CENTELLAX

DC-20 GHz
Divide-by-1/2/4/8 Test Accessory

Features

- Wide Frequency Range: 0.2 - 20 GHz
- High Input Sensitivity
- Very Low Phase Noise
- Fast Rise/Fall Times
- Divide-by-1/2/4/8 Outputs
- AC Power Supply Included
- Size: 3.5” x 4.0” x 1”

Description

The TD20MCA divider is a general purpose test accessory designed for microwave, communications and test applications. The accessory provides divide-by-1, divide-by-2, divide-by-4, or divide-by-8 output. Inputs and outputs are AC coupled. The divider is self contained and plugs into standard AC power sources.

Application

The TD20MCA divider can be used to extend the trigger range of high speed sampling oscilloscopes. Precision timebase measurements will benefit from the very low added jitter and fast waveform edges. The TD20MCA can be used to generate sychronized, high frequency clocks from existing sinusoidal, synthesized sources. The low 1/f phase noise characteristics of the divider will benefit high frequency phase lock loop designs.

Key Specifications (Specifications pertain to measurements @ 25°C)

Parameter	Description	Minimum	Typical	Maximum
F_{in} (GHz)	Input Frequency	DC*	-	20
P_{in} (dBm)	Nominal Input Power	-10	0	+10
P_{out} (dBm)	Nominal Output Power	-5	+5	-
£(dBc/Hz)	SSB Phase Noise @10kHz Offset	-	-153	-
$P_{spitback}$ (dBm)	Freq/2 Power Spitback @Input	-	TBD	-
$P_{fundamental}$ (dBm)	Fundamental Feedthru @Output	-	TBD	-

*Low frequency limit dependent on input edge speed

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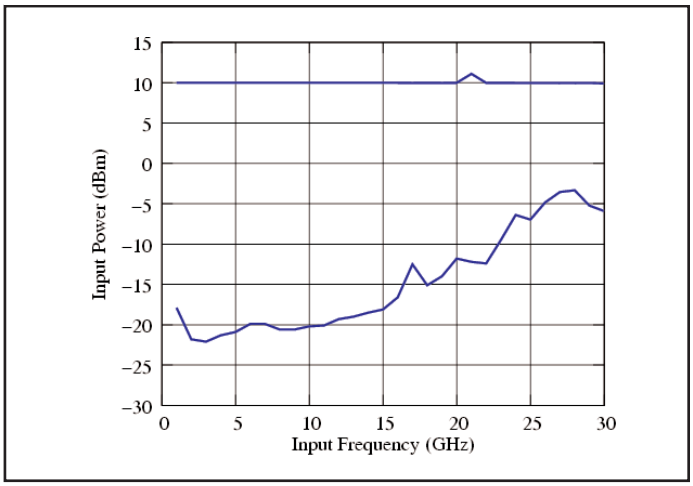
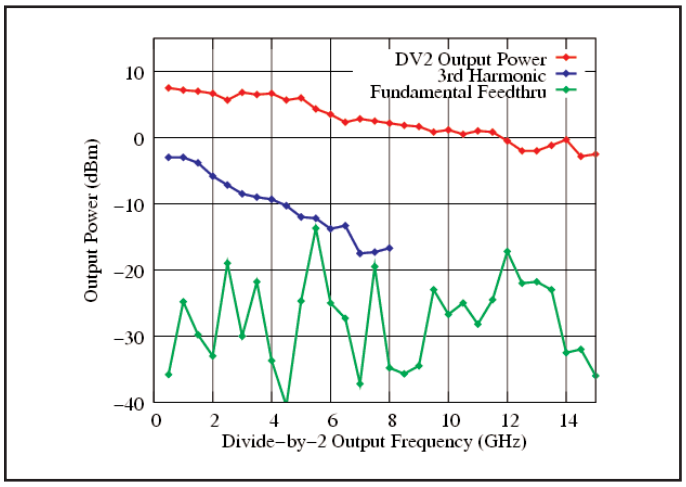
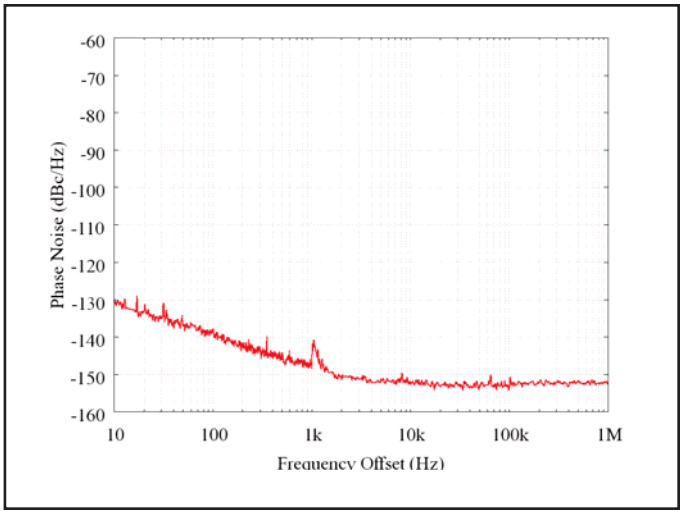
Frequency Divider Application



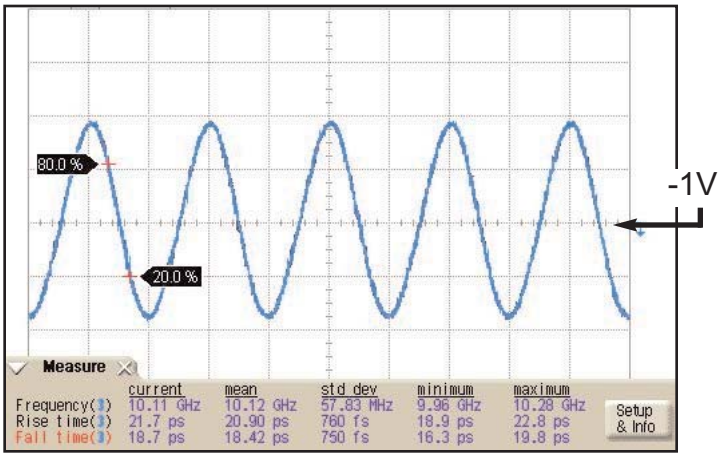
Min/Max Single-Ended Power
Input Sensitivity Window



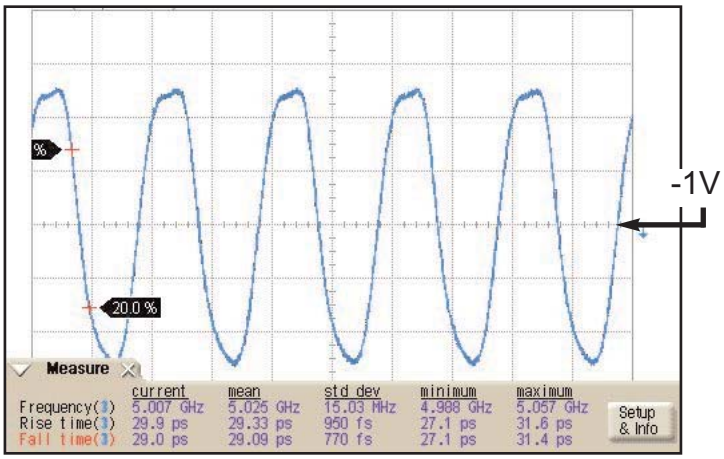
Binary Divide-by-2 Output Power,
3rd Harmonic & Input Feedthru



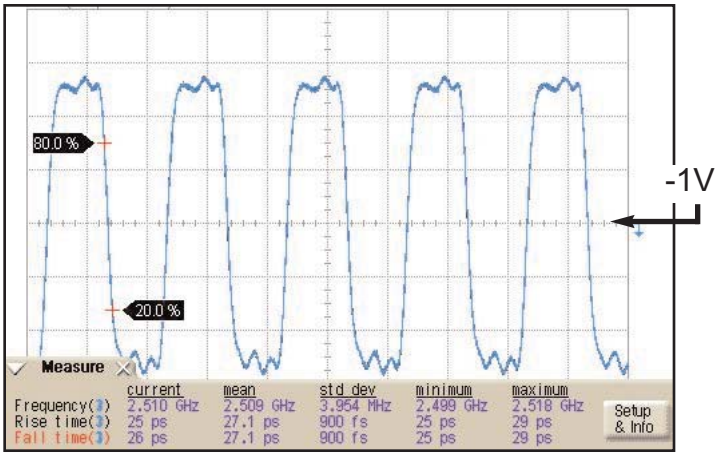
TD20MCA: SSB Phase Noise for Binary Divide-by-8
Configuration Input Freq = 7.8 GHz, Gain S21



Binary Divide-by-2 Configuration
Input Freq = 20 GHz, 150mV/div



Binary Divide-by-4 Configuration
Input Freq = 20 GHz, 150mV/div



Binary Divide-by-8 Configuration
Input Freq = 20 GHz, 150mV/div