



Qwyit™ Demo FPGA: Performance Resource Summary

Resource Usage Summary report for av_sk_hdmi2_demo	Device Capacity	Usage For Qwyit Encryption Module	% Use
Mon Sep 14 14:25:38 2020			
Quartus Prime Version 17.1.0 Build 590 10/25/2017 SJ Standard Edition			
Fitter Resource Usage Summary			
Resource			
Logic utilization (ALMs needed / total ALMs on device)	136,880	7,625	5.6
ALMs needed [=A-B+C]		7,625	
[A] ALMs used in final placement [=a+b+c+d]	136,880	9,170	6.7
[a] ALMs used for LUT logic and registers		425	
[b] ALMs used for LUT logic		8,657	
[c] ALMs used for registers		89	
[d] ALMs used for memory (up to half of total ALMs)		0	
[B] Estimate of ALMs recoverable by dense packing	136,880	1,682	1.2
[C] Estimate of ALMs unavailable [=a+b+c+d]	136,880	137	
[a] Due to location constrained logic		0	
[b] Due to LAB-wide signal conflicts		2	
[c] Due to LAB input limits		135	
[d] Due to virtual I/Os		0	
Difficulty packing design		no change	
Total LABs: partially or completely used	13,688	1,274	9.3
-- Logic LABs		1,274	
-- Memory LABs (up to half of total LABs)		0	
Combinational ALUT usage for logic		11,485	
-- 7 input functions		21	
-- 6 input functions		7,742	
-- 5 input functions		627	
-- 4 input functions		627	
-- <=3 input functions		2,469	
Combinational ALUT usage for route-throughs		361	
Dedicated logic registers		1,670	
-- By type:			



-- Primary logic registers	273,760	1,027	.4
-- Secondary logic registers	273,760	644	.2
-- By function:			
-- Design implementation registers		1,482	
-- Routing optimization registers		188	
Virtual pins		0	
I/O pins	656	0	
-- Clock pins	32	0	0
-- Dedicated input pins	59	0	0
M10K blocks	1,726	0	0
Total MLAB memory bits		0	
Total block memory bits	17,674,240	0	0
Total block memory implementation bits	17,274,240	0	0
Total DSP Blocks	1,045	0	0
Fractional PLLs	12	0	0
Global signals		0	
-- Global clocks	16	0	0
-- Quadrant clocks	88	0	0
-- Horizontal periphery clocks and Vertical periphery clocks	224	0	0
SERDES Transmitters	176	0	0
SERDES Receivers	176	0	0
JTAGs	1	0	0
ASMI blocks	1	0	0
CRC blocks	1	0	0
Remote update blocks	1	0	0
Oscillator blocks	1	0	0
Hard IPs	2	0	0
Standard RX PCSs	24	0	0
HSSI PMA RX Deserializers	24	0	0
Standard TX PCSs	24	0	0
HSSI PMA TX Serializers	24	0	0
Channel PLLs	24	0	0
Impedance control blocks	4	0	0
Hard Memory Controllers	4	0	0
Average interconnect usage (total/H/V)			
Peak interconnect usage (total/H/V)			
Maximum fan-out		1,820	
Highest non-global fan-out		-15	
Total fan-out		66,407	
Average fan-out		0.19	