

SIGNAL GENERATORS

High-Performance RF (cont'd)

HP 8643A, 8644B, 8664A, 8665A, 8665B

| Specifications | HP 8643A | HP 8644B | HP 8664A HP 8665A/B |
|--|--|--|---|
| Frequency Range: Resolution: Stability: Switching Speed (typ.): | 0.252 to 1030 MHz 0.252 to 2060 MHz (Opt 002) 0.01 Hz 5×10^{-10} /day (Opt 001) < 90 ms < 200 ms with FM on | 0.252 to 1030 MHz 0.252 to 2060 MHz (Opt 002) 0.01 Hz 5×10^{-10} /day (Opt 001) < 350 ms | 0.1 to 3000 MHz (HP 8664A) 0.1 to 4200 MHz (HP 8665A) 0.1 to 6000 MHz (HP 8665B) 0.01 Hz 5×10^{-10} /day (Opt. 001) < 100 ms |
| Spectral Purity SSB Phase Noise @ 1 GHz (20 kHz offset): Nonharmonics: Harmonics: Subharmonics: Residual FM @ 1 GHz: 0.3 to 3 kHz Post Det. BW | - 130 dBc/Hz < - 100 dBc, > 10 kHz offset, 0.252 to 1030 MHz < - 84 dBc, > 10 kHz offset, 1030 to 2060 MHz < - 25 dBc, output \leq + 8 dBm None, 0.252 to 515 MHz < - 60 dBc, 515 to 1030 MHz < - 40 dBc, 1030 to 2060 MHz < 2 Hz rms | - 136 dBc/Hz < - 105 dBc, > 10 kHz offset, 0.252 to 1030 MHz < - 100 dBc, > 10 kHz offset, 1030 to 2060 MHz < - 30 dBc, output \leq + 10 dBm None, 0.252 to 515 MHz < - 60 dBc, 515 to 1030 MHz < - 40 dBc, 1030 to 2060 MHz < 1 Hz rms | - 117 dBc/Hz - 134 dBc/Hz (Opt 004) < - 100 dBc, > 10 kHz offset, 187.5 to 2060 MHz < - 90 dBc, > 10 kHz offset, 2060 to 6000' MHz, 0.1 to 187.5 MHz < - 30 dBc, output \leq + 10 dBm < - 75 dBc, 0.1 to 1500 MHz < - 40 dBc, 1500 to 3000 MHz < - 50 dBc, 3000 to 6000' MHz < 15 Hz rms < 2.5 Hz rms (Opt 004) |
| Output Level Range: Resolution: Absolute Accuracy: Reverse Power Protection: | + 13 to - 137 dBm 0.01 Hz ± 1 dB, output \geq - 127 dBm 50 W | + 16 to - 137 dBm, + 13 dBm (Opt 002) 0.01 Hz \pm dB, output \geq - 127 dBm 50 W | + 13 to - 139.9 dBm + 9 dBm (Opt 008) 0.01 Hz ± 1 dB, output \leq - 119.9 dBm, 1 to 3000 MHz ± 1.5 dB, output \leq - 119.9 dBm, > 3000' MHz, < 1 MHz 25 W ² , 0.1 to 2060 MHz 1 W, > 2060' MHz |
| Amplitude Modulation Depth: Resolution: Bandwidth (3 dB): Accuracy: 1 kHz rate Distortion: 30% depth, 1 kHz rate | 0 to 100%, output \leq + 7 dBm 0.1% dc to > 100 kHz, \leq 128 MHz \pm (7% of setting + 1%) up to 80% depth < 3%; < 4% (Opt 002) | 0 to 100%, output \leq + 7 dBm 0.1% dc to > 100 kHz, > 128 MHz \pm (7% of setting + 1%) up to 80% depth < 3%; < 4% (Opt 002) | 0 to 100%, output \leq + 7 dBm 0.1% > 10 kHz for > 10 MHz \pm (6% of setting + 1%) up to 90% depth < 4% |
| Frequency Modulation Maximum Peak Deviation: Resolution: Bandwidth (3 dB): Carrier Accuracy in FM: Indicator Accuracy: Distortion: | 2 MHz, 1030 to 2060 MHz 1 MHz, 515 to 1030 MHz Deviation halves per lower octave 2.5% of setting dc to 100 kHz $\pm 0.5\%$ of setting < 5%, < 30 kHz rate < 10%, < 100 kHz rates < 5% | 20 MHz/200 kHz ² , > 1030 MHz 10 MHz/100 kHz ² , > 515 MHz Deviation halves per lower octave 2.5% of setting dc to 100 kHz $\pm 0.5\%$ of setting < 5%, < 30 kHz rates < 10%, < 100 kHz rates < 5% | 20 MHz, 3000 to 6000' MHz 10 MHz, 1500 to 3000 MHz Deviation halves per lower octave 2.5% of setting dc to 800 kHz $\pm 0.4\%$ of setting $\pm 9\%$, < 20 kHz rates < 1% |