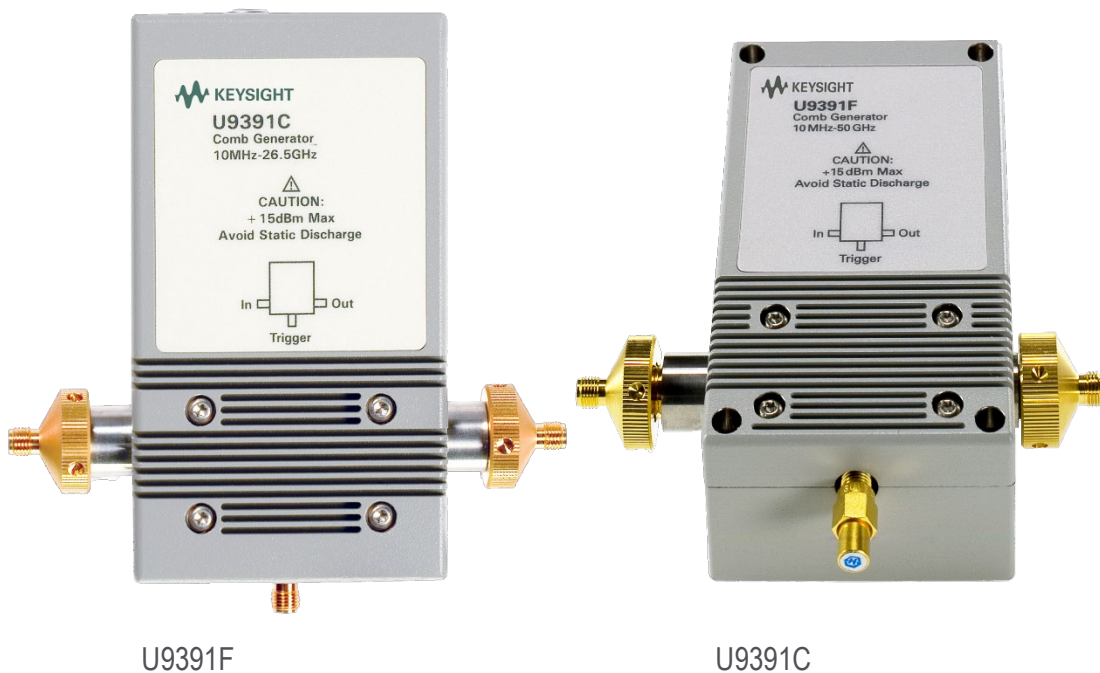


## Keysight U9391C/F 26.5/50 GHz Comb Generator

Keysight Technologies, Inc. comb generators provide excellent phase and amplitude flatness making them ideal for use in phase calibration applications. A user selectable USB-controlled frequency divider allows for a broad range of input signal frequencies from 10 MHz to 50 GHz. Small minimum tone spacing of 10 MHz makes Keysight comb generators suitable for characterizing non-linear devices.



U9391F

U9391C

### Key features

- The U9391C/F are designed as a phase reference standard for the Keysight PNA-X nonlinear vector network analyzer (NVNA)
- Excellent amplitude and phase flatness enable its use as a precision calibration phase reference standard for the NVNA
- NIST traceable phase calibration guarantees a reliable reference to international standards
- Embedded calibration data can be easily accessed via the plug-and-play USB interface
- The USB interface facilitates frequency divider control and calibration data retrieval via the PNA-X
- Rugged 2.4-mm and 3.5-mm bulk-head connectors guarantee high repeatability throughout multiple connects and disconnects

Learn more at: [www.keysight.com](http://www.keysight.com)

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Model	U9391C	U9391F
Output frequency range <sup>1</sup>	10 MHz to 26.5 GHz	10 MHz to 50 GHz
Input frequency range	10 MHz to 6 GHz	10 MHz to 6 GHz
Input power range	-15 to +15 dBm	-15 to +15 dBm
Min output power per picket	-80 dBm at 10 MHz input PRF	-95 dBm at 10 MHz input PRF
Amplitude flatness vs. output frequency	< 12 dB at 10 MHz input PRF	< 25 dB at 10 MHz input PRF
Amplitude flatness vs. input power	0.1 dB	0.1 dB
Phase flatness <sup>2,3</sup>	± 8.5 degrees (10 MHz to 3 GHz)	+10 / -10 degrees (10 MHz to 28 GHz)
	± 6.5 degrees (3 GHz to 20 GHz)	+15 / -17.5 degrees (28 GHz to 38 GHz)
	± 8.5 degrees (20 GHz to 26.5 GHz)	+15 / -30 degrees (38 GHz to 45 GHz)
		+15 / -40 degrees (45 GHz to 50 GHz)
Pulse width	< 23 ps	< 23 ps
Divide ratio	1, 2, 4, 8, 16	1, 2, 4, 8, 16
Input return loss, S11	> 10 dB (10 MHz to 6 GHz)	> 10 dB (10 MHz to 6 GHz)
Output return loss, S22	> 10 dB (10 MHz to 26.5 GHz)	> 10 dB (10 MHz to 20 GHz)
		> 7 dB (20 GHz to 45 GHz)
		> 5 dB (45 GHz to 50 GHz)

1. When driven by low phase noise sources, this comb generator will operate at frequencies lower than 10 MHz, but performance is not guaranteed.
2. For operation below 100 MHz, use a square wave to drive the comb generator.
3. The specifications refers to the raw performance data. For NVNA application, the phase performance are corrected with the calibration data, not at spurious frequency.
4. Spurious frequency at n\*250 MHz and also at input drive frequency.

Please consult with your distributor for final pricing.

For more detail on the "Keysight Comb Generator", see literature number 5989-7619EN.

To find a distributor in your area, go to: [www.keysight.com/find/distributors](http://www.keysight.com/find/distributors)

For more information on Keysight attenuators, please visit: [www.keysight.com/find/attenuators](http://www.keysight.com/find/attenuators)

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