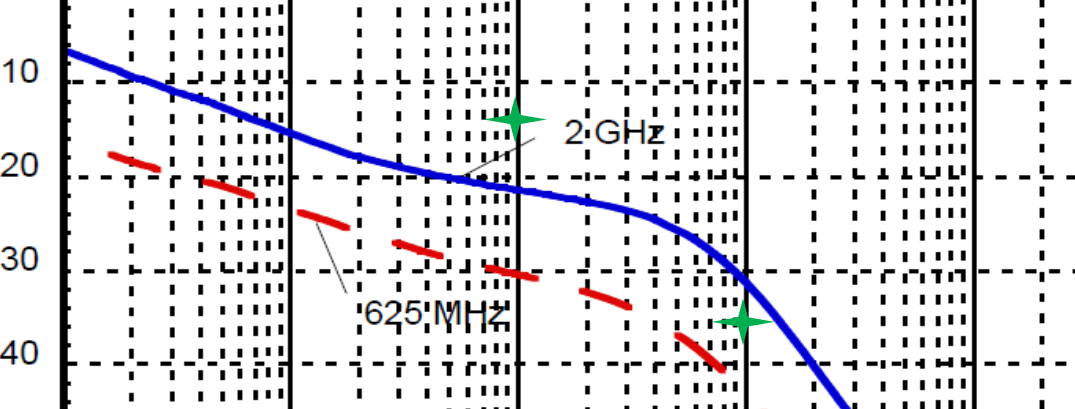


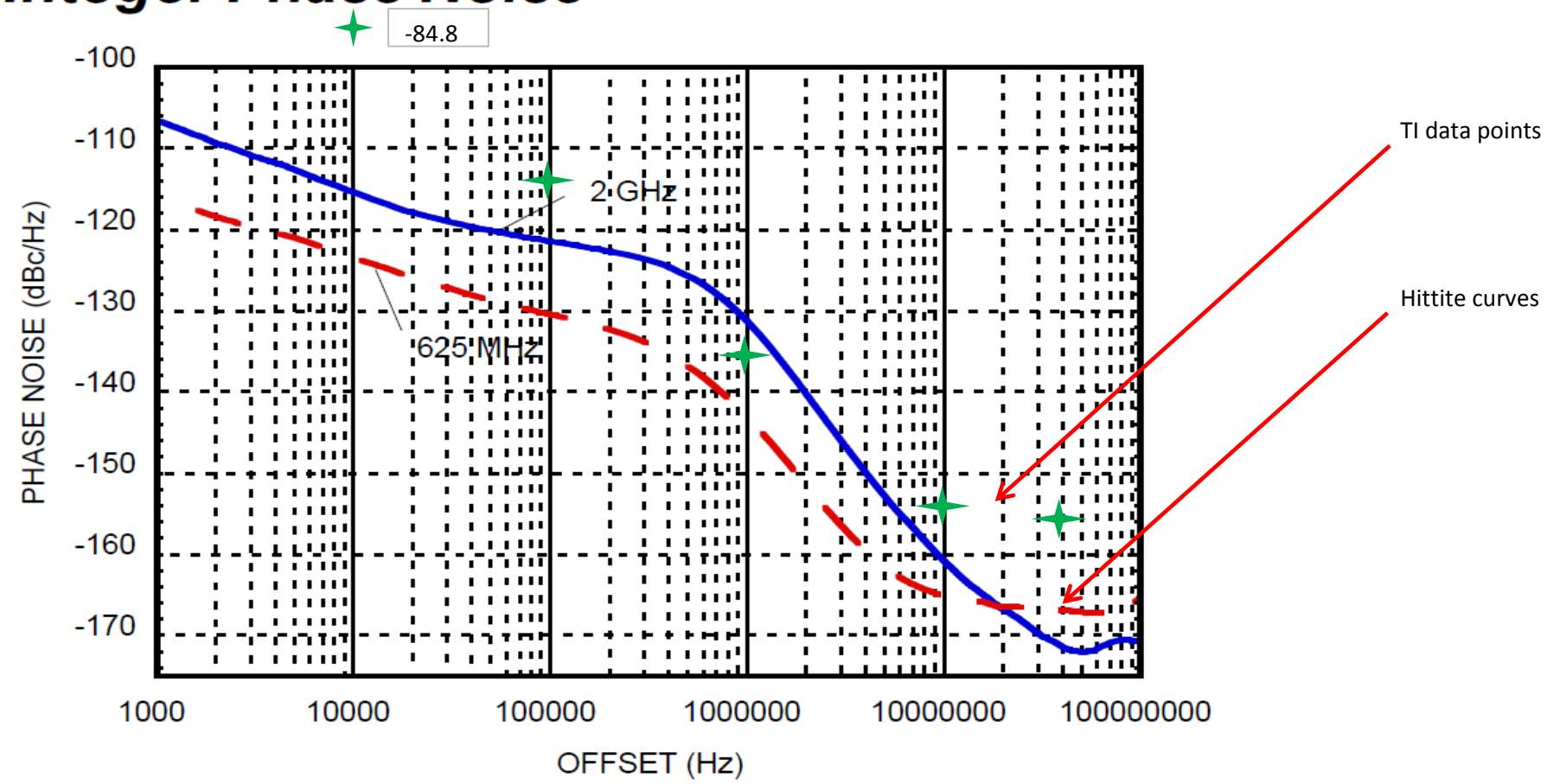
Comparison of Synthesizers for HERALD-ADC

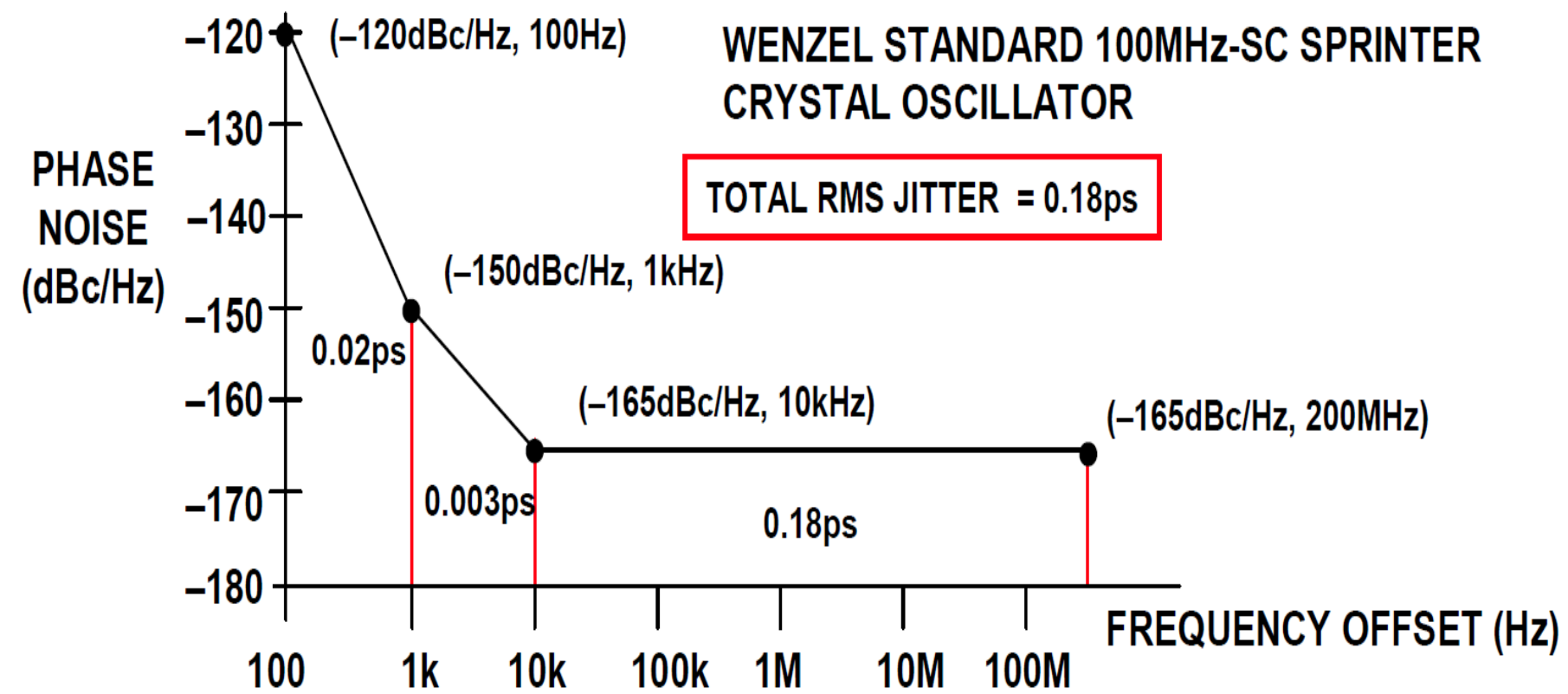
Specification	*****Devices*****		
	HMC1034LP6GE	LMX2581SQ	
Support	Rapid direct response	Only support is TI forum	
Price, single	\$44.90		\$14.30
Price, 500	\$31.27		\$8.35
Icc, 3.3 V	52 ma		178 ma
ICC, 5V	228 ma		not req'd
Power	1.3116		0.5874
Input Osc Freq. Range	.008 to 350 MHz		5 to 250 MHz
Output Freq.	125 to 3000 MHz		50 to 3760 MHz
Phase noise, offset 10 KHz	-115 dBc/Hz		-84.8 dBc/Hz
Phase noise, offset 1 MHz, f = 2 Ghz	-130 dBc/Hz		-136.7 dBc/Hz
Noise floor	-227 dBc/Hz		-229 dBc/Hz
Phase jitter (.012 to 20 MHz)	78 to 118 fs		not specified useful only for sampling rate of 10 MHz; see note 1 below.
Output Power max	0 to 3.3V diff swing		11 dbm (2.26 Vpp)
Control Interface	serial		serial
Note 1:			
Good tutorial: Analog Devices MT-008:	http://www.analog.com/static/imported-files/tutorials/MT-008.pdf		



The plot shows the phase noise spectrum of a 2.0 GHz reference oscillator. The y-axis is Phase Noise (dBc/Hz) from -100 to -170. The x-axis is Offset (Hz) on a log scale from 1000 to 10,000,000. A solid blue line represents the measured phase noise, which follows a -20 dB/decade slope at low offsets and a -30 dB/decade slope at high offsets. Red dashed lines show the noise floor at various offsets. Green stars mark specific points: -84.8 dBc/Hz at 10,000 Hz, -115.5 dBc/Hz at 100,000 Hz, and -155.5 dBc/Hz at 1,000,000 Hz. Labels indicate the 2.0 GHz carrier frequency and the 625 MHz offset frequency.

Offset (Hz)	Phase Noise (dBc/Hz)
10,000	-84.8
100,000	-115.5
1,000,000	-155.5





Above is from Analog Devices tutorial MT-008