G80 Shader Cluster

Shader Cluster

Streaming processors

Register Arrays

16 Streaming Processors (32-bit Scalar)

Texture Address Calculation Units

Texture Filtering Units

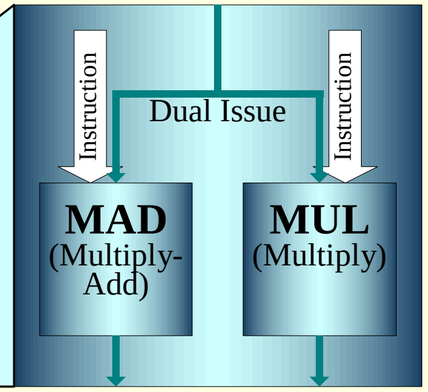
Texture units

L1 Data Cache Memory (Write-Backable)

Crossbar Switch

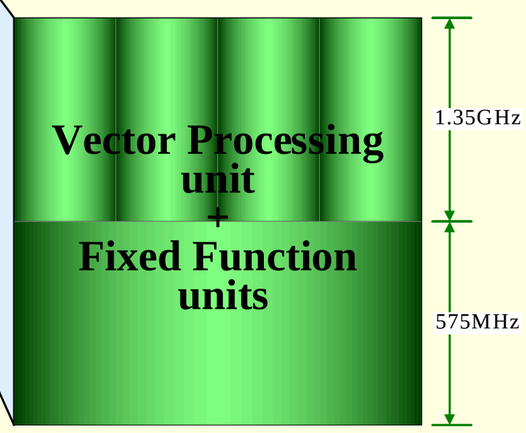
L2 Cache Memory (Write-Backable?)

Streaming Processor



IEEE 754 Single Precision Floating Point(32-bit)
128 Streaming Processors(16 processors * 8 clusters)
1.35GHz
Scalar Processor
Dual Issue MAD(Multiply-Add)+MUL(Multiply)
518 GFLOPS (4.05GFLOPS * 128 processors)
Fully unified & generalized
Fully decoupled
Exceptional branching performance
Streaming execution

Texture Filtering Unit



32ppc(4Units * 8 Cluster) Texture Addressing
up to 64ppc(8pixel * 8 Clusters) Texture Filtering
36.8 GBilerps/sec (64ppc * 575MHz)
Optimized for HDR
Support fp16 and fp32
Full speed of fp16 HDR
Full speed of Aniso (2:1)