



Valon 5009 Sample Phase Noise Data

Shown below is some sample data taken from one of our 5009s. This phase noise data is very typical and unit to unit variation is small.

5009 #27 snA502NJ5H																
temp 37 deg c Taiten tcxo																
Source 1 cp=8							Source 2 cp=8									
	6GHz	5GHz	4GHz	3GHz	2GHz	1GHz	500MHz		6GHz	5GHz	4GHz	3GHz	2GHz	1GHz	500MHz	
Offset								Offset								
10	-68	-70	-78	-80	-82	-83	dBc/Hz	10	-70	-72	-76	-75	-80	-83	dBc/Hz	
100	-75	-76	-82	-82	-83	-87	dBc/Hz	100	-74	-76	-79	-78	-82	-85	dBc/Hz	
1000	-86	-88	-89	-92	-96	-101	dBc/Hz	1000	-86	-88	-89	-91	-96	-101	dBc/Hz	
10000	-95	-98	-98	-100	-104	-108	dBc/Hz	10000	-93	-97	-98	-100	-104	-109	dBc/Hz	
100k	-91	-92	-95	-97	-100	-106	dBc/Hz	100000	-91	-93	-95	-97	-100	-106	dBc/Hz	
1M	-124	-125	-129	-130	-130	-131	dBc/Hz	1000000	-124	-125	-128	-131	-130	-131	dBc/Hz	
10M	-138	-140	-140	-140	-138	-139	dBc/Hz	10000000	-137	-139	-141	-140	-138	138	dBc/Hz	
Pwr	12	15.5	16	16.2	15.7	15.9	dBm	Pwr	11.5	15.5	16.3	16.7	16	16		
INTFRAC									3	3	3	3	3	3	3	
freq							-0.25	ppm							16.3	dBm

If you use an external clock source at 20MHz then the phase noise will be dependent on the phase noise of the external source at frequency offsets below about 100Hz from the carrier. Above 100Hz offset from the carrier, then the phase noise is not dependent on the external source and will be as shown in the table above. Take a look at the Jackson Labs LC_XO module for use as an external GPSDO: http://www.jackson-labs.com/assets/uploads/main/LC_XO_specsheet.pdf