One Rocket Architecture-Based SoC Chip on 55nm Technologies and Its Future Evolution

Introduction

Feature
- 16 Pin GPIO
- I2C, CAN, SPI
- 2 UART, 2 PWM
- 16MB QSPI Flash
- RTOS support

Why use rocketchip
1. Many well-defined subcomponents
2. A good extensibility for Architecture Evolution
3. Reduce project cycle

It took only one and a half months from project launch to tape out.

SMIC 55nm Low Leakage 1.2v/2.5v rv32imcf with 64KICache 64KDTIM
Max Frequency@96MHz
Tape Out@12/04/2018
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RoadMap

Q3 2019
Integrated AI Acc NVDLA

Q1~Q2 2020
MultiProcessor Vector Processor v0.5

Q2 2019
Vector Processor v0.1

Q4 2019
Tape Out@28nm Linux Base

Q3~Q4 2020
Out Of Order Pipeline Processor v0.1