Framework Manual
www.decimalarith.info

Environment Variable
https://docs.google.com/document/d/1CH2ep4YcL_ojsa3BVHEW-uwcKh1FlFTjH_kg5v8bxVw/edit
This two environment variable must set before run RISCV

export RISCV=/path/to/install/riscv/toolchain
export PATH=$RISCV/bin:$PATH
export MAKEFLAGS="$MAKEFLAGS -j4"
LD_LIBRARY_PATH=/usr/local/lib64/:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH

setenv RISCV /path/to/install/riscv/toolchain
setenv PATH $RISCV/bin:$PATH
setenv MAKEFLAGS -j80
setenv LD_LIBRARY_PATH
Setenv LD_LIBRARY_PATH /usr/local/lib64/:$LD_LIBRARY_PATH

// using emulator
export RISCV=/project/dsl-share/all/.../path/to...

To execute to make RISC-V binary
riscv64-unknown-elf-gcc DecMulTimeMeasure.c decNumber.c decContext.c -o RISC_VBINARY

To execute project in in RISCV with cpu se.py in gem5 simulator
./build/RISCV/gem5.opt configs/example/se.py -c tests/test-progs/hello/bin/riscv/linux/decNumberBinary

./simulator-example-RoccExampleConfig +verbose ../tests/accum.riscv 2>&1 | spike-dasm

Rocc[configuration of Accelerator

Repository location [oirginal]
Project Repo [latest feb 2020]
https://github.com/ucb-bar/project-template.git
 Start document :
 https://chipyard.readthedocs.io/en/latest/
 Rocket chip repo
https://github.com/chipsalliance/rocket-chip
Project template
https://github.com/ucb-bar/hwacha-template
RISC-V tools (git)
https://github.com/riscv/riscv-tools.git
Chesel(git)
https://github.com/freechipsproject/chisel3.git

Repository location [example]

Configuring Accelerator:
Following environmental variable must set before use
export RISCV=/path/to/install/riscv/toolchain
export PATH=$RISCV/bin:$PATH
export MAKEFLAGS="$MAKEFLAGS -j4"   // using emulator

File location for modify and configure RoCC
cd~/project-template/rocket-chip/src/main/scala/system/Configs.scala
cd ~/project-template/rocket-chip/src/main/scala/subsystem/Configs.scala
Accelerator File for modification
cd ~/project-template/rocket-chip/src/main/scala/tile/LazyRoCC.scala

Build New Rocc
cd emulator
Set the environment variable
LD_LIBRARY_PATH=/usr/local/lib64/:$LD_LIBRARY_PATH
export LD_LIBRARY_PATH

==make CONFIG=RoccExampleConfig==
It will generate following executable in emulator folder
emulator-freechips.rocketchip.system-RoccExampleConfig

Execute using accelerator
cd emulator
./emulator-freechips.rocketchip.system-RoccExampleConfig -c pk pk/examples-pk-accumulator
For detail
./emulator-freechips.rocketchip.system-RoccExampleConfig +verbose pk pk/examples-pk-accumulator

Writing C code using accelerator and make the c executable for RISCV ISA

Making executable (RISC-V BINARY)

riscv64-unknown-elf-gcc DecMulTimeMeasure.c decContext.c decDouble.c decQuad.c -o
examples-pk-DecMulTimeMeasure