MODEL HX4920

24GHz Frequency Downconverter

ULTRA LOW PHASE NOISE

- **HA7062C Frequency Extension**
- **ANSI z540 Calibration Standard**
- **4GHz to 24GHz Input Range**
- **-135 dBc/Hz Noise Floor (1x unit)**
- **< -160 dBc/Hz Noise Floor (2x units)**
- **Maintains signal power level**

SUMMARY

The Holzworth HX4920 Frequency Downconverter adds high frequency phase noise measurement capability to the HA7062C phase noise analyzer. When used in conjunction with the Holzworth HA7000 Series Analyzers, the HA7062C can measure DUT phase noise up to 24GHz.

The HX4920 has an additive phase noise floor of -135dBc/Hz at 10kHz offset across the entire operating range, which maintains signal integrity of high performance DUTs. ANSI traceable z540.1 calibration of every HX4920 and HA7062C delivered guarantees consistent, accurate measurements.

SPECIFICATIONS [1]

PARAMETER	MIN	TYP	MAX	UNITS	COMMENTS
Input Frequency (calibrated)	4		20	GHz	ANSI z540.1
Input Frequency	4		24	GHz	50 ohms
Input Power	4	7	10	dBm	50 ohms
Output Power	6	8	10	dBm	50 ohms
Phase Noise (Additive) 1x HX4920 unit 2x HX4920 units		 -135 < -160		 dBc/Hz dBc/Hz	 Input Referred, 10kHz offset Input Referred, 10kHz offset
DC Supply	9	12	15	V_{DC}	±10%, 100mA
Input RF Connector	SMA Jack (female)				
Output RF Connector	SMA Plug (male)				
DC Connector	SMA Jack (female)				
Housing Dimensions (LxWxH)	2” x 1.625” x 0.5” (50.8mm x 41.3mm x 12.7mm)				

[1] Specifications are subject to change per the discretion of Holzworth Instrumentation, Inc.

ANSI z540.1 Calibrated

RoHS Compliant

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HX4900 PERFORMANCE DATA

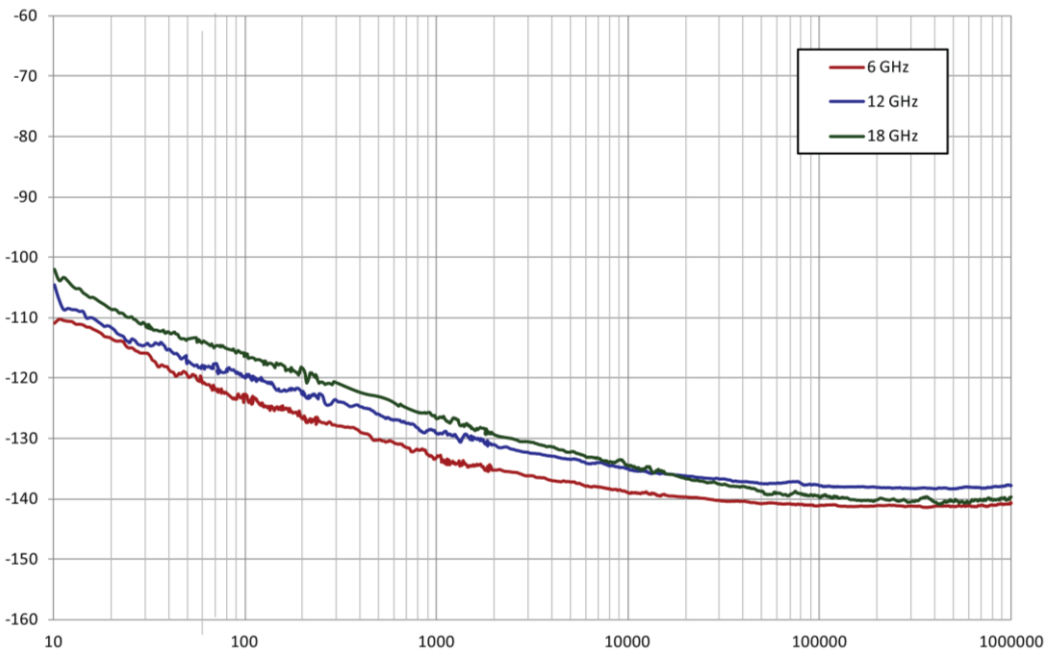
The HX4900 Series Downconversion Modules are designed to be used as frequency extensions for the Holzworth HA7062C Phase Noise Analyzer. These down conversion modules establish the overall phase noise test floor of the cross correlation phase noise analyzers, based on their additive phase noise performance.

Model No.	DUT Frequency Range	Additive Phase Noise
HX4920	4GHz – 24GHz [2]	-135 dBc/Hz, Input Referred, 10kHz offset [3]
HX4920-2	4GHz – 24GHz [2]	< -160 dBc/Hz, Input Referred, 10kHz offset [3]

[2] ANSI z540.1 calibration covers 4GHz to 20GHz. Measurements from 20GHz - 24GHz are not ANSI z540 traceable

[3] Using a pair of HX4920 Downconverters (PN: HX4920-2) provides 20dB measurement noise floor improvement with HA7000C Series.

The figure below demonstrates the additive phase noise performance of the HX4900 Series modules. **NOTE:** The plots in the figure below represent the phase noise floor of the test system (when using 1x HX4920) for the test frequencies listed. Using 2x HX4920 units will provide a noise floor of approximately -168dBc/Hz.



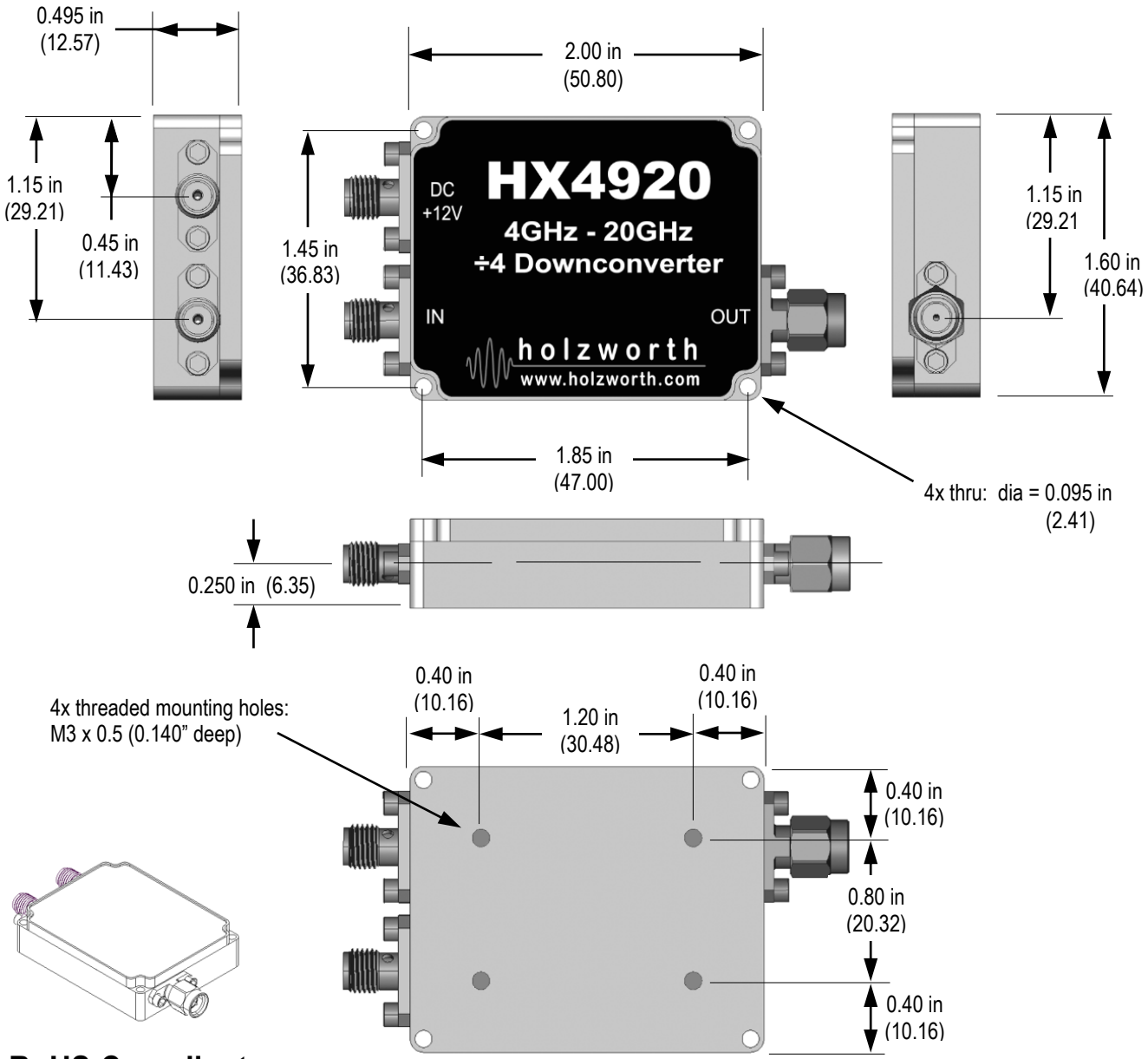
All sales inquires and/or technical questions should be directed to the Holzworth Instrumentation sales department:

sales@holzworth.com

+1.303.325.3473 (option 1)

MECHANICAL

The HX4920 Downconverter comes in a compact, shielded housing complete with mounting holes for ease of system integration into various applications. Mechanical dimensions are listed in both inches and (mm). Tolerances are to within ±0.010 inches.



RoHS Compliant

WARRANTY

All Holzworth downconverters come with a 1 year 100% product warranty covering manufacturing defects. All product repairs and maintenance must be performed by Holzworth Instrumentation. Holzworth reserves the right to invalidate the warranty for any product that has been tampered with or used improperly. Refer to Holzworth Terms & Conditions of Sales for more details.