

Jitter Results



Jitter measurements were performed on a Wavecrest SIA-3300C signal integrity analyzer. The measurements were recorded by testing the devices on an evaluation board with an AC coupled output. The evaluation board was connected to the SIA-3300C with an SMA bullet and 90k samples were taken. The values in the table represent typical values.

Period Jitter: Period jitter compares the length of each cycle to the average period of an ideal clock using the long term averaging frequency.

Random Jitter: Unbounded and unpredictable jitter.

Deterministic Jitter: Bounded and predictable jitter.

Total Jitter: The sum of all of the jitter, measured to a 1×10^{-12} BER or confidence level.

Also included is the integrated jitter for the 12 kHz to 20 MHz offset band, using an Agilent E5052A.

Output MHz	Measured on					Measured on Agilent E5052A RMS 12kHz - 20MHz ¹ fs
	Period RMS ps	P/P ps	Random P/P ps	Deterministic P/P fs	Total P/P ps	
10.000	2.9	25.2	2.9	50	40.5	465
16.384	3.2	28.1	3.2	40	44.6	432
20.000	3.2	26.8	3.2	60	43.8	337
27.000	3.3	28.2	3.3	20	45.6	296
35.328	2.7	24.3	2.7	60	37.2	223
50.000	1.8	16.1	1.9	20	26.0	130
55.000	1.8	15.9	1.9	40	25.7	159
66.000	1.9	16.9	1.9	20	27.1	113
100.00	1.9	16.9	1.9	5	26.7	53
125.00	1.9	16.9	1.9	25	26.0	48

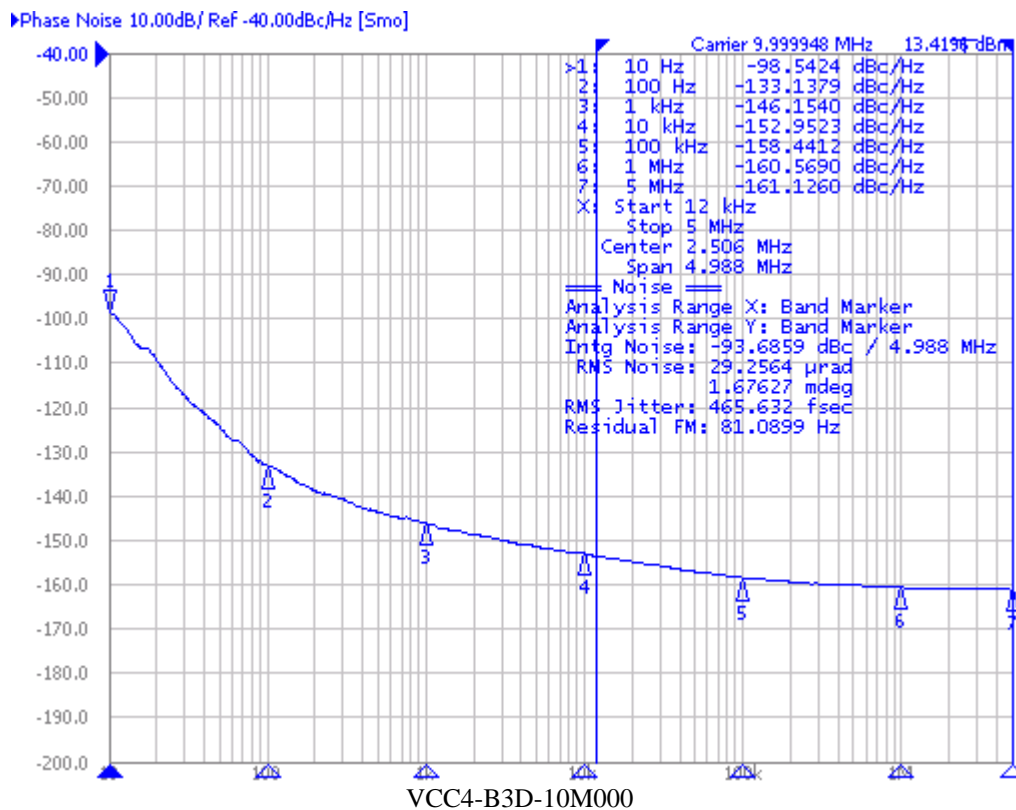
1. Data is based on 12kHz-5MHz for output frequencies < 50.000 MHz

Table of typical jitter values for the VCC4 series of oscillators

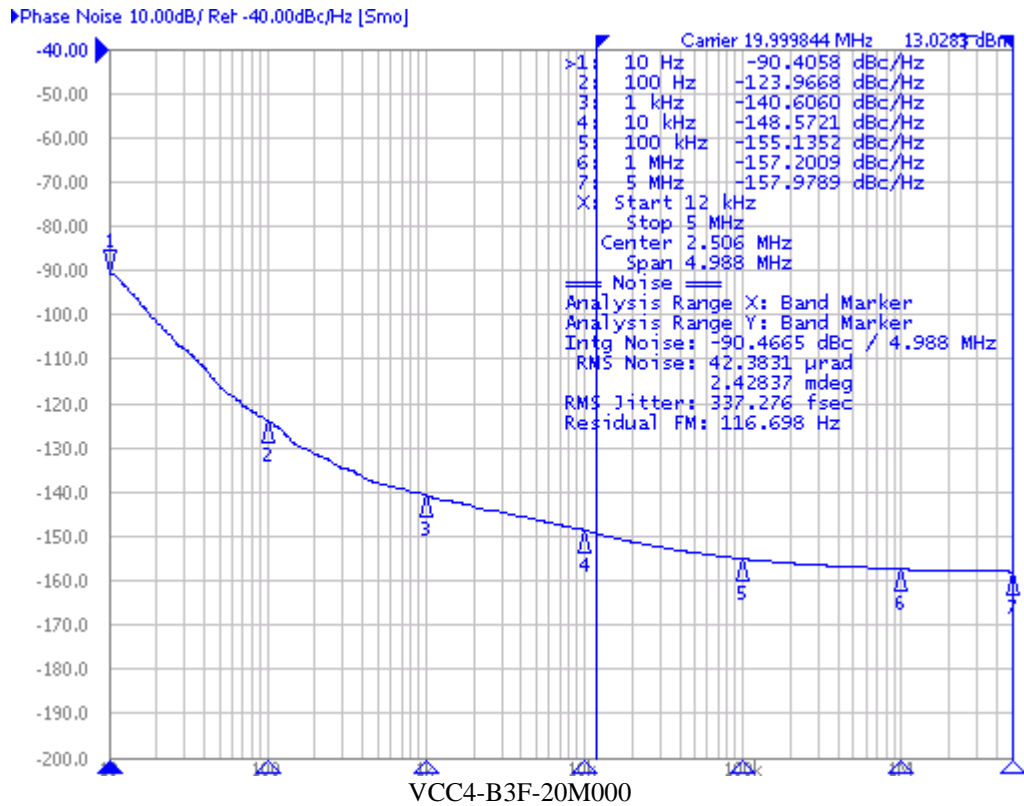
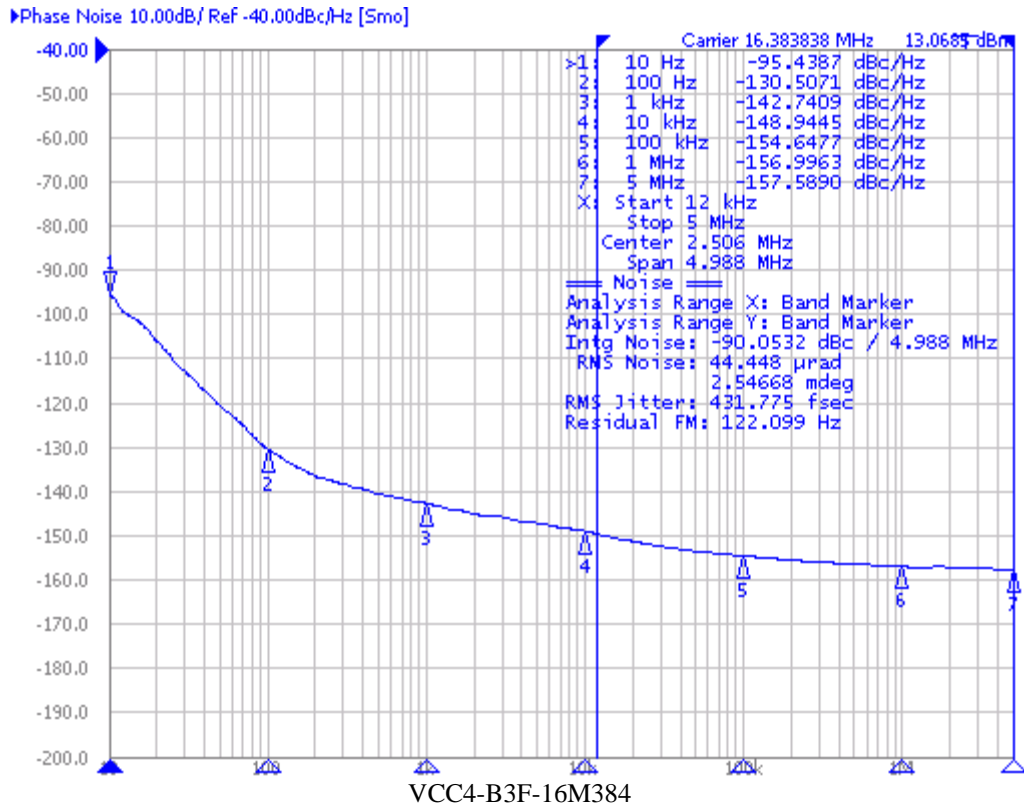
Typical Phase Noise for the VCC4 Series

Phase Noise Results

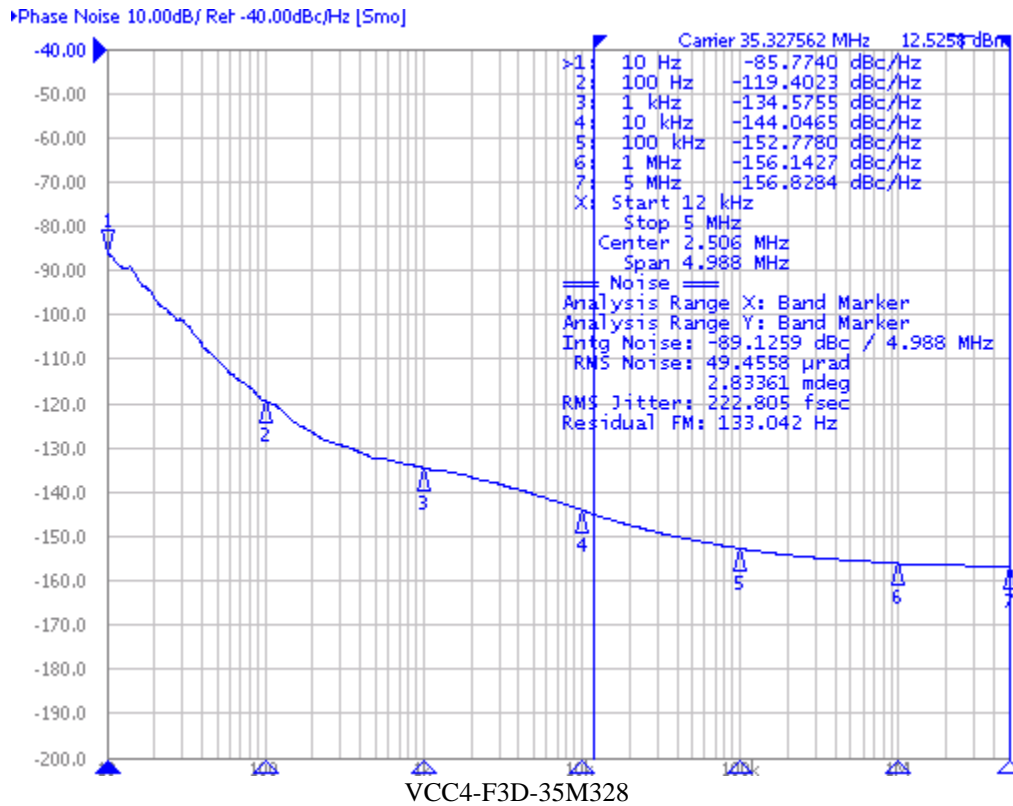
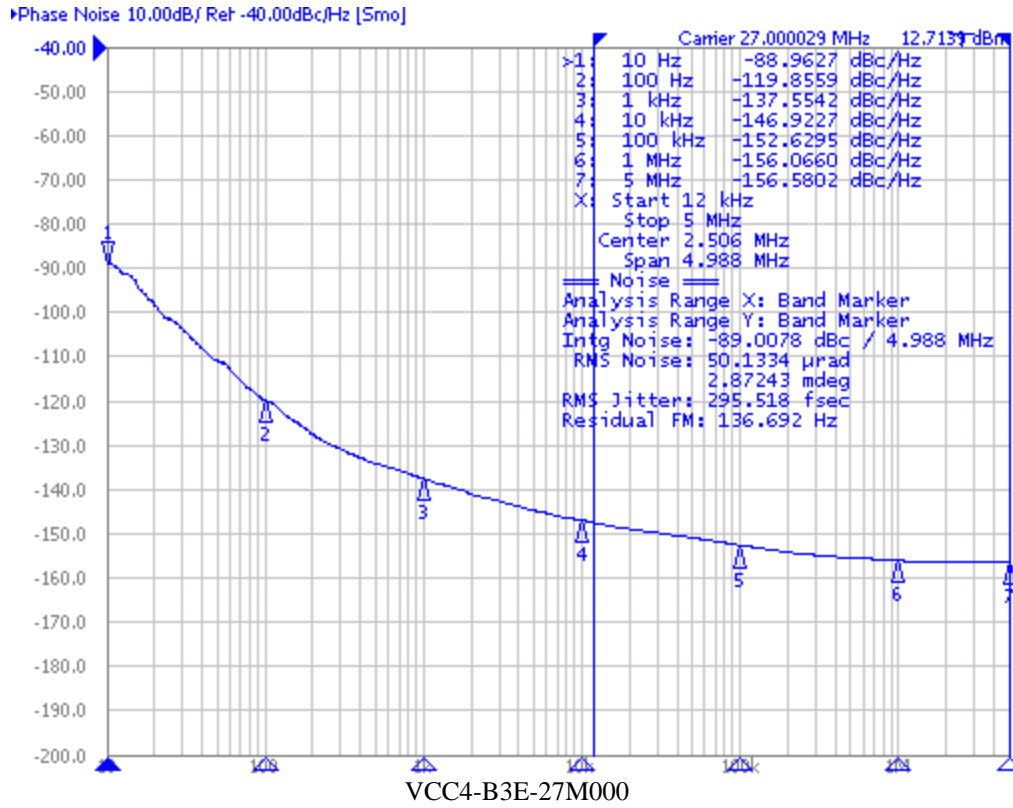
Phase noise measurements were performed on an Agilent E5052A signal source analyzer (SSA). The E5052A has a phase noise to jitter integration calculation feature and devices were characterized in the 12kHz-20MHz band (except for the lower frequencies where the equipment limitations prevented measurement to 20 MHz – see graphs for frequency band). Please contact Vectron for other offset integration bands.



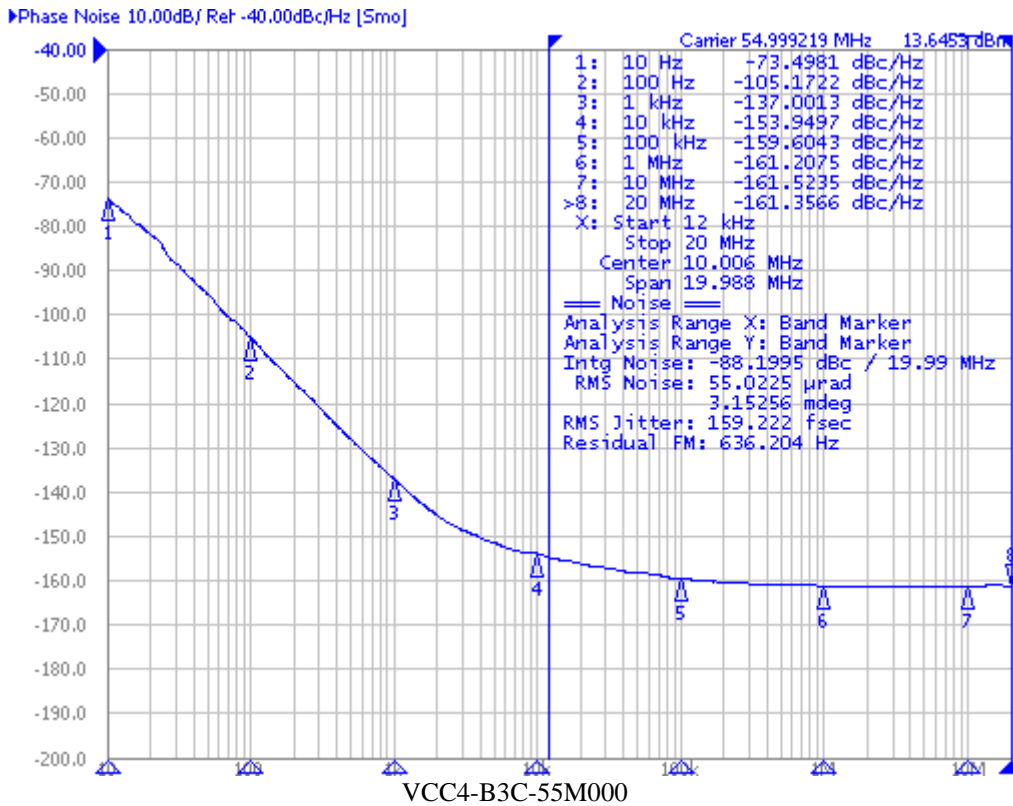
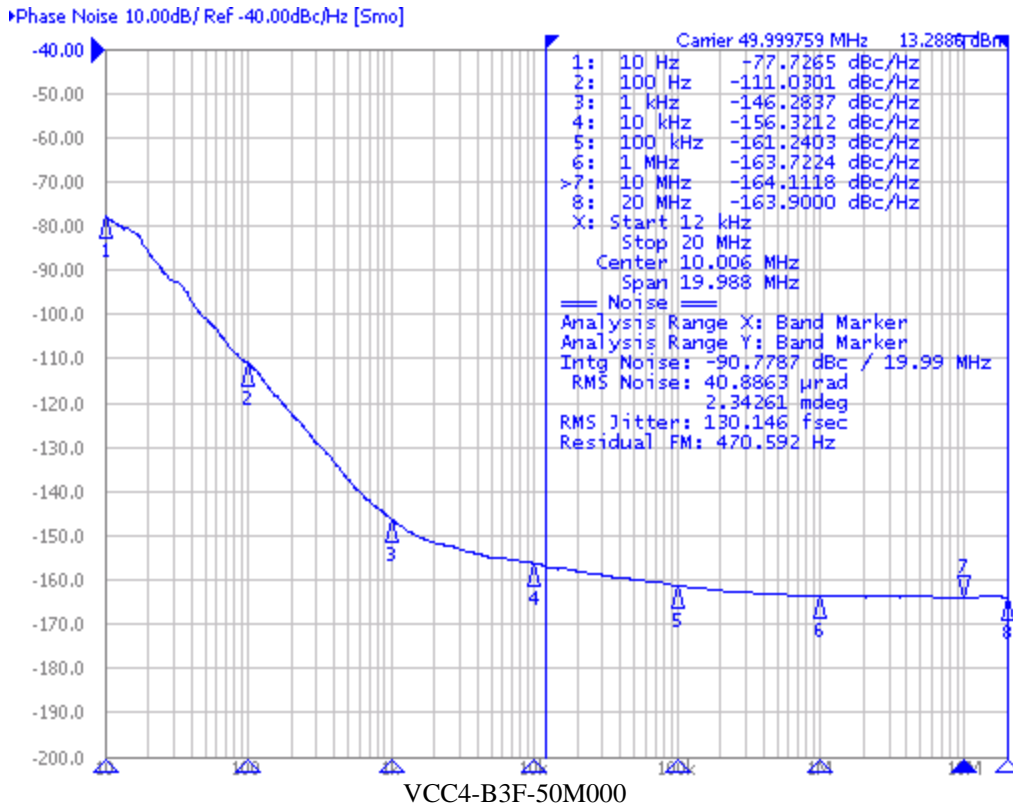
Typical Phase Noise for the VCC4 Series



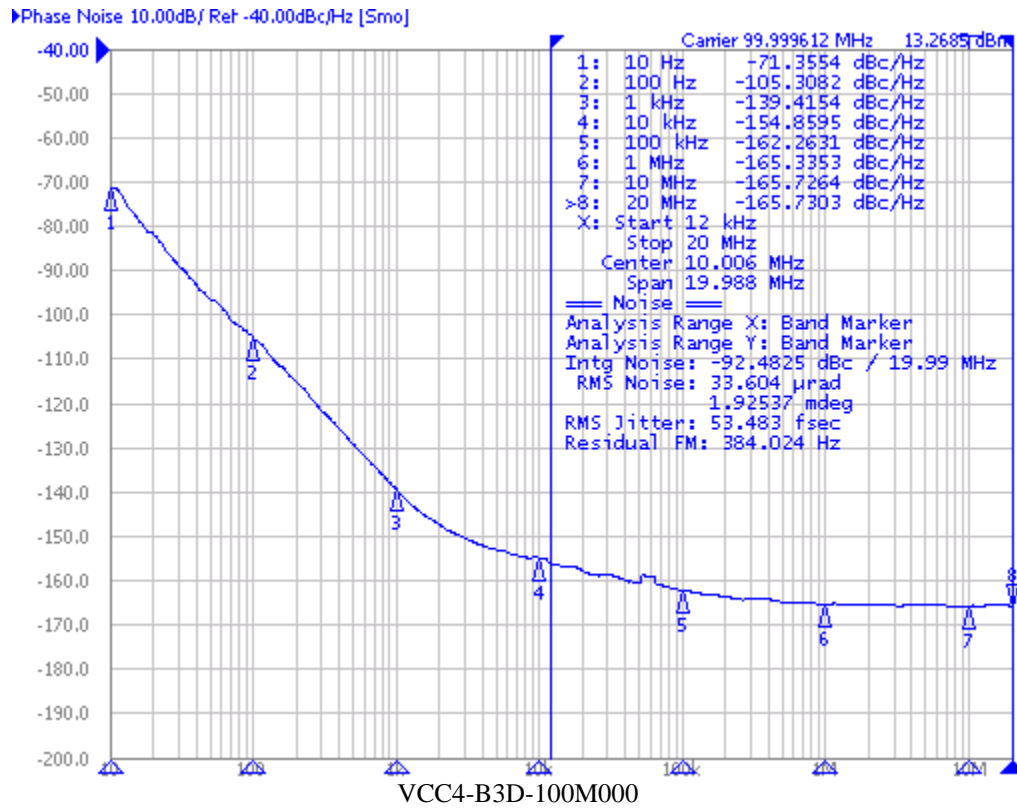
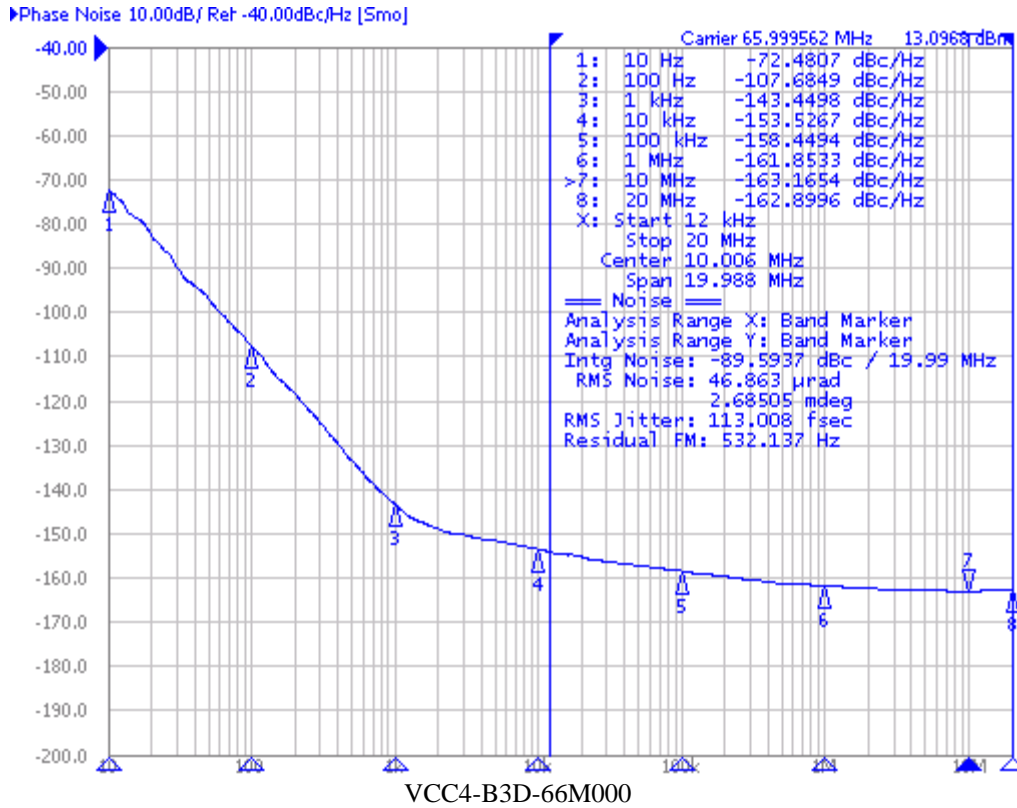
Typical Phase Noise for the VCC4 Series



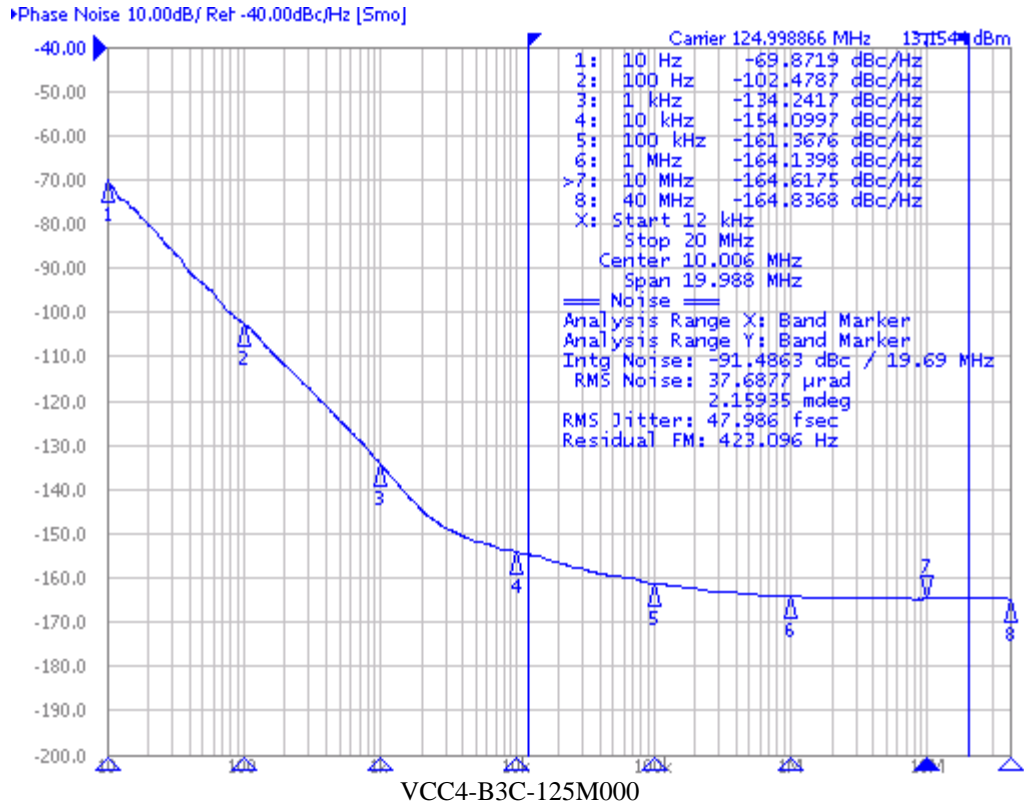
Typical Phase Noise for the VCC4 Series



Typical Phase Noise for the VCC4 Series



Typical Phase Noise for the VCC4 Series



Contact Application Engineering for any phase noise/jitter data on frequencies not listed.

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