

CombGEN

Precision Impulse / Comb Generator

Features:

- Precision generation < 100 ps FWHM
- Wide input frequency range 200kHz - 500MHz+
- Low level external RF drive 0.7 V - 3.3 V into 50 Ohms
- Selectable internal 100 MHz* or external input reference
- Complementary 50 Ohm, 0.35 V outputs
- Very flat frequency response with usable harmonics past 13 GHz
- Low jitter < 10 ps p-p
- Single output pulse per input cycle

Applications:

- Frequency multipliers
- Impulse generators
- Phase reference standards
- Surveillance receivers
- Broadband frequency synthesizers
- Radiated and conducted EMC testing
- Bandwidth and filter response measurements
- Radar waveform generation

Description:

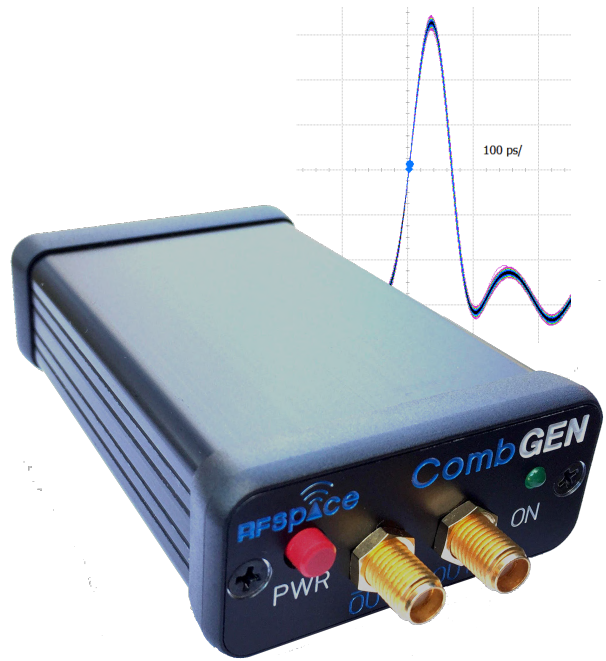
The RFSPACE CombGEN is a versatile comb / impulse generator with a very wide input frequency range. The pulse shape and power is very repeatable and approximately follows:

Power [dBm] = 20 Log (Input Frequency [MHz]) - 80 dBm **at frequencies < 8GHz.**

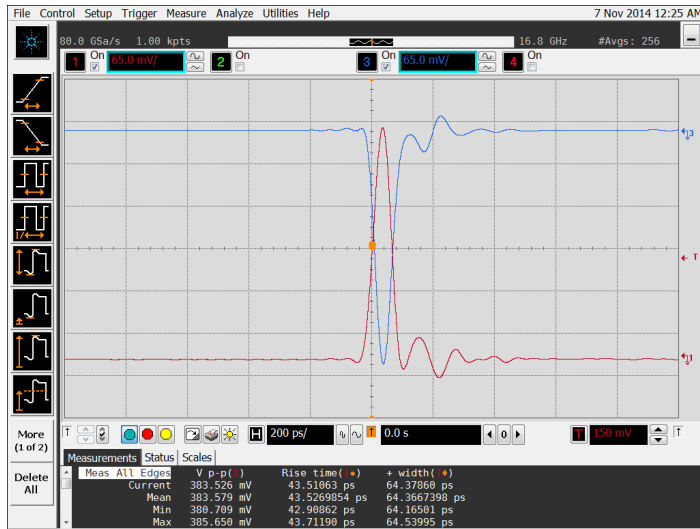
The response roll-off is very well behaved at around -13 dB from 0.001 to 10 GHz. The comb generator offers dual complementary outputs with 50 Ohm impedance and 0.35 V swing per output. Typical full width at half maximum FWHM is 65 ps. The reference input is push-button selectable between an SMA input connector or a 100 MHz internal oscillator. The CombGEN is supplied with a 5 Volt universal power supply and comes with a 1 year warranty.

Specifications:

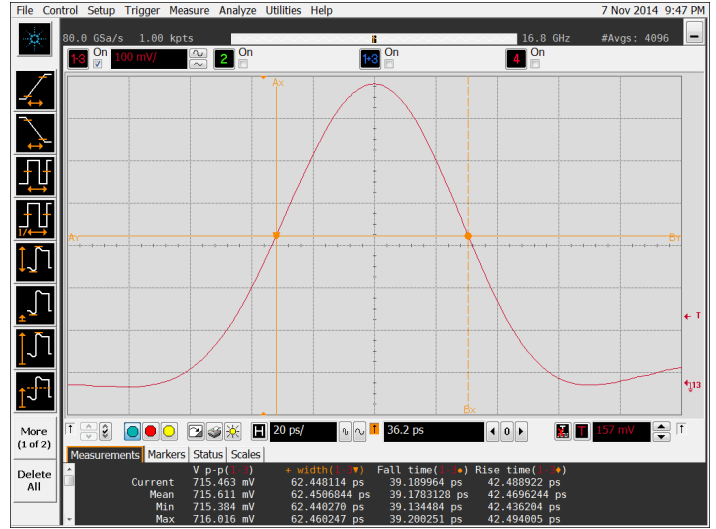
RF input frequency / level: 0.200 – 500 MHz, 0.7V – 3.3V into 50 Ohms
RF output level: -40dBm per harmonic @ 100 MHz spacing, 0-8 GHz
Output pulse peak voltage: 0.35V x 2 Complementary Outputs. 0.7V Differential
Internal reference: 100 MHz *Custom internal references 200kHz - 100 MHz available.
FWHM: 65 ps typical, 100 ps max.
Operating temperature: 0° C – +40° C
Power consumption: 5 Volts DC / 200 mA



Complementary Output Signals



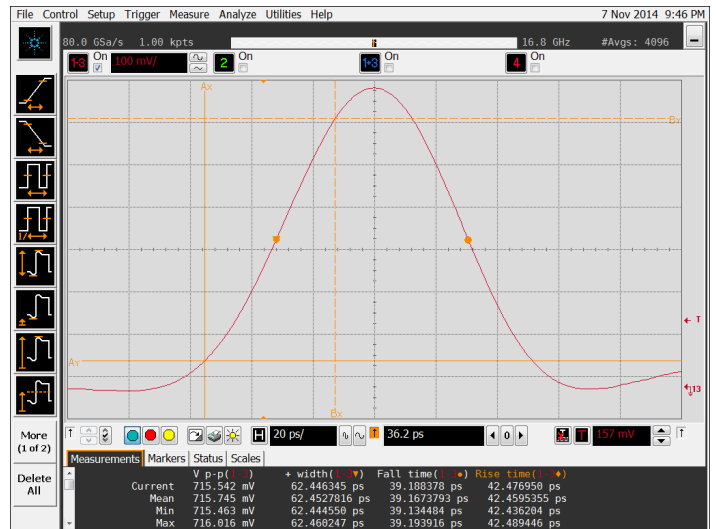
Typical Differential Pulse Width



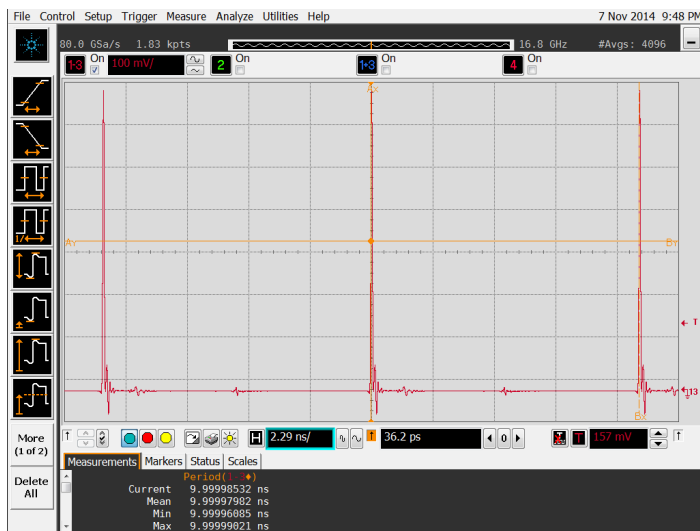
Typical Pulse Shape – Non Inverted Output



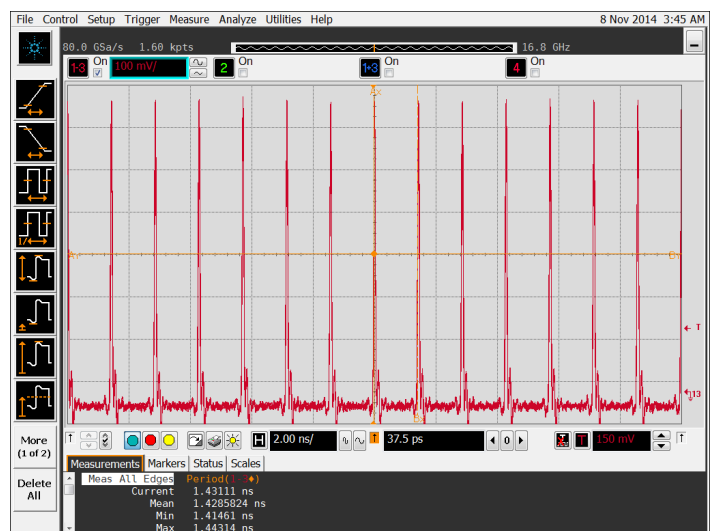
Typical Differential Rise/Fall Times



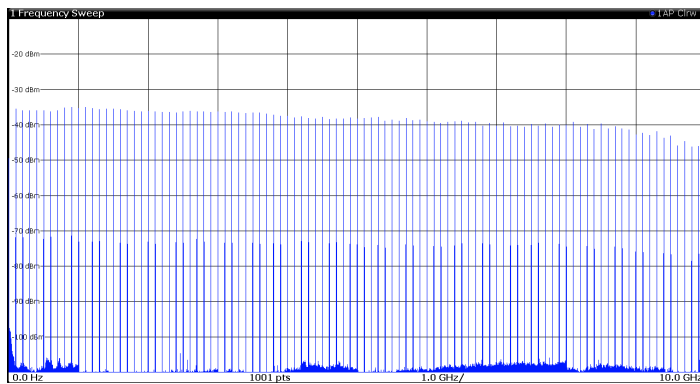
Consecutive Differential Pulses at 100 MHz



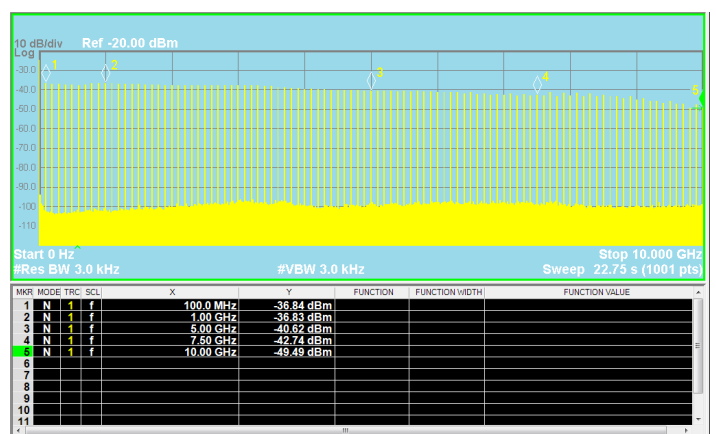
Consecutive Differential Pulses at 700 MHz



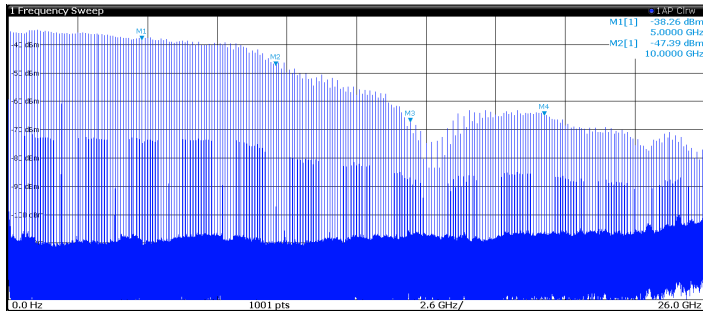
Harmonic Output with 100 MHz Input 10 GHz Span



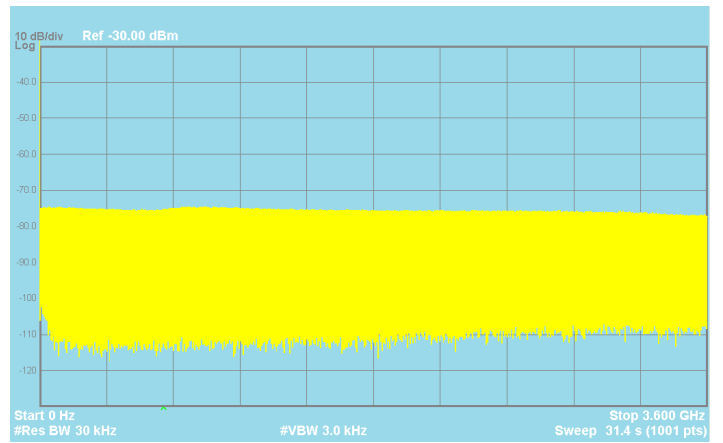
Harmonic Output with 100 MHz Input 10 GHz Span



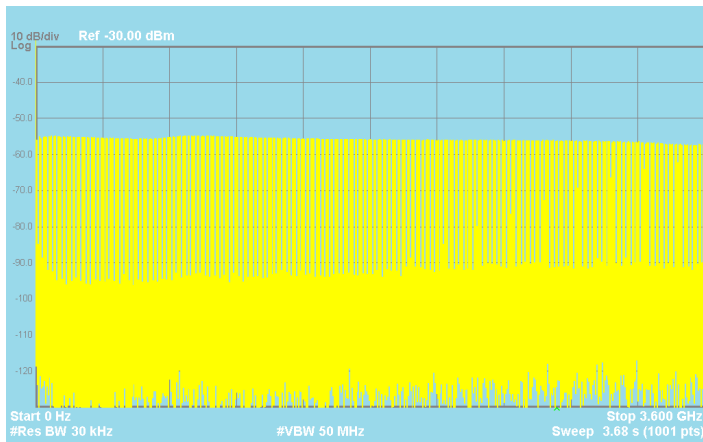
**Harmonic Output with 100 MHz Input
26 GHz Span**



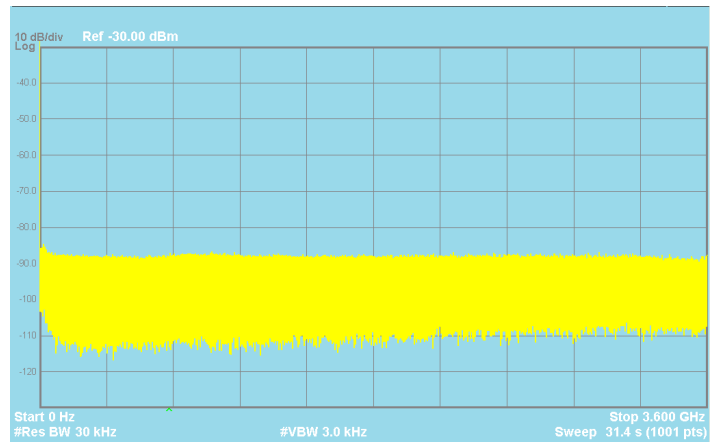
Harmonic Output with 1 MHz Input



Harmonic Output with 10 MHz Input



Harmonic Output with 200 kHz Input



Zoomed-in Complementary Output. 200ps per division. Typical FWHM = 65ps

