

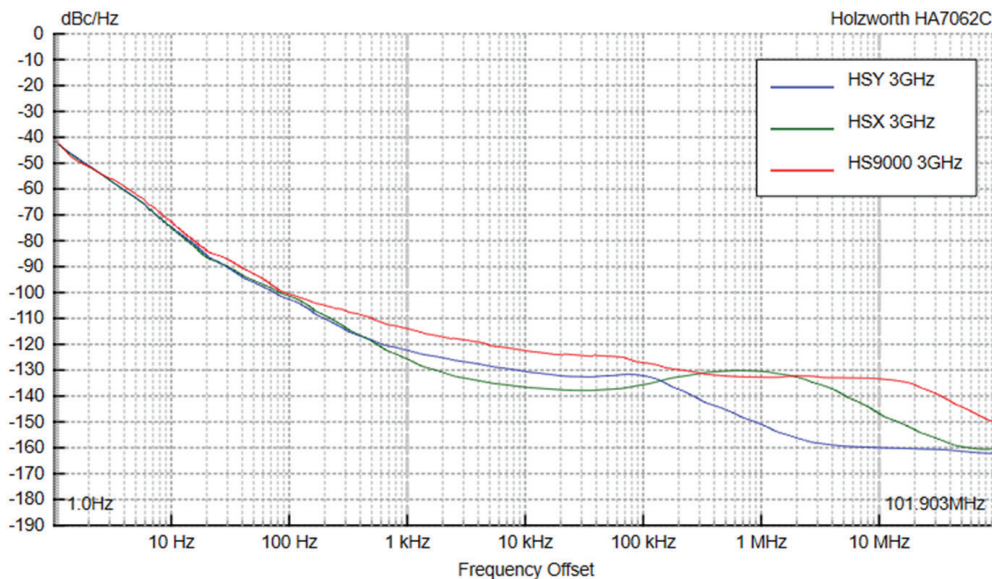
Synthesizer Selection Guide

The Holzworth family of frequency synthesizers offers a breadth of products to address a wide range of test applications including **component characterization** as well as **local oscillator (LO)** and **clock substitution** for communications, radar and quantum computing systems. From synthesis modules to multi-channel instruments with industry-leading channel density, users can choose from a wide variety of frequency options - even mixing them within a chassis. The wide product range also enables users to select a solution with the phase noise profile and switching speed that best addresses their test requirements.

Synthesizer	HSM ¹ /HS9000	HSX	HSY
Architecture	Direct	Indirect/PLL-based	Indirect/PLL-based
Technology	DAS/DDS	VCO	YTO
Phase Noise	Good	Better	Best
Spurious	Low	Very Low	Lowest
Switching Speed	Fast <6 μ s	~5 ms	~50 ms
Dynamic Range	Moderate	Large	Large
Modulation	Yes	No	No
Ultra-Low Noise Option ²	No	Yes	Yes
# of Channels	8 x 1, 2, 3, 4 or 6 GHz 4 x 12 or 18 GHz 16 Channels available	4 x 3, 6, 12, or 20 GHz 2 x 40 GHz	2 x 3, 6, 12, or 20 GHz

¹ The HSM series is a family of standalone single channel synthesizer modules, the core of which is used within the HS9000 series.

² Option for ultra-low phase noise close to the carrier.



HSM Series



HS9000 Series



HSX Series



HSY Series