SoC Robot Brain Board – FPGA

System Design Innovation & Application Research Center

I. FPGA Device
II. Altera Quartus Download & Setup
III. SoC Robot Project
IV. Compilation
V. FPGA Download

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FPGA Device

- Company Name: Altera
- Device Family: Cyclone IV Device: EP4CE75U19I7
- Package: 324Pins
- LEs: 75408
- User I/O: 293
- Generated Simulation Language: Verilog HDL

FPGA PROM

- Device Name: EPCS64
- Package: 16pins SOIC
- Configuration: Serial

Design Software

- Altera Quartus II

Design Software

- Altera USB Blaster

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- **Altera 홈페이지 접속**
  => http://www.altera.com
- **Quartus** II Web Edition Download Page 접속
  => http://dl.altera.com/?edition=subscription

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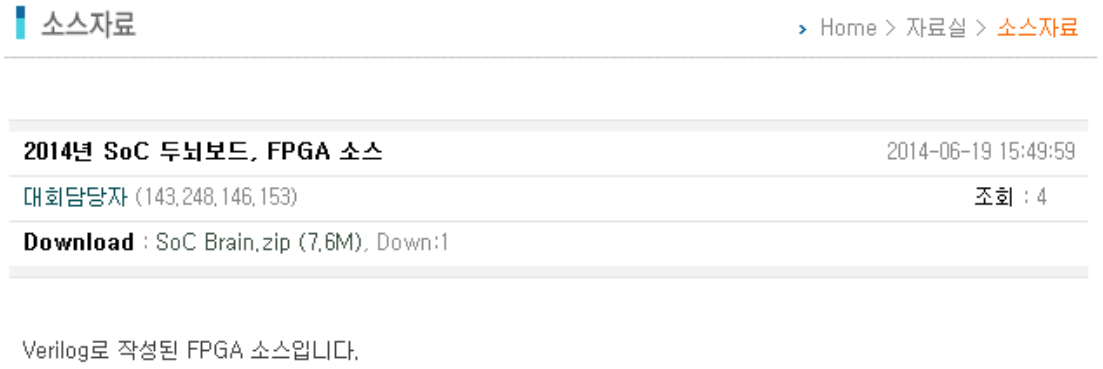
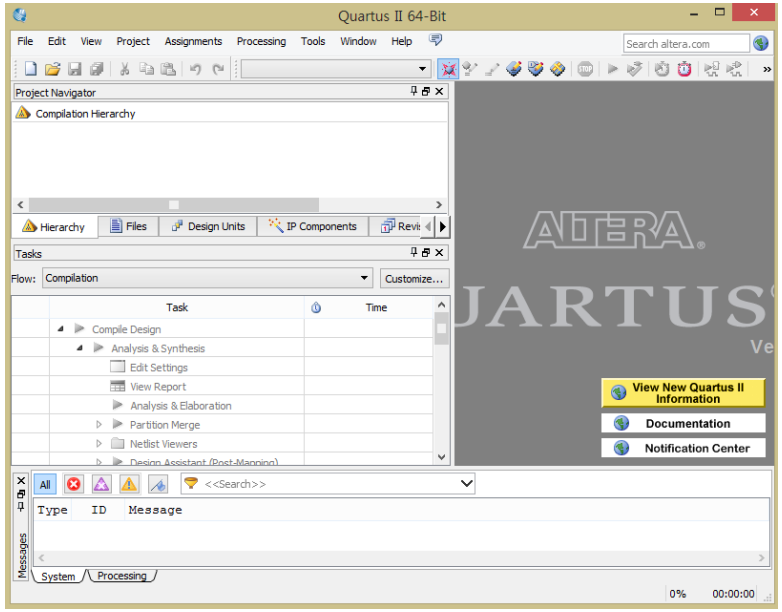
- SoC 로봇워 홈페이지 => 소스자료 게시판
- 2014년 SoC 두뇌보드, FPGA 소스 첨부파일 다운로드



- SoC Brain.zip 압축풀기
- Quatus 실행



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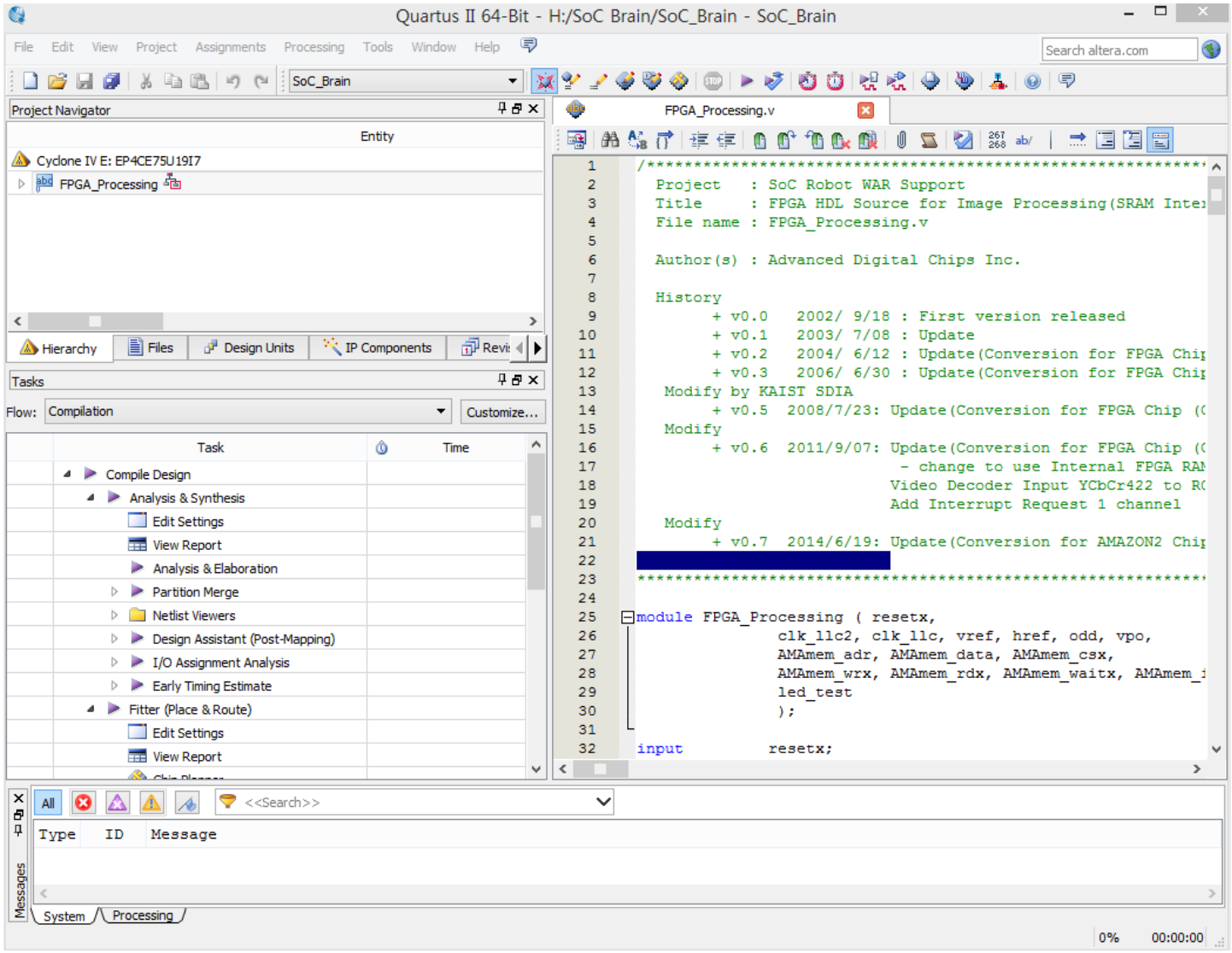
- **프로젝트 Open**
  => File => Open Project
  => SoC_Brain.qpf 파일 선택, Open



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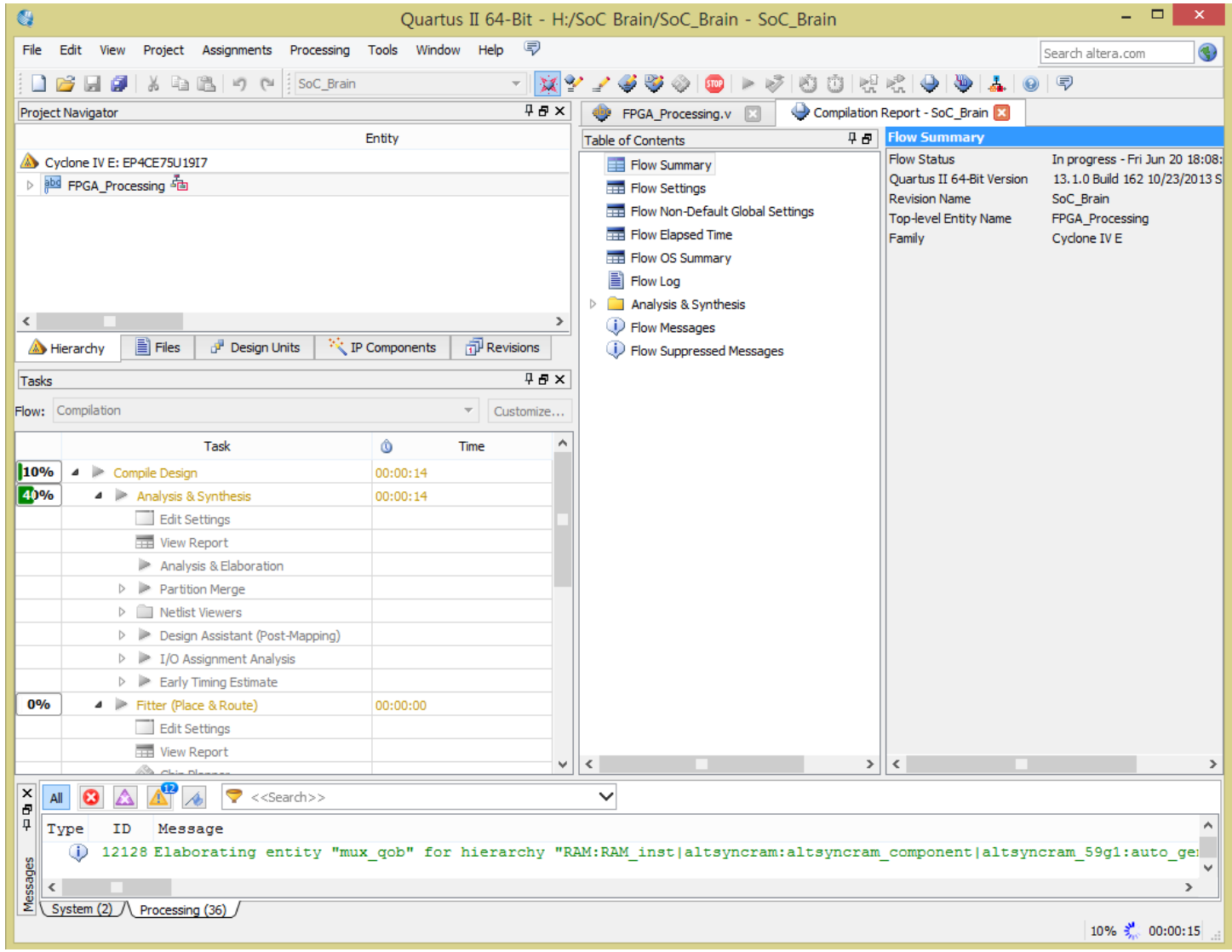
- **Compile**
  => Processing => Start Compilation



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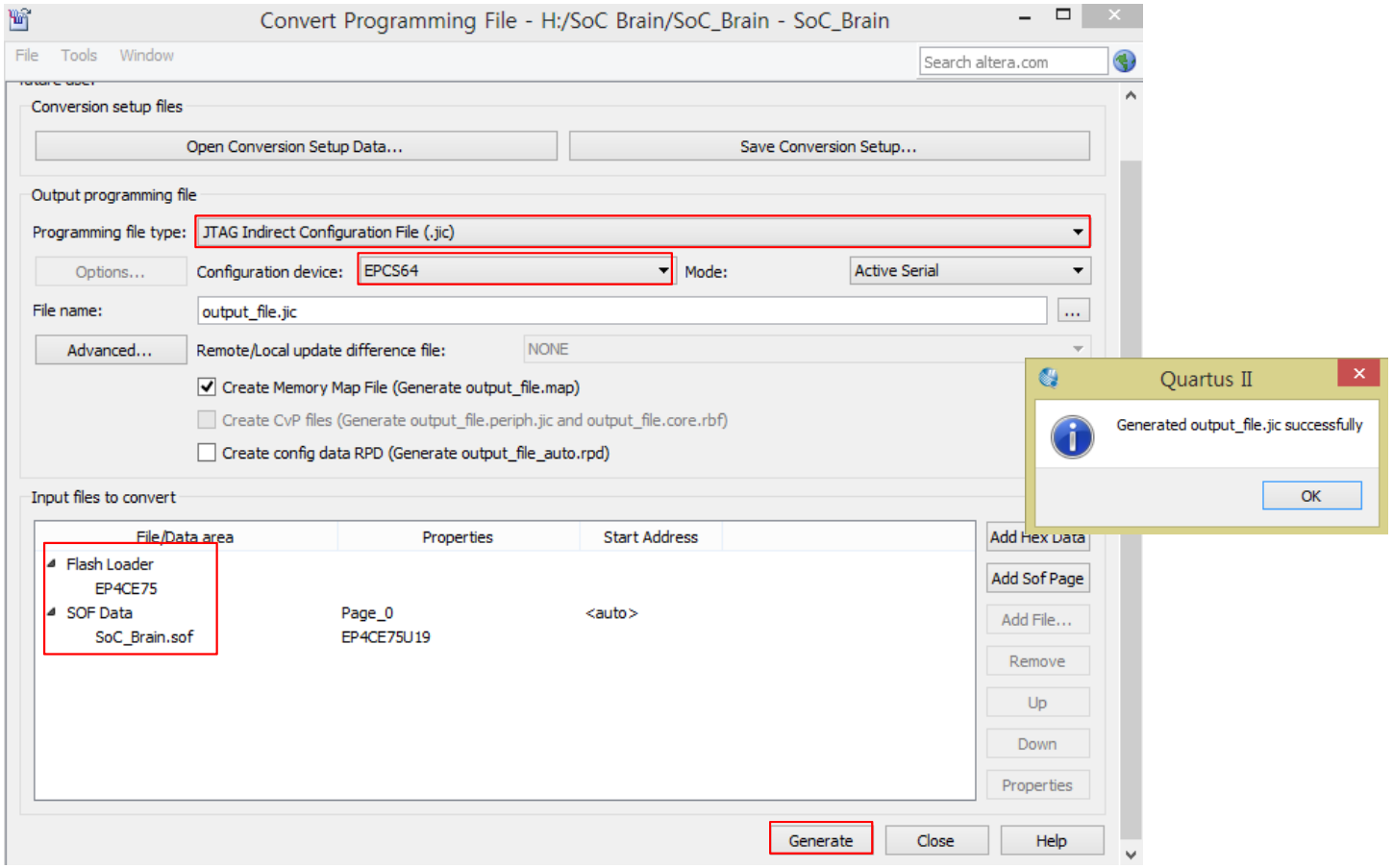
- JIC(JTAG indirect Configuration file 파일 생성

  => File => Convert Programming Files

  - Programming file type: JTAG Indirect Configuration File(.jic)
  - Configuration device: EPCS64
  - Flash Loader 선택 => Add Device… => Cyclone IV E / EP4CE75 체크
  - SOF Data 선택 => Add File… => output_files 폴더 선택 => SoC_Brain.sof Open
  - Generate 선택



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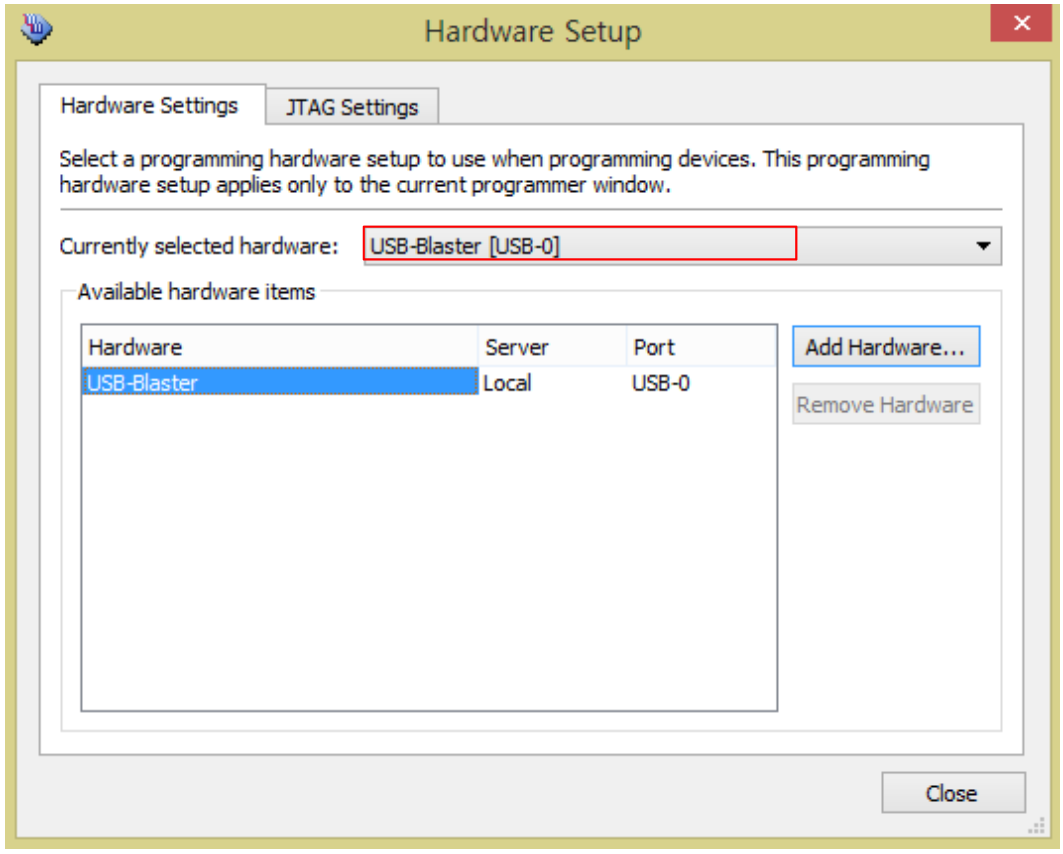
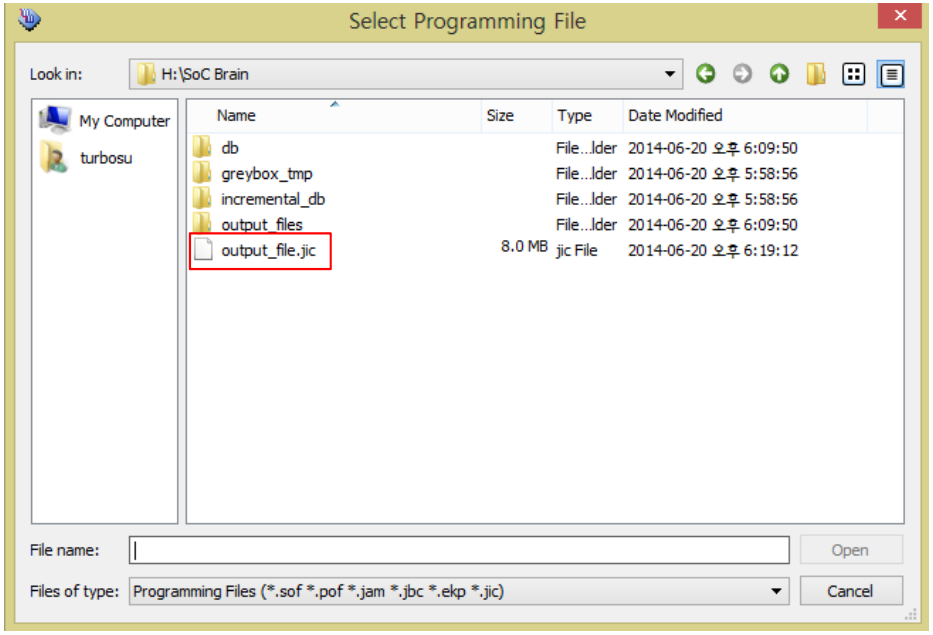
- **FPGA Programming**
  => tools => Programmer
- **Hardware Setup**
  => USB Blaster 연결 후 드라이버 설치 => USB-Blaster 선택



• **JIC 파일 추가**

=> Add File… => Programmer => output_file.jic 선택



• **Programming**

=> Program/Configure 체크

=> SoC Brain Board 전원 ON => Start