

The GPU is a 2D and 3D graphics subsystem based on the Arm® Mali™-400 MP2 hardwareaccelerator.





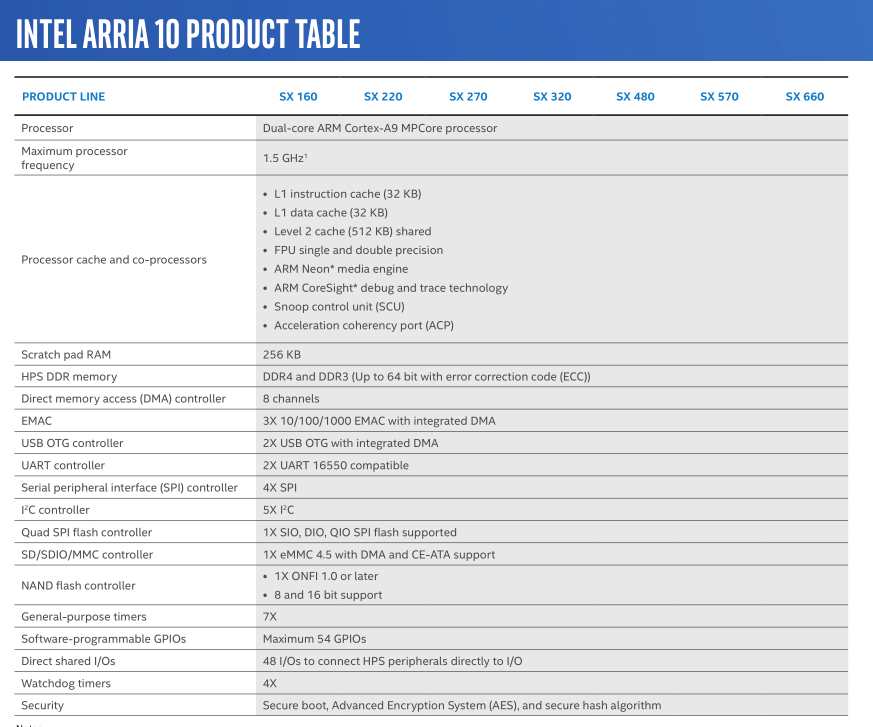
# ZCU106 EV Board与A10 kit关键特性对比

## 主芯片特性比较

### A10 SOC

CPU 频率 1.2 GHz，借助过驱动技术可达到 1.5 GHz





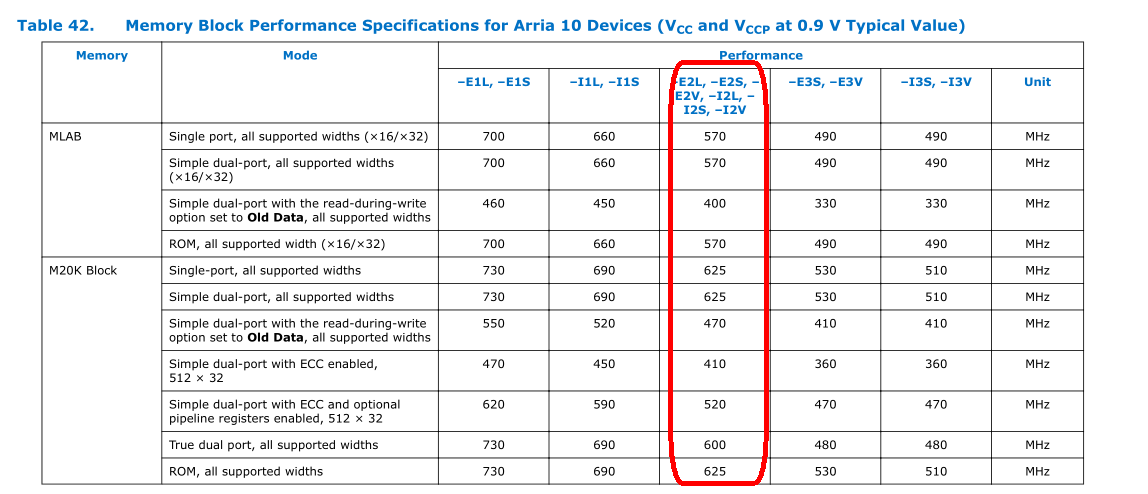
### ZCU106

见2. ZCU106 Ev Device Feature Summary

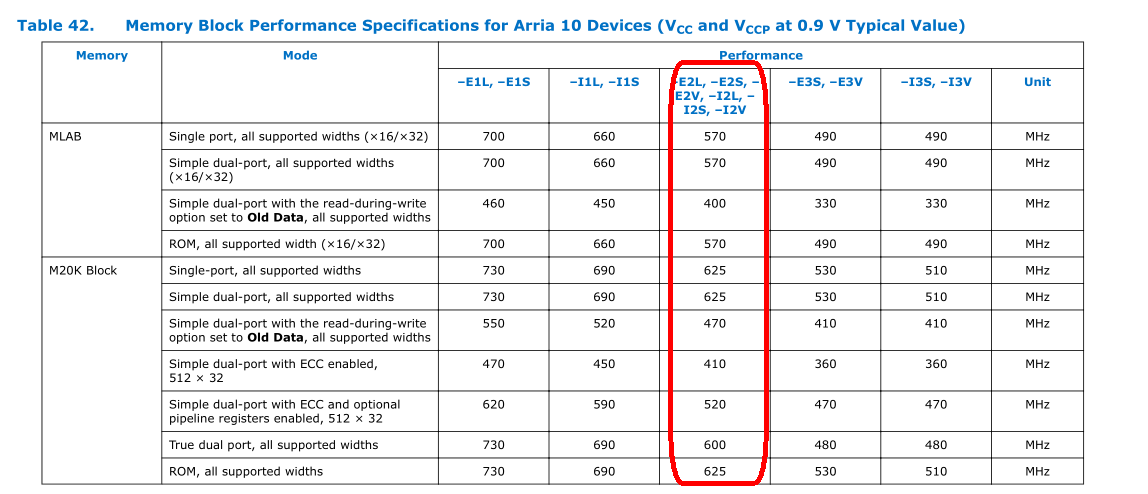
## 芯片主要资源performance比较：

### A10

A10：RAM



A10:DSP



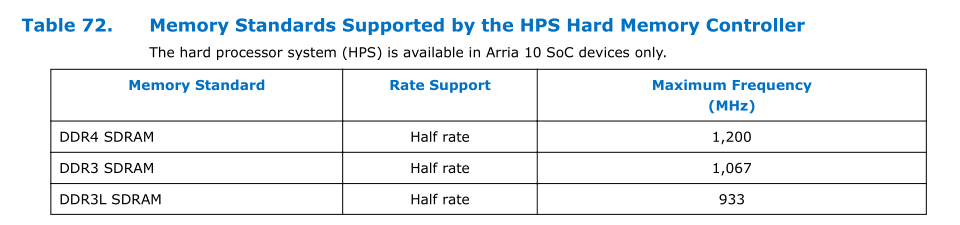
### XCZU7EV-2FFVC1156 PCIE(见3.3 memory)

## DDR4性能

### A10 DDR4：

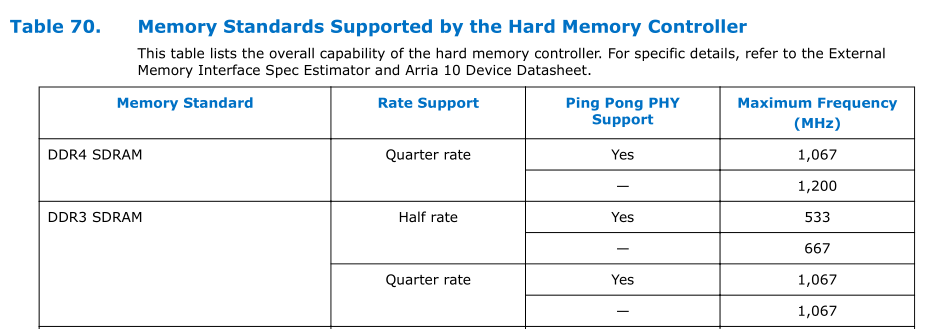
A10 HPS DDR4:

1GB



A10 Hard Memory DDR4:

2GB



### ZCU106

见3.5.1 DDR4

## 核电压

A10:0.9V

ZCU106=0.85V

# 项目移植考虑

1.A10和ZCU106两个平台芯片Block Ram资源总大小差不多（A10 42Mb，Zcu106 38Mb），但Ram特性差异大，移植时改动应该不小

2.Dsp特性二者相差也比较大CE模块移植需要考虑

3.另外，soc部分的移植到xilinx上没有这方面的经验

# 开发板实物图

