

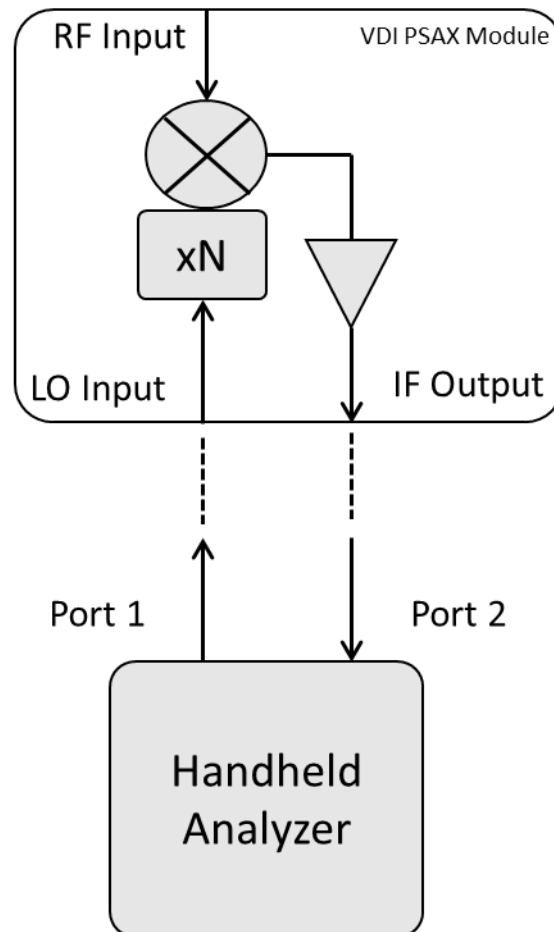
# PSAX (Portable Spectrum Analyzer Extension) Module Datasheet

## PSAX Module

Virginia Diodes' (VDI) Portable Spectrum Analyzer Extension (PSAX) Modules are used to extend the performance of modern handheld / portable spectrum analyzer solutions (e.g. Keysight FieldFox) in the frequency range from 50 GHz through 170 GHz, in frequency bands from WR-15 (50-75 GHz) to WR-6.5 (110-170 GHz). Higher frequency PSAX modules may be available upon request. An external battery or power supply may be needed to operate higher frequency PSAX modules.

## Direct Connect to Keysight FieldFox Analyzers

The VDI PSAX Module is designed to connect directly to the RF Ports on the Keysight FieldFox Analyzers. The IF connector on the PSAX module can be adjusted laterally to be compatible with the LO and IF port spacings of all Keysight FieldFox analyzers.



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## PSAX Specifications

General Specifications for VDI PSAX Modules			
Description		Specification	Connector
LO Input	Typical / Damage	0 dBm ± 3dB / 8 dBm	2.92mm (f)
IF Output	Minimum Frequency	100 MHz	2.92mm (f)
	Maximum Frequency	See Table Below	
RF Test Port	VDI Precision Flange	WR15 to WR6.5	UG-387/U-M
DC Bias Port*	--	+5.5V to +7.5V	LEMO 00
Maximum Weight	--	0.88 lbs (0.4 kg) - estimated	--
Enclosure Dimensions	Typical (Length x Width x Height)	3.00" x 4.50" x 1.50"	--
Operating Temperature	Typical / Recommended	25°C / 20-30°C	--
Maximum Rated Humidity	At 30°C	~75%	--

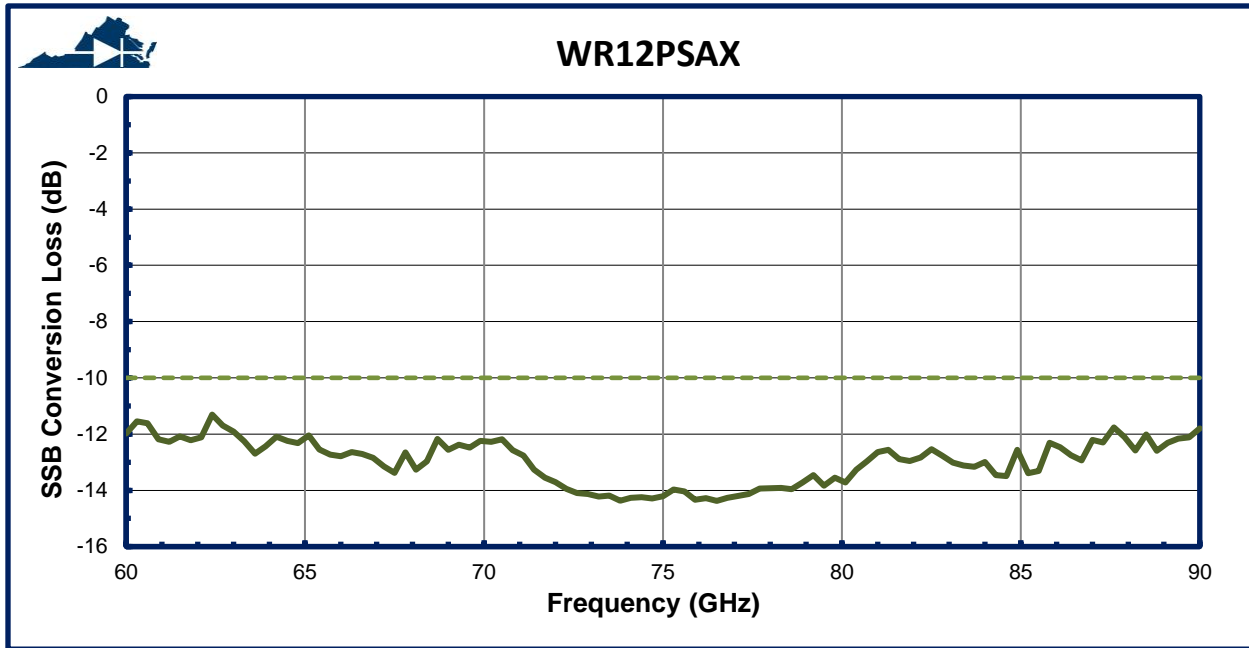
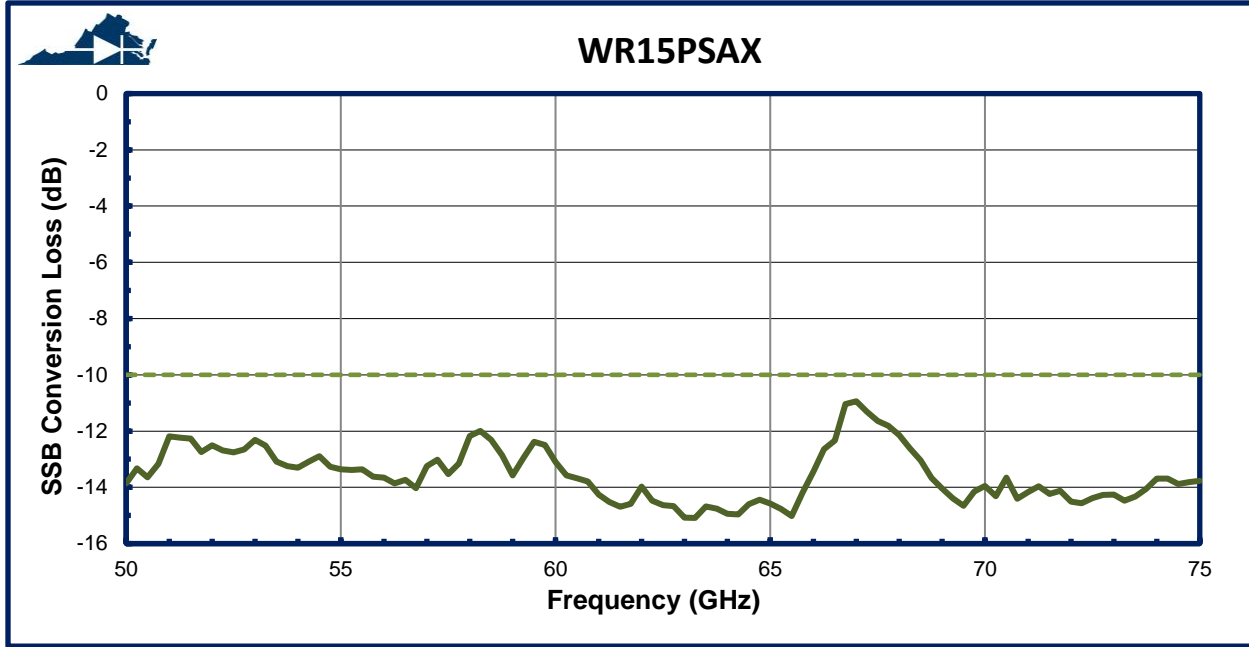
\*Includes QTY 2 - 12-inch LEMO 00 to SMB cable to connect to SMB port on Keysight FieldFox. Only one bias cable is needed for operation. A spare / replacement cable is included.

VDI PSAX Module Specifications					
Description	WR15PSAX	WR12PSAX	WR10PSAX	WR8.0PSAX	WR6.5PSAX
RF Frequency Band (GHz)	50-75	60-90	75-110	90-140	110-170
RF Power Limits (dBm, P1dB, est. / Damage, typ.)	-10 / +17	-10 / +17	-10 / +17	-10 / +13	-10 / +13
Maximum IF Frequency (GHz)	7.5	9	10	10	10
SSB Conversion Loss (typ.)*	-10	-10	-10	-10	-10
Noise Figure (dB, typ., est.)	12	12	12	13	13
LO Harmonic Factor	6	6	6	12	12
Current Draw (mA, typical, est., @ +5.5V)	300	300	500	550	400

\*SSB Conversion Loss is specified at 1 IF and is measured from the RF Test Port to IF Output Port. This includes intrinsic mixer conversion loss and IF amplifier gain. Negative conversion loss is conversion gain. When operating at higher IF frequencies, the N\*LO may need to be set within the RF Frequency Band. When setting N\*LO outside of the RF Frequency Band the PSAX performance is not guaranteed or have reduced performance.

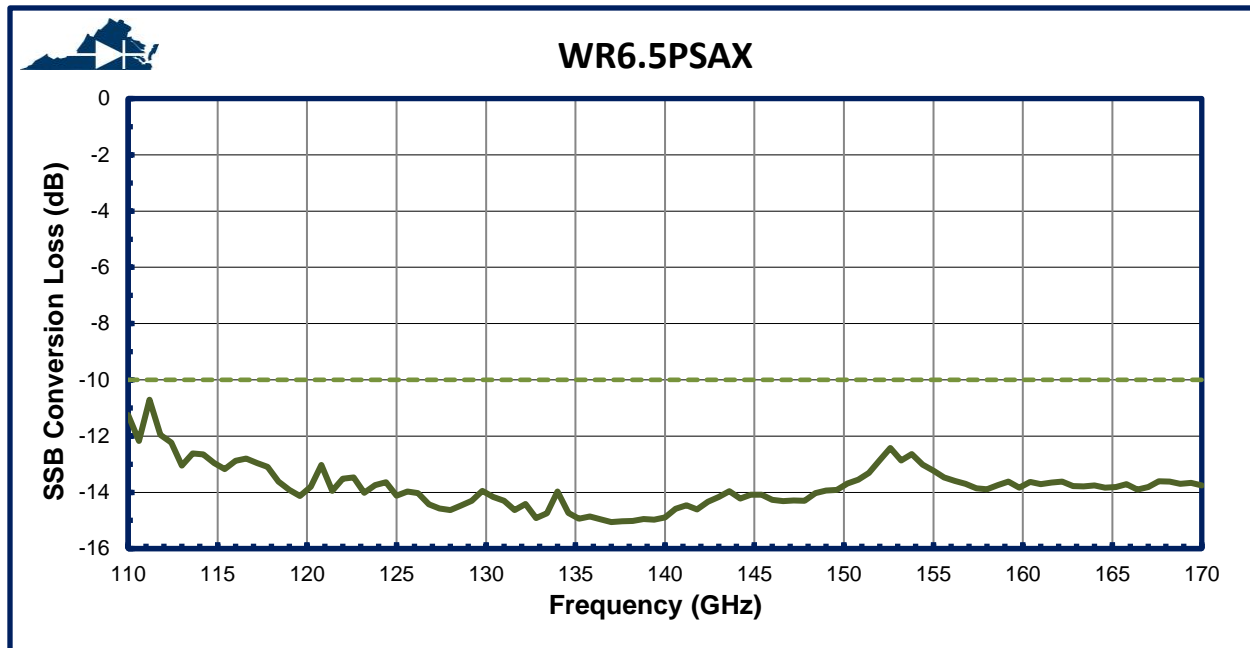
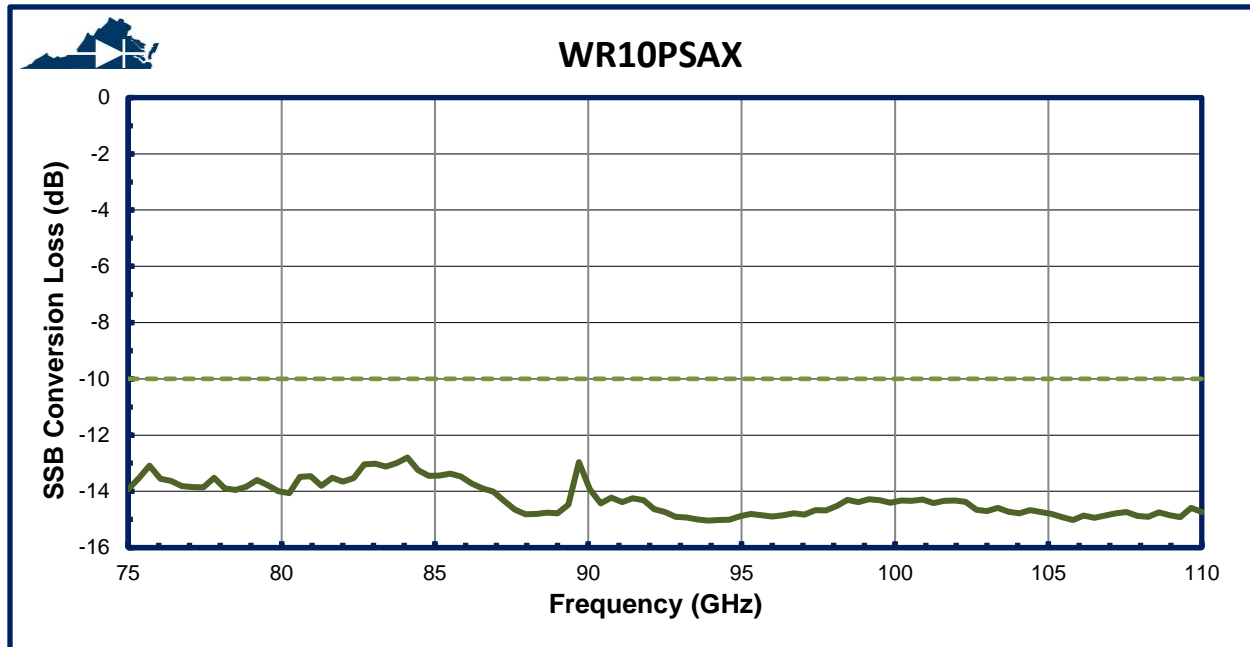
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## PSAX Performance



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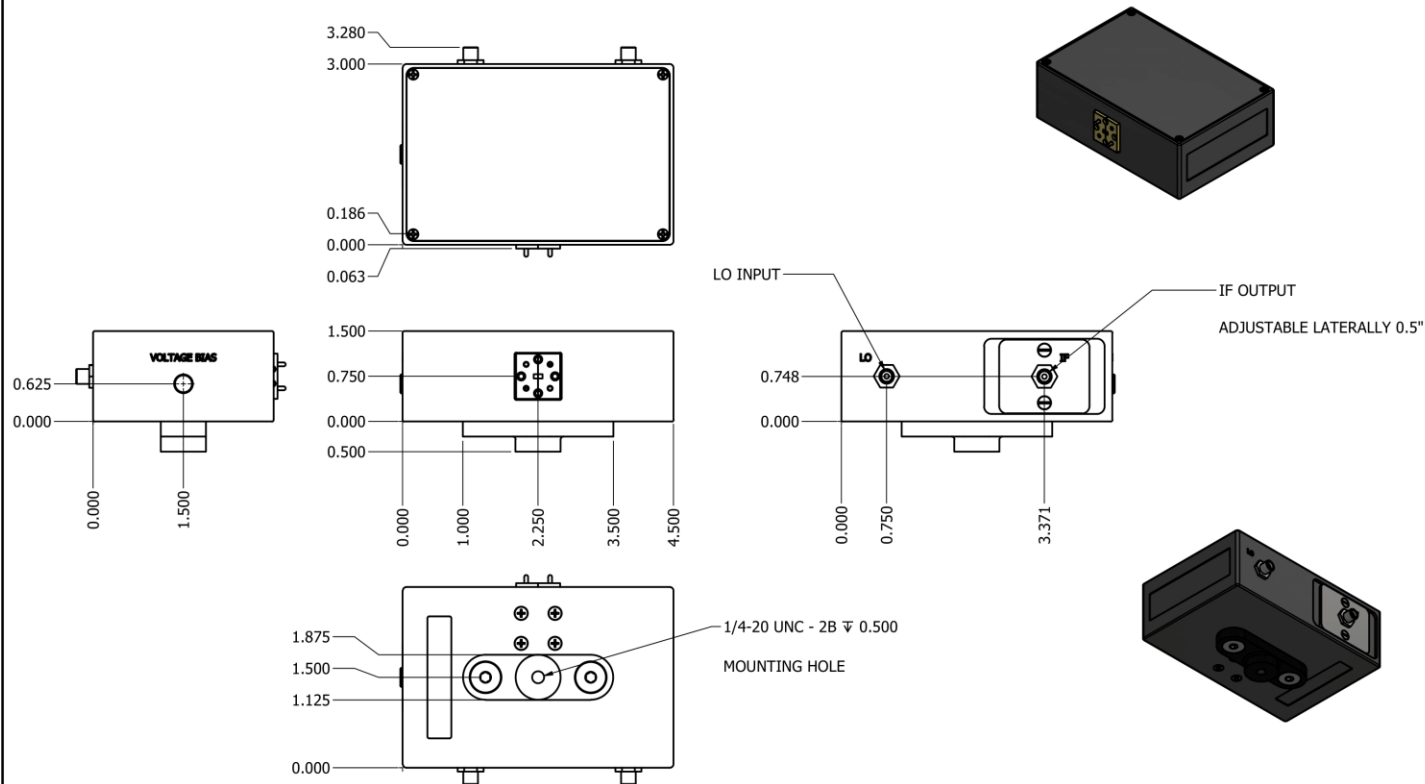
## PSAX Performance



# PSAX (Portable Spectrum Analyzer Extension) Module Datasheet

## PSAX Dimensions

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TITLE:  
VDI12.0PSAX

MATERIAL:  
AS NOTED

LAST REV. DATE:  
1/12/2024

LAST REV.:  
1

SHEET:  
1 OF 2

UNITS:  
INCHES

MODEL #:  
WR12.0 PSAX



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