

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 with $V_c = V_{dd}/2$.

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	3.0	25.8	3.1	0	42.6	468
16.000	3.1	27.4	3.1	30	44.1	337
20.000	2.4	20.6	2.4	30	34.2	403
27.000	2.8	24.7	2.8	0	41.0	235
35.328	2.8	24.6	2.8	20	40.4	136
44.736	2.8	24.5	2.8	20	38.9	195
54.000	2.2	18.8	2.2	30	31.2	135
65.536	2.0	17.0	2.0	0	28.7	134

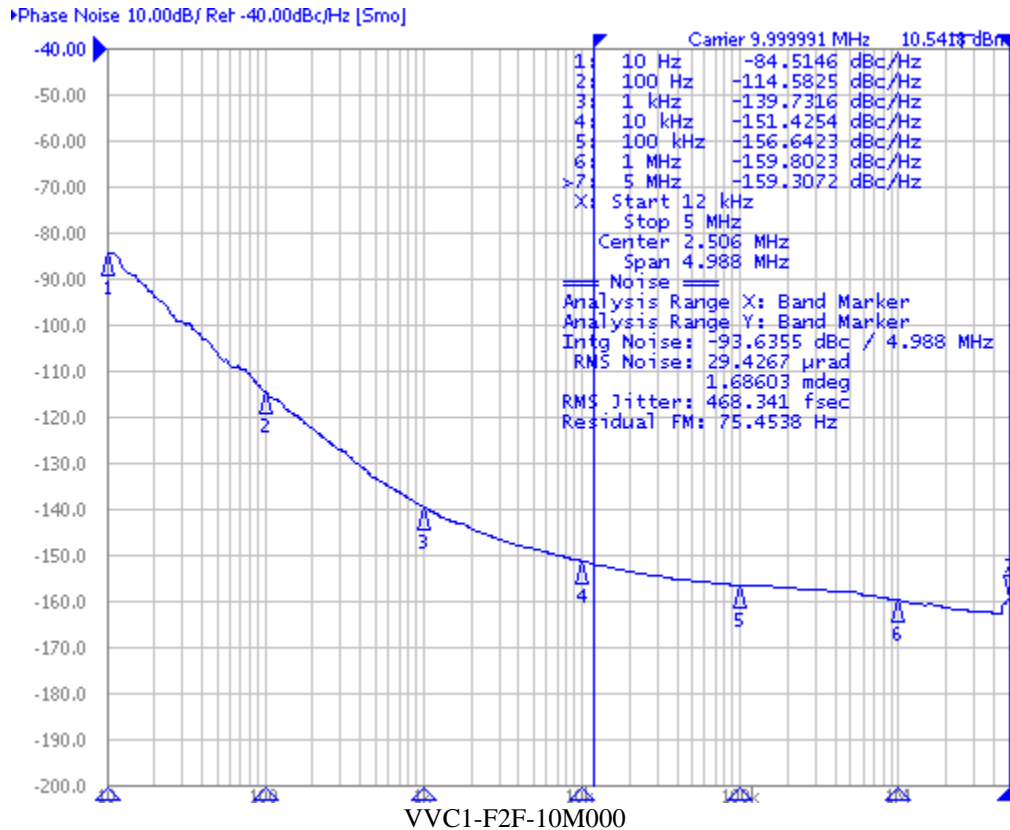
1. Data is based on 12kHz-5MHz for output frequencies < 44.736MHz

Table of typical jitter values for the VVC1/VVC2 series of oscillators

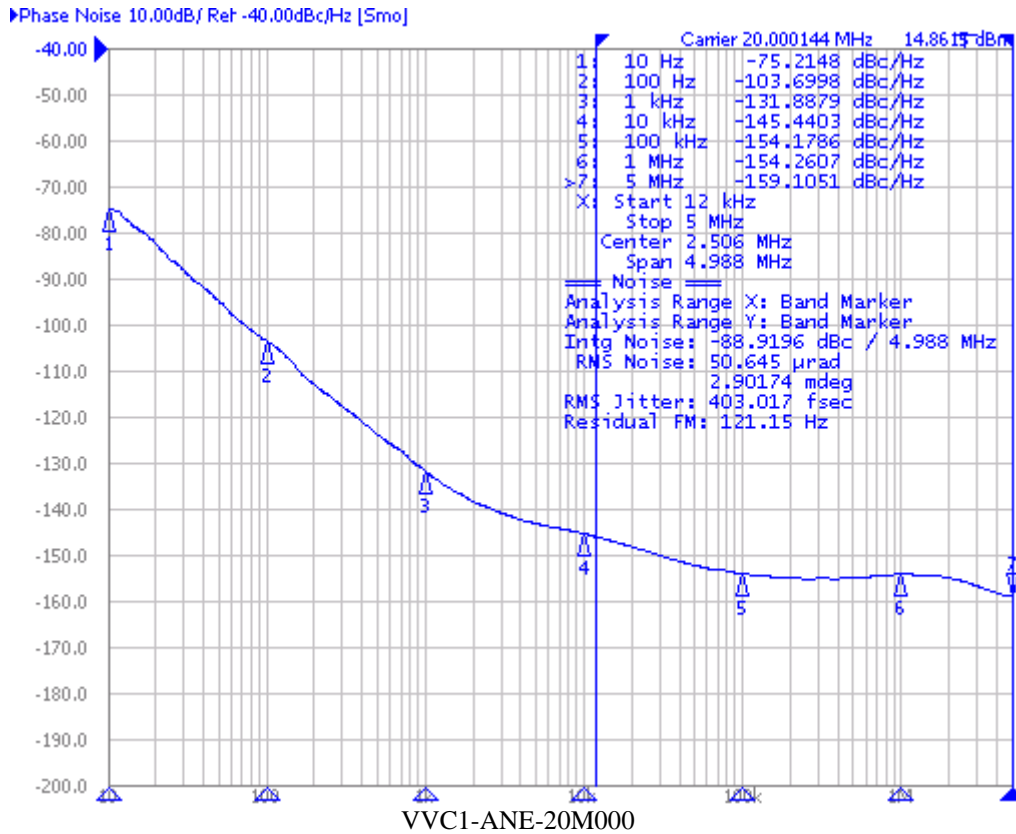
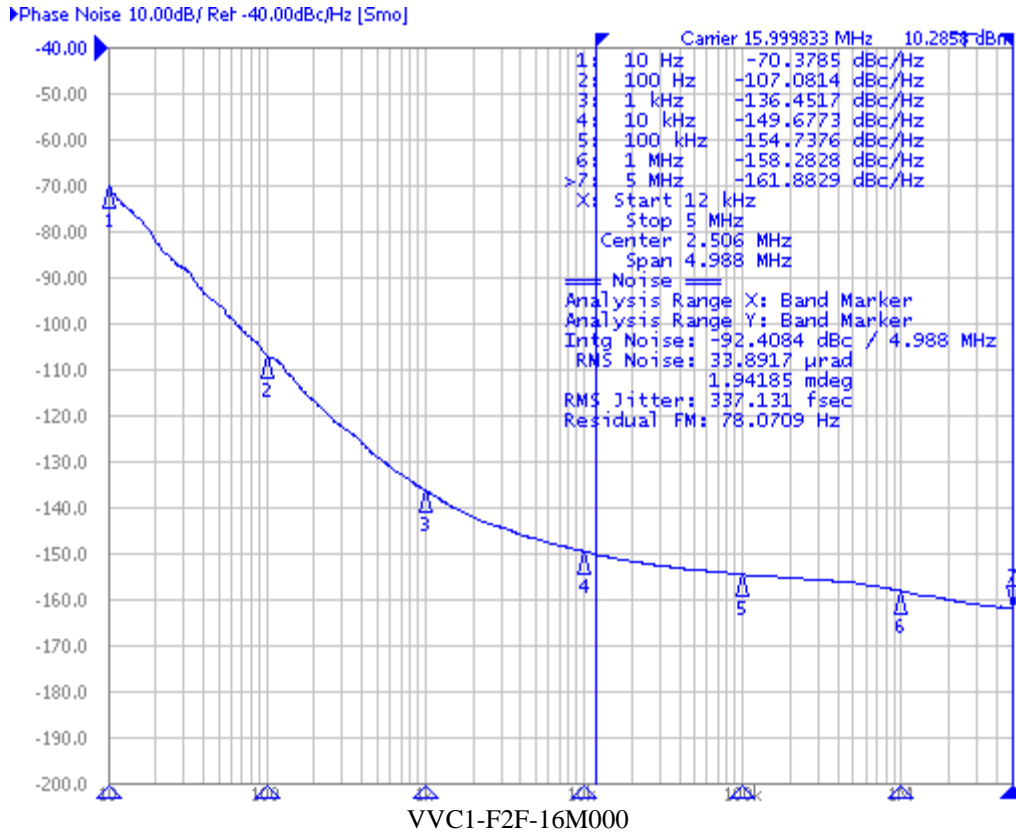
Typical Phase Noise for the VVC1/VVC2 Series

Phase Noise Results

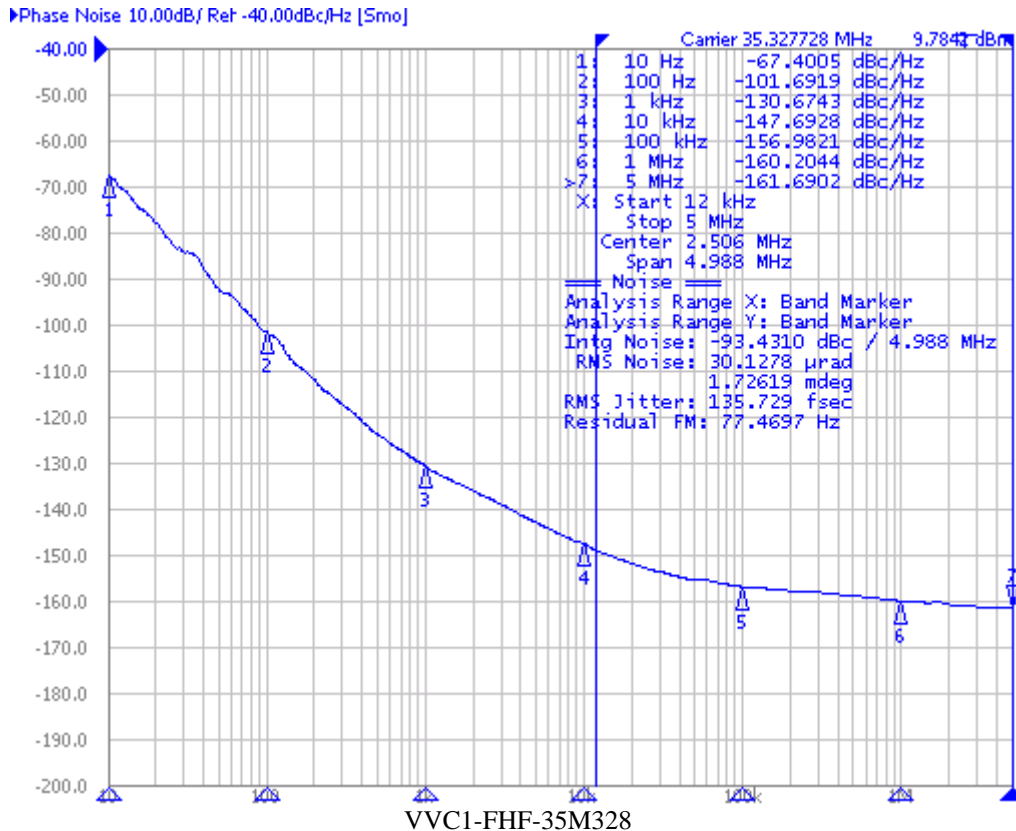
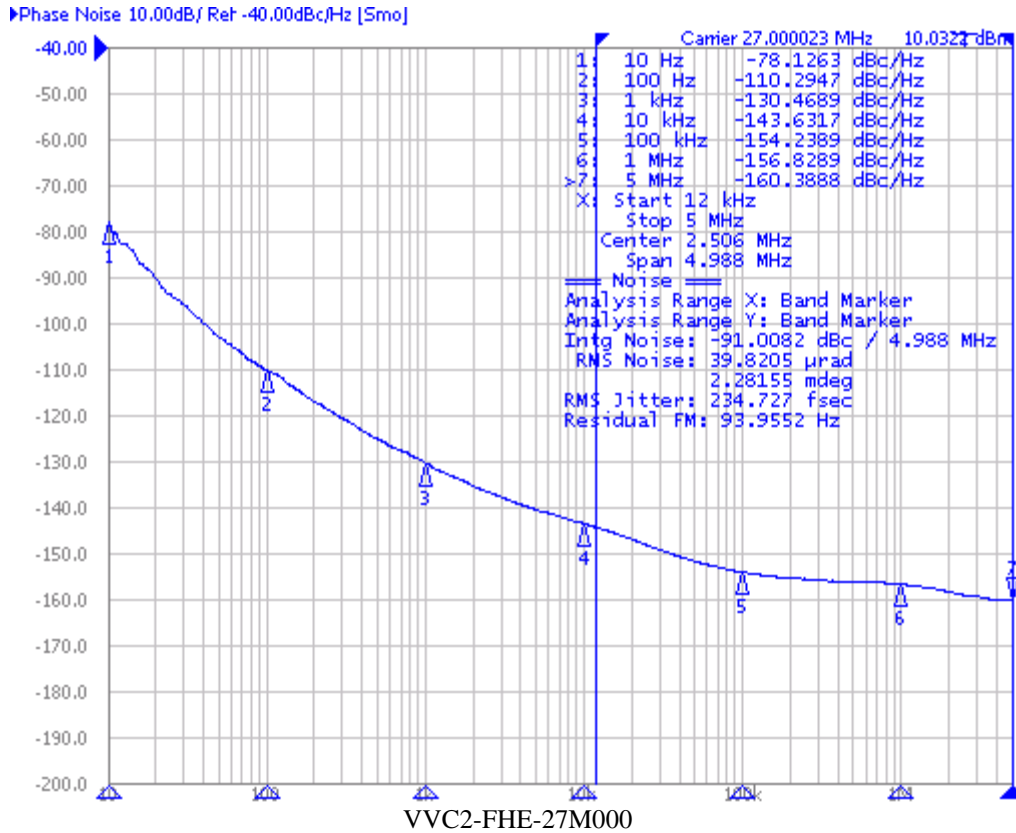
Phase noise measurements were performed on an Agilent E5052A signal source analyzer (SSA). The E5052A has a phase noise to jitter integration calculation feature and devices were characterized in the 12kHz-20MHz band (except for the lower frequencies where the equipment limitations prevented measurement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



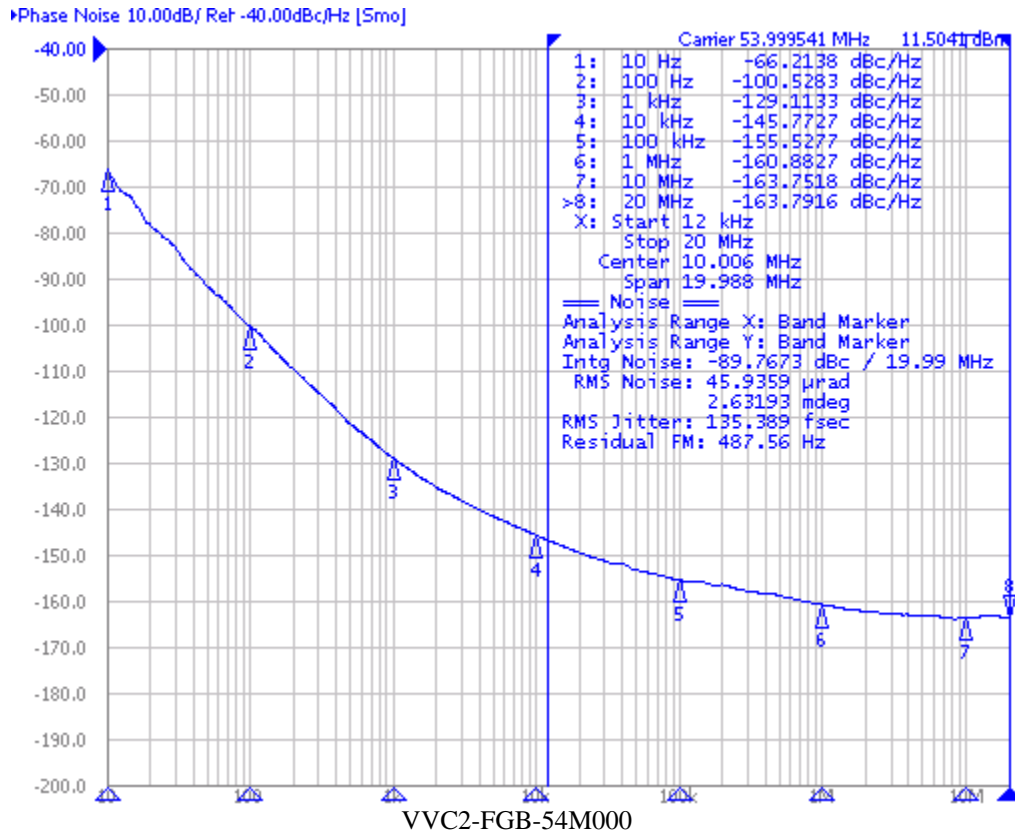
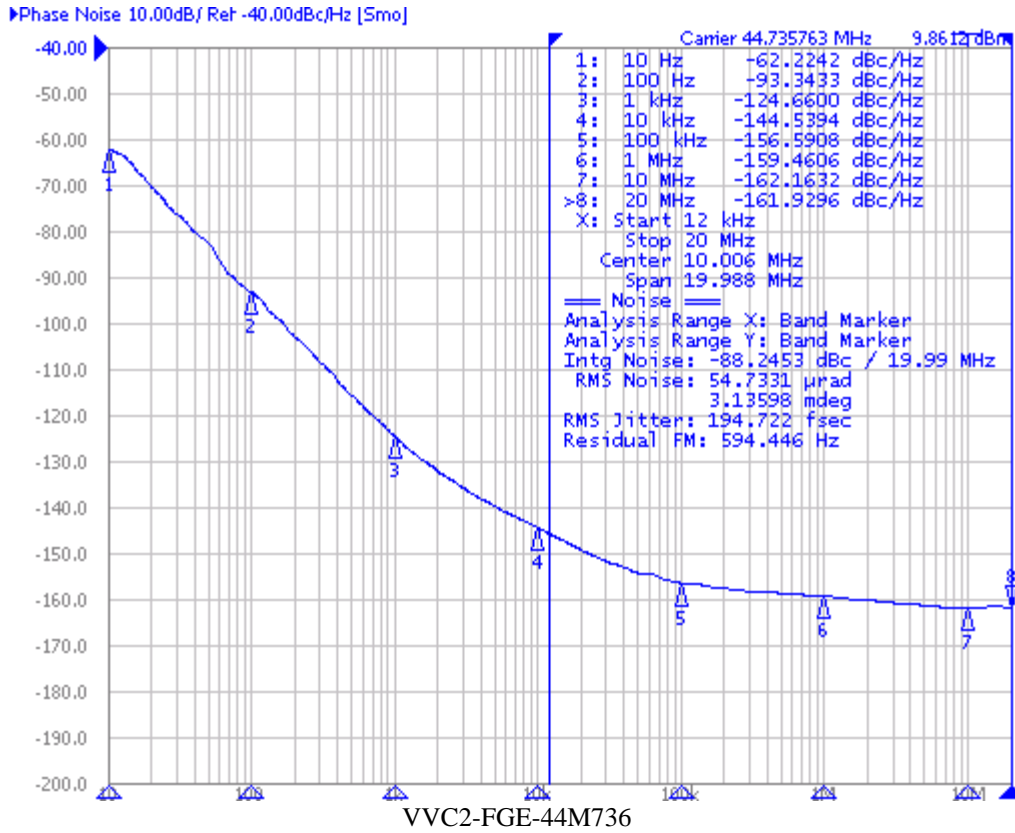
Typical Phase Noise for the VVC1/VVC2 Series



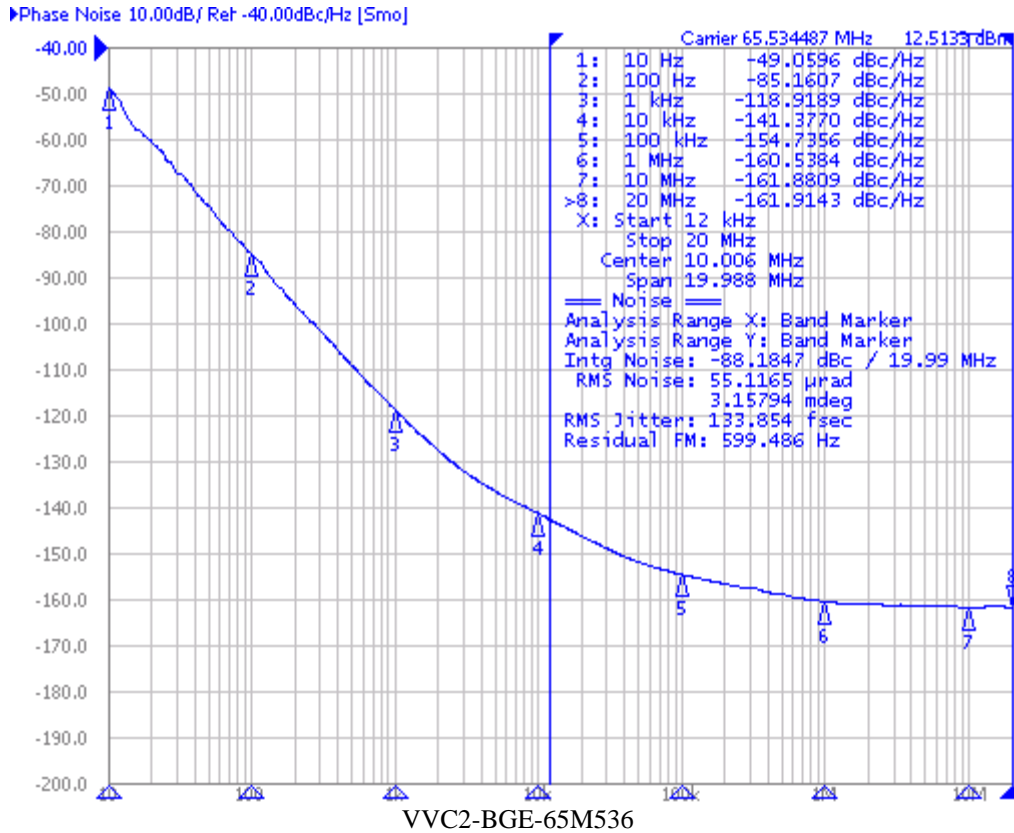
Typical Phase Noise for the VVC1/VVC2 Series



Typical Phase Noise for the VVC1/VVC2 Series



Typical Phase Noise for the VVC1/VVC2 Series



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

For Additional Information Please Contact:



USA: Vectron International • 267 Lowell Road, Hudson, NH 03051
• Tel: 1-88-VECTRON-1 • Fax: 1-888-FAX-VECTRON
EUROPE: Landstrasse, D-74924, Neckarbischofsheim, Germany •
Tel: 49 (0) 7268 8010 • Fax: 49 (0) 7268 801281
ASIA: Vectron Asia Pacific Sales 1F~2F, No.8 Workshop No.308 Fenju Rd.,
WaiGaoQiao Free Trade Zone, Pudong New Area Shanghai, China 200131
•Tel: 8621 50480777 • Fax: 8621 50481881

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