

- Frequency : 10MHz to 6GHz
- P_{1dB} Output : +15dBm
- Phase Noise : -175dBc/Hz at 10kHz
- Gain : 11dB
- Power Supply : 12 V_{DC} (50mA)
- Integrated Ultra Low Noise Bias Network



SUMMARY

The Holzworth HX2600 is a broadband, Ultra Low Phase Noise RF Amplifier designed for use as a pre-amplifier for phase noise measurements of devices with low output power. This amplifier is also excellent for laboratory and manufacturing applications where low phase noise and low additive jitter are critical. The proprietary circuitry allows for broadband, ultra low phase noise performance while being powered via a typical bench top power supply.

The HX2600 can be powered from bench top power supplies, a standard AC/DC adapter (available separately) or via a 6V_{DC} to 12V_{DC} battery. Battery operation is ideal for use in closed systems and ground isolated systems where low noise is absolutely critical. Furthermore, Hi-Rel design and manufacturing standards have been adopted ensuring a solid design for demanding OEM applications. Holzworth products are 100% final performance tested for phase noise verification¹.

SPECIFICATIONS²

PARAMETER	MIN	TYP	MAX	UNITS	COMMENTS
Frequency Range	10 M		6 G	Hz	
Gain		11		dB	
Gain Flatness		±0.6		dB	100MHz to 6GHz
P_{1dB}		15		dBm	at 6GHz
Phase Noise 100Hz offset 10kHz offset		-162 -175		dBc/Hz dBc/Hz	$P_{OUT} = +15dBm$
Second Harmonic		-25		dBc	$P_{IN} = 0dBm$
Third Harmonic		-30		dBc	$P_{IN} = 0dBm$
Power Supply Rejection		-80		dB	At < 10kHz
DC Power Supply	6		12	V _{DC}	50mA, Internally Regulated
Operating Temperature Range	0		50	C	
RF Connectors	SMA Jack (female)				
DC Connector	SMA Jack (female)				
Housing Dimensions (LxWxH)	1.75" x 1.5" x 0.5" (44.5mm x 38.1mm x 12.7mm)				

¹ Final performance verification at 100MHz, $P_{IN}=+5dBm$, $P_{OUT}=+15dBm$

² Specifications are subject to change per the discretion of Holzworth Instrumentation, Inc.

HX2600 PERFORMANCE DATA

The data included here demonstrates typical performance of the HX2600 LPN RF Amplifier under ambient laboratory conditions. Broadband gain, low harmonics and excellent phase noise performance make the HX2600 a versatile amplifier for laboratory applications, while low power consumption also makes it an attractive choice for many OEM applications.

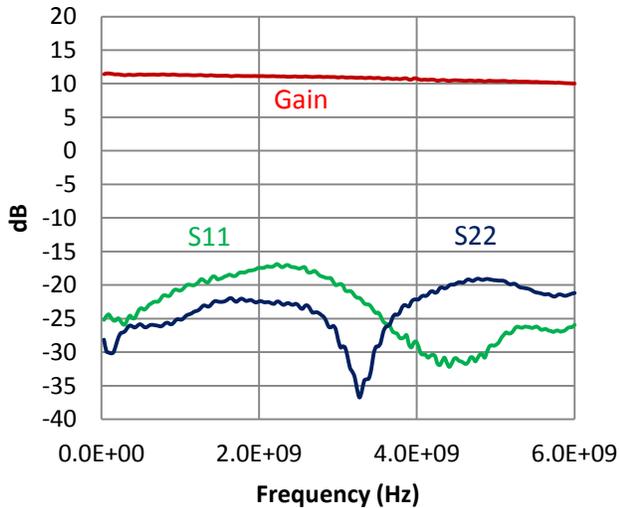


Figure 1: Gain, S11, S22 vs. Frequency

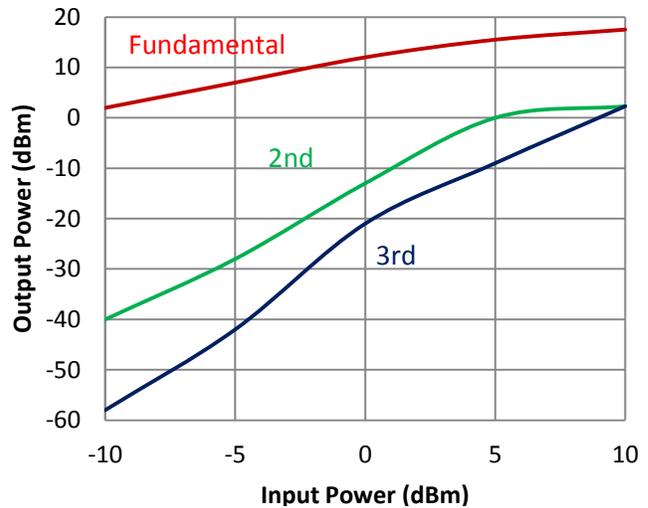


Figure 2: P_{OUT} vs. P_{IN} at 100MHz

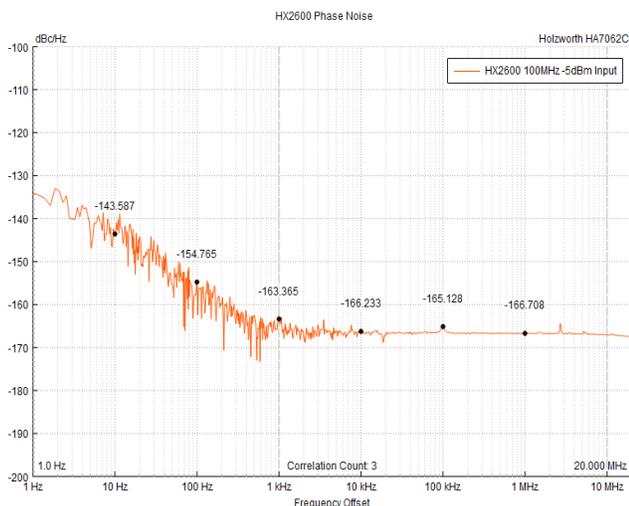


Figure 3: SSB Phase Noise at 100MHz
(P_{IN} = -5 dBm)

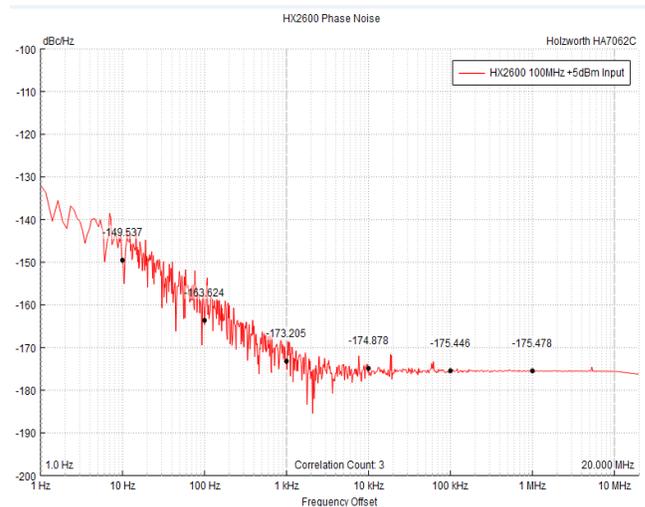
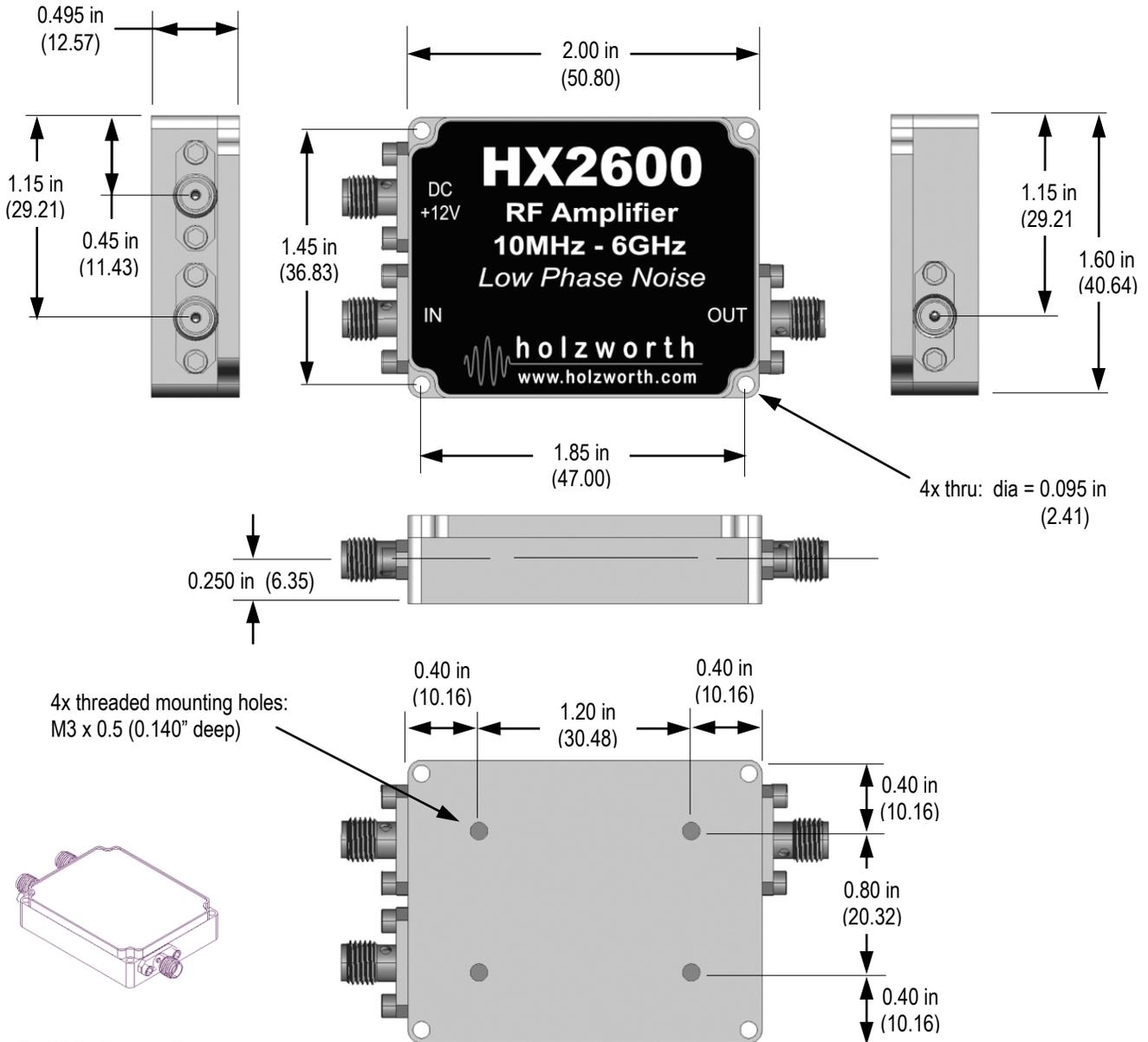


Figure 3: SSB Phase Noise at 100MHz
(P_{IN} = +5 dBm)

Needing performance that varies from what's shown here? Contact Holzworth for custom OEM solutions.

MECHANICAL

The HX2600 RF Amplifier comes in a compact, shielded housing complete with mounting holes for ease of system integration into various applications. Mechanical dimensions are listed in inches and (mm). Tolerances are to within ± 0.010 inches.



RoHS Compliant

WARRANTY

All Holzworth amplifiers 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.