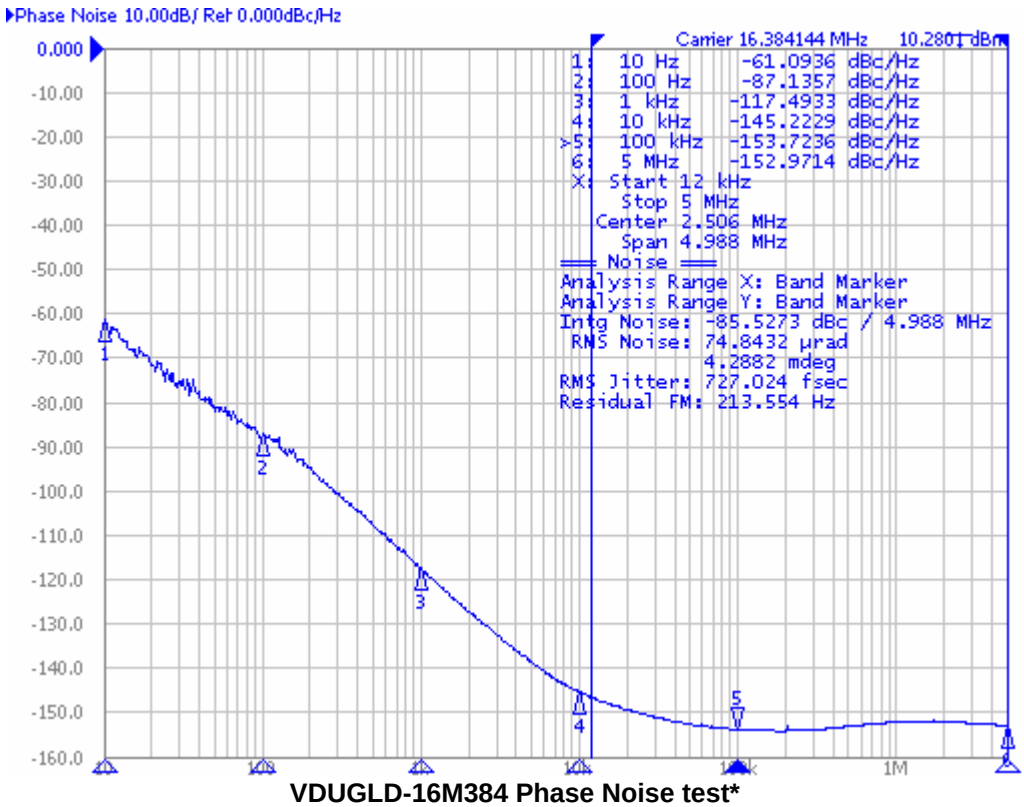
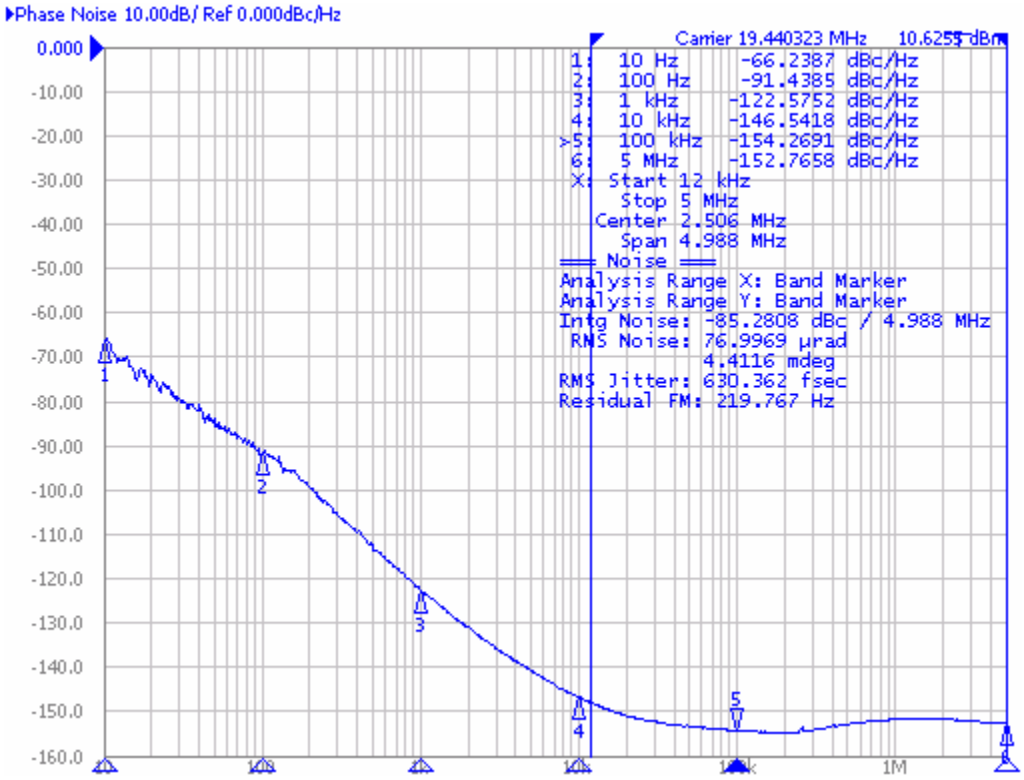
Phase Noise Results

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-10MHz band (except for the lower frequencies where the equipment limitations prevented measurement to 10 MHz – see graphs for frequency band). Please contact Vectron for other offset integration bands.

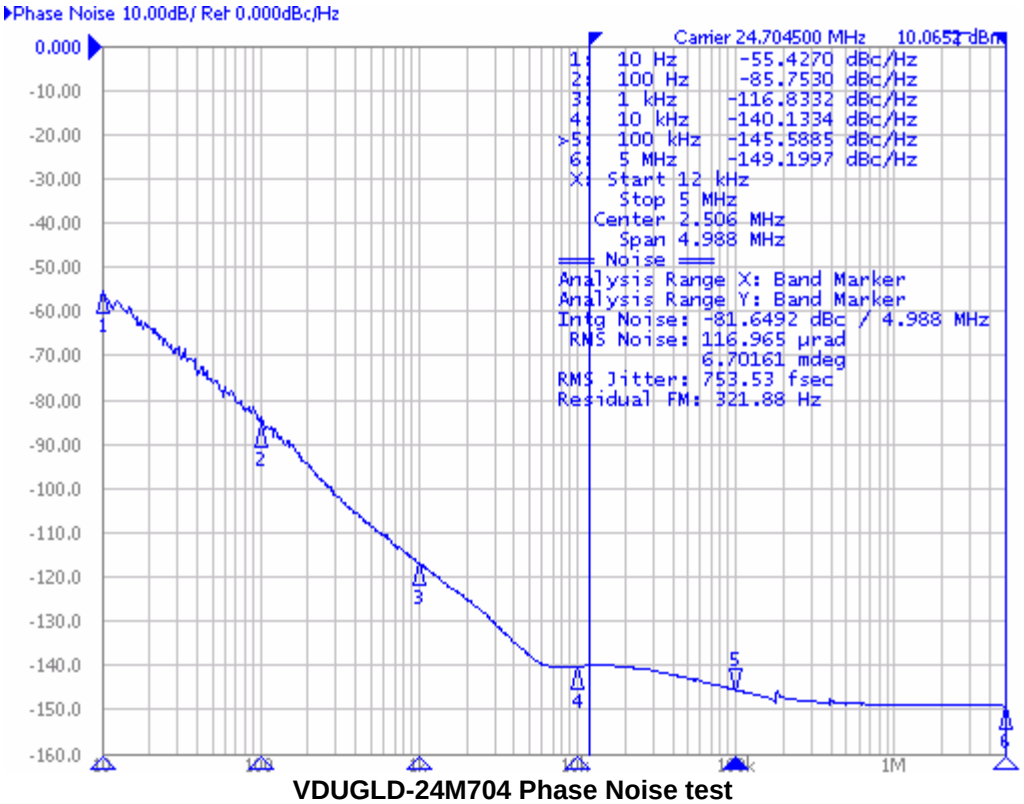


VDUGLD-16M384 Phase Noise test*

Typical Phase Noise for the V-Type Series

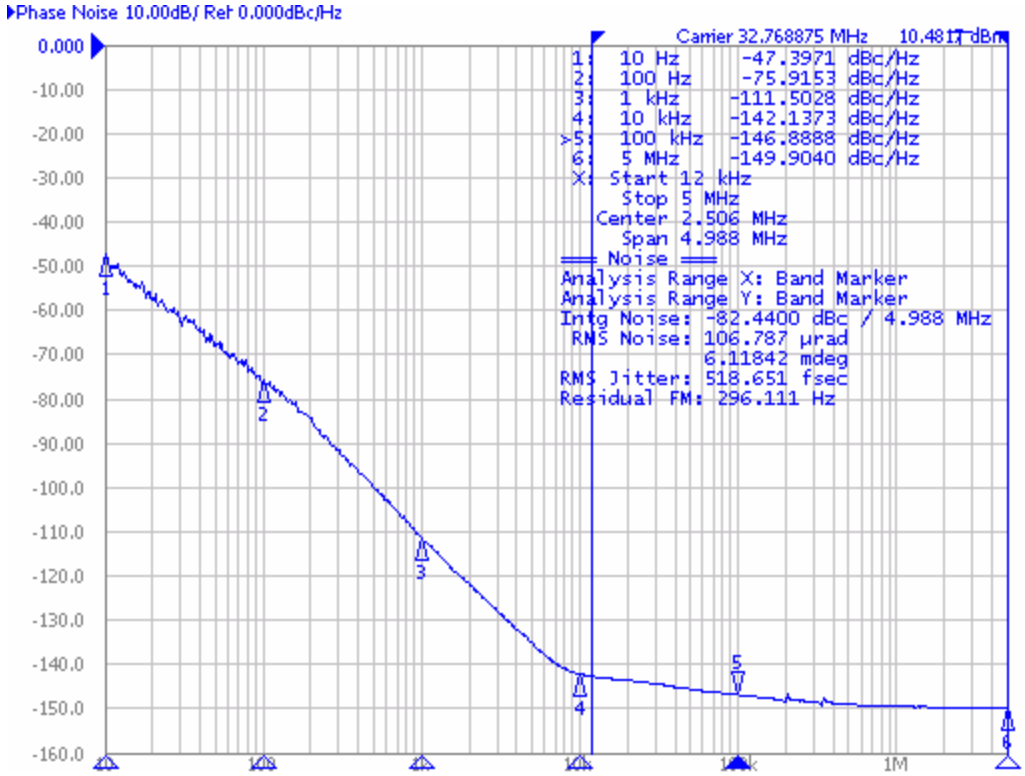


VDUGLD-19M440 Phase Noise test**

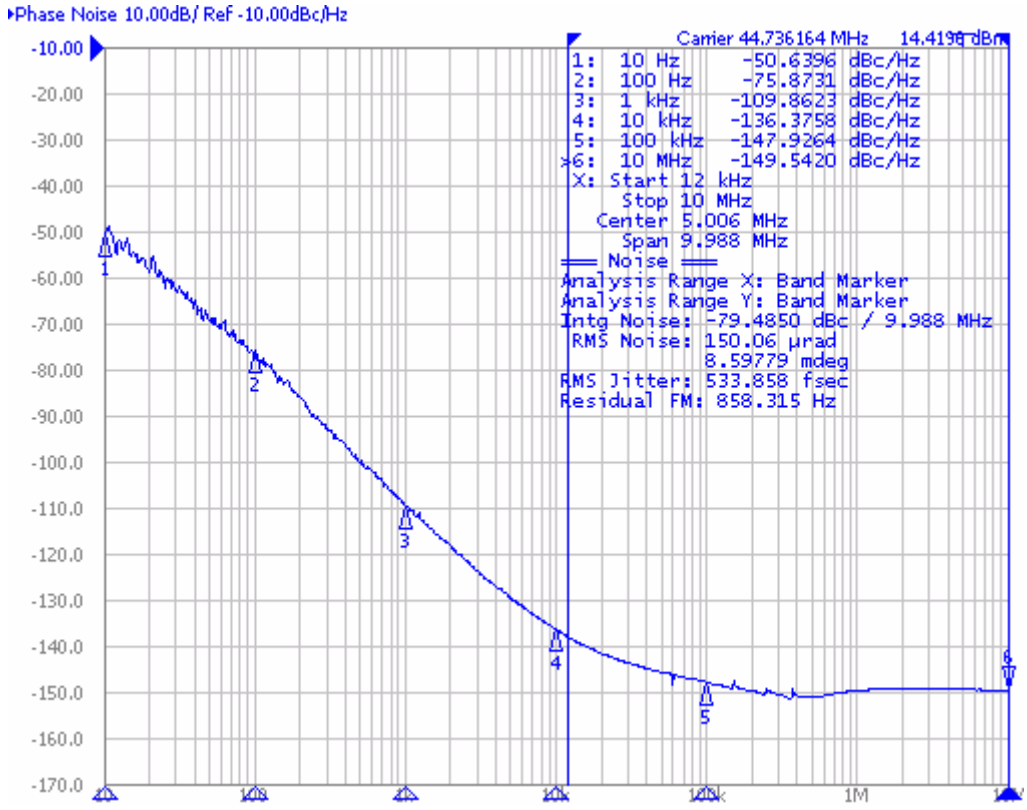


VDUGLD-24M704 Phase Noise test

Typical Phase Noise for the V-Type Series

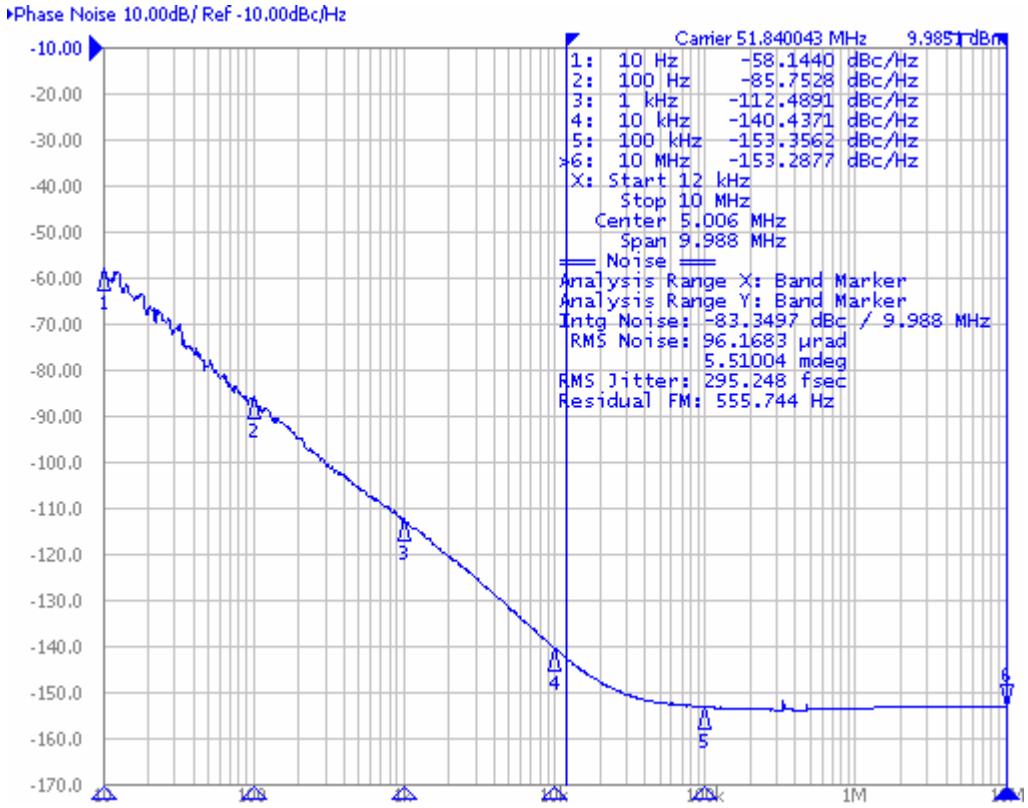


VDUGLD-32M768 Phase Noise test

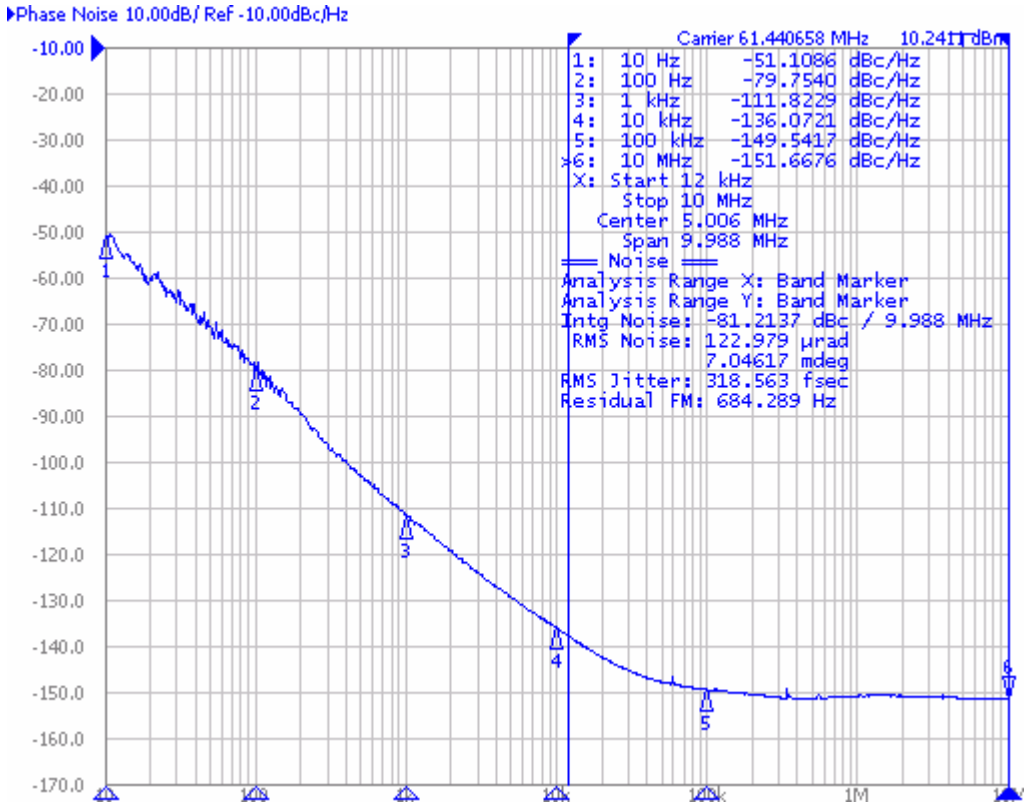


VDUGLD-44M736 Phase Noise test

Typical Phase Noise for the V-Type Series

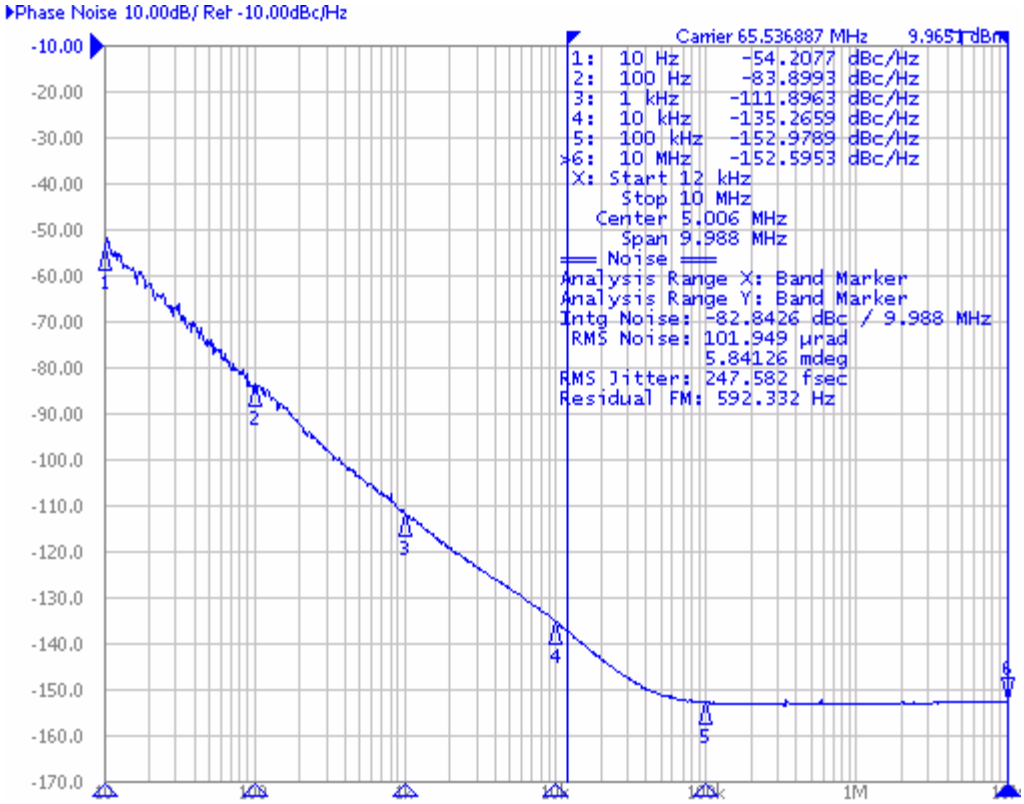


VDUGLD-51M840 Phase Noise test

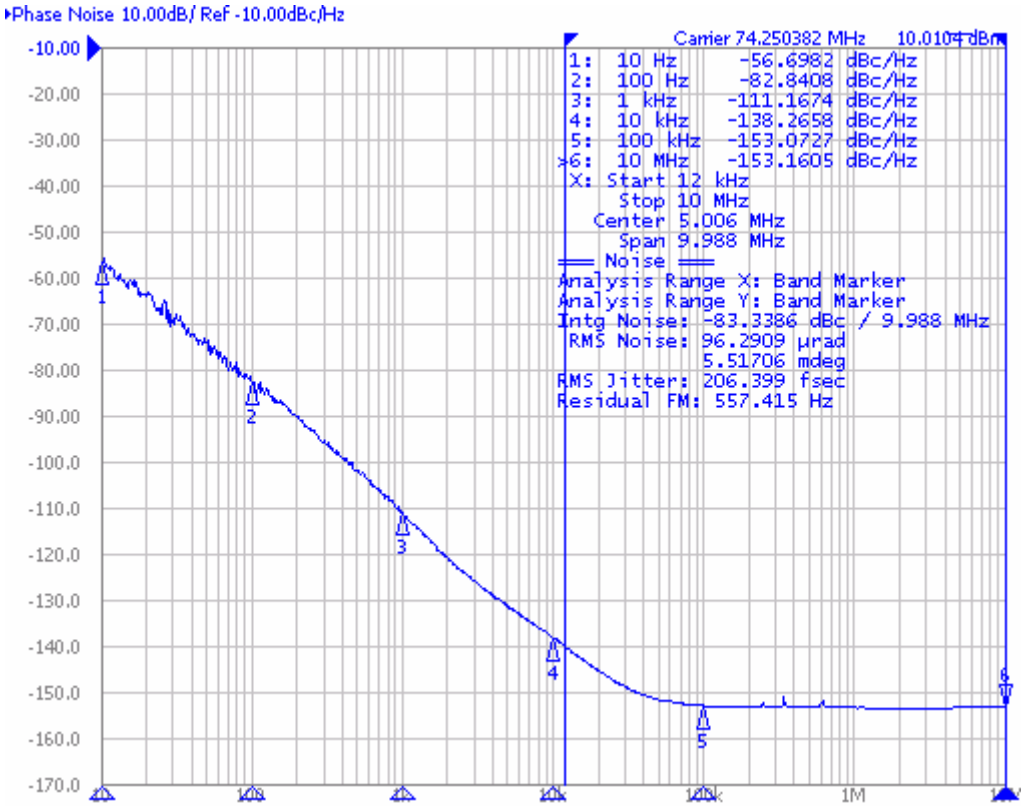


VDUGLD-61M440 Phase Noise test

Typical Phase Noise for the V-Type Series

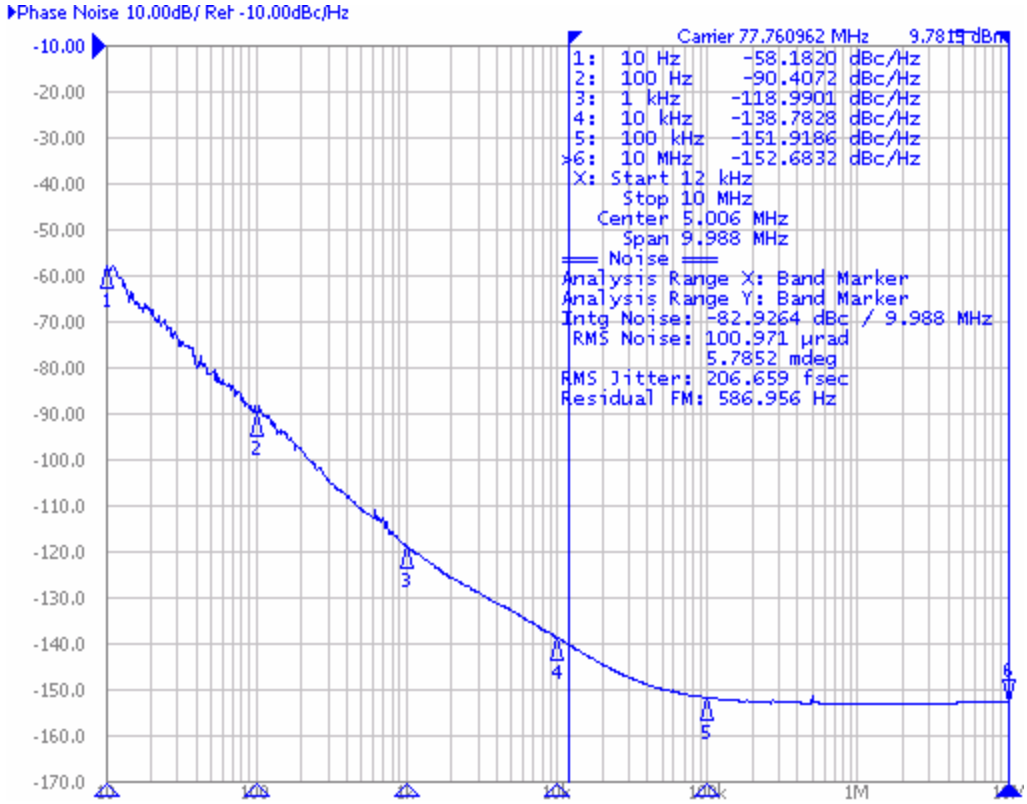


VDUGLD-65M536 Phase Noise test



VDUGLD-74M250 Phase Noise test

Typical Phase Noise for the V-Type Series



VDUGLD-77M760 Phase Noise test

The majority of V-type products are built with a proprietary ASIC. This ASIC has different internal gain settings that allow the ASIC to be used over a wide range of frequencies. Due to these different gain settings, the close-in phase noise varies by frequency. Because of this, the variation does not follow the typical correlation of degraded phase noise and increased frequency. Several standard frequencies are shown in the above graphs, but typical data for most frequencies can be provided upon request.

Additionally, the graphs for the lower frequencies (16.384 MHz and 19.440 MHz) are manufactured with optimal phase noise. To achieve this, the output frequency is a fraction of the fundamental crystal frequency (see notes below). The limitations to this type of design are the output frequency must be less than 24 MHz and most parts are not available with 100 ppm APR due to the higher frequency fundamental crystal. If 100 ppm APR is required, the phase noise will be slightly degraded.

* Fundamental crystal frequency is 32.768 MHz (32.768/2=16.384)

** Fundamental crystal frequency is 38.880 MHz (38.880/2=19.440)

Contact Application Engineering for any phase noise 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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