

# Agilent E4428C ESG Analog Signal Generator



**Built on the success of Agilent's ESG signal generators, the E4428C ESG provides the superb quality and performance you've come to expect from the world's top selling brand of RF signal generators.**

**Offers the lowest phase noise and best level accuracy in its price class**

- Broad frequency coverage from 250 kHz to 3 or 6 GHz
- Excellent SSB phase noise of  $-134$  dBc/Hz (20 kHz offset @ 1 GHz)
- Superior level accuracy of  $\pm 0.6$  dB ( $f_c < 3$  GHz) and  $\pm 0.9$  dB ( $f_c > 3$  GHz)



**Agilent Technologies**

## Excellent RF performance up to 6 GHz

The E4428C ESG analog signal generator delivers outstanding spectral purity, superior level accuracy, high output power, and flexible analog modulation performance up to 6 GHz for all general-purpose test needs. This makes the E4428C ESG a great choice for applications requiring CW, AM,  $\Phi$  M, and FM receiver test signals in the cellular, ISM, and UNII frequency bands.

## Low single-sideband (SSB) phase noise

SSB phase noise is one of the most important specifications to consider when buying a signal generator. High phase noise can lead to erroneous test results, while low phase noise contributes to accurate results. With a typical SSB phase noise performance of  $-134$  dBc/Hz at 20 kHz offset from a 1 GHz carrier, the E4428C ESG can confidently be used in applications that require stringent SSB performance, including

- LO substitution
- low-jitter clock stimulus
- blocking/interference signals
- adjacent channel selectivity
- in-channel measurements close to the carrier

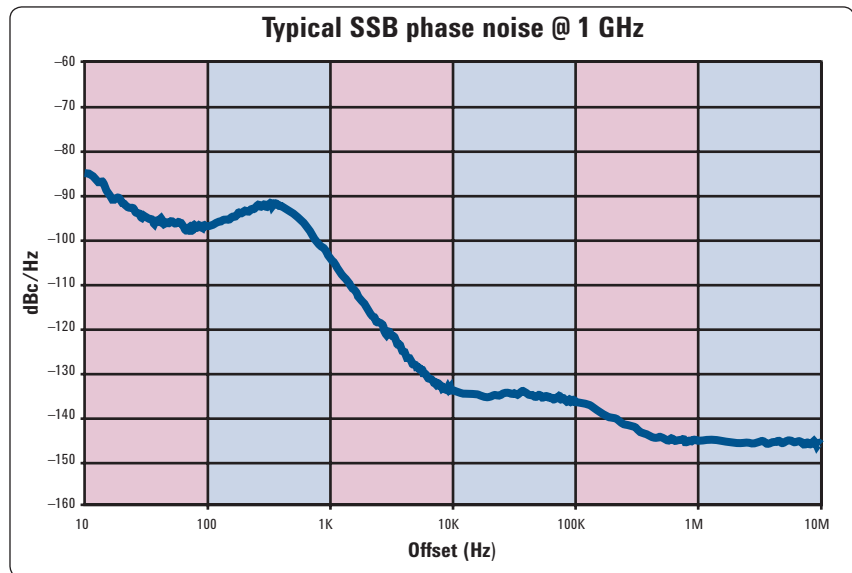
## Key features

- Frequency coverage: 250 kHz to 3 or 6 GHz
- Excellent SSB phase noise
- Superior level accuracy
- Standard high-stability time base
- High output power with choice of mechanical attenuator (standard on 6 GHz models)
- Wideband FM and phase modulation, AM and pulse modulation
- Simultaneous modulation for complex signal simulation

## Key specifications<sup>1</sup>

Carrier Frequency	Output Power	Level Accuracy (> $-110$ dBm)	Typical SSB Phase Noise (20 kHz offset)	Harmonics	Spurious/Non-Harmonics	FM Deviation
@ 1 GHz	17 to $-136$ dBm	$\pm 0.5$ dB	$< -134$ dBc/Hz	$< -30$ dBc	$< -80$ dBc	1 MHz
@ 3 GHz	16 to $-136$ dBm	$\pm 0.6$ dB	$< -125$ dBc/Hz	$< -30$ dBc	$< -68$ dBc	4 MHz
@ 6 GHz	10 to $-136$ dBm	$\pm 0.9$ dB	$< -117$ dBc/Hz	$< -30$ dBc	$< -62$ dBc	8 MHz

1. Specifications are subject to change without notice.



## Ordering information

### Frequency options

- E4428C-503 250 kHz to 3 GHz frequency range [electronic attenuator standard]
- E4428C-506 250 kHz to 6 GHz frequency range [mechanical attenuator only]

### Performance enhancement options

- E4428C-UNB High output power with mechanical attenuator [Option UNB performance is included standard on all 6 GHz models]
- E4428C-1EM Moves all front panel connectors to rear

## Additional resources

Visit [www.agilent.com/find/esg](http://www.agilent.com/find/esg) for additional information:

- View the complete price list.
- Download literature from the Key Library, including the E4428C data sheet, *Signal Generator Spectral Purity Considerations in RF Communications Testing*, and more.



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