Rates and Memory

Data Transfer Rate	
ADC Sampling Rate, [MSPS]	50
Number of Channels	4
ADC Precision, bits	14
8b/10b Encoding, bits	17.5
Number of Samples	8
Data Collection Time [us]	20
Data Transfer Rate, Mbps	**28**

Buffer Size	
Buffering Time, [us]	4
Required Buffer Size [Kbits]	**11.2**

Trigger Transfer Rate	
Crossing Rate [MHz]	10
Number of Trigger Words	1
Bits per Word	8
8b/10b encoding	10
Trigger Transfer Rate, [Mbps]	**100**

Comparioson of ADCs

		Ch	Bits	MSPS	mW	Seri	$		Summary
1	AD9252	8	14	50	773	S	80		
2	AD9259	4	14	50	409	S	53		+: Cost, Power, -: 50MSPS
3	AD9640-150	2	14	150	938	P	104		
4	**AD9640-80**	**2**	**14**	**80**	**492**	**P**	**45**		+: Simple logic, 65-150MHz, -:PCB, 2PS
5	AD9248-65	2	14	65	600	P	30		+: Cost, Simple logic, -: PCB
6	LTC2298	2	14	65	400		80		
7	LTC2284	2	14	105	540		120		
8	ADS6442	4	14	65	1050	S	90		+:All 644x are pin-compatible
9	ADS6444	4	14	105	1350	S	148		
10	ADS6445	4	14	125	1680	S	180		
11	ADS5553	2	14	65	725	P/S	38		
12	ADS62P42	2	14	65	518	P/S	44		
13	ADS62P43	2	14	80	587	P/S	47		

Comparison of FPGA

#	**Lattice ECP2M20E-6F256C**	**50**
1	Embedded Memory [Kbits]	1217
2	sysDSP Blocks	6
3	18x18 Mutipliers	24
4	SERDES 250 to 3125 Mbps	4
5	**Altera Arria GX EP1AGX20CF484C6N**	**$170**
6	RAM [Kbits]	1229
7	DSP blocks	10
8	18x18 multipliers	40
9	Serdes 600 to 3125 Mbps	4