FOCUS MICROWAVES GROUP

RAPID VT- Digital Tuner

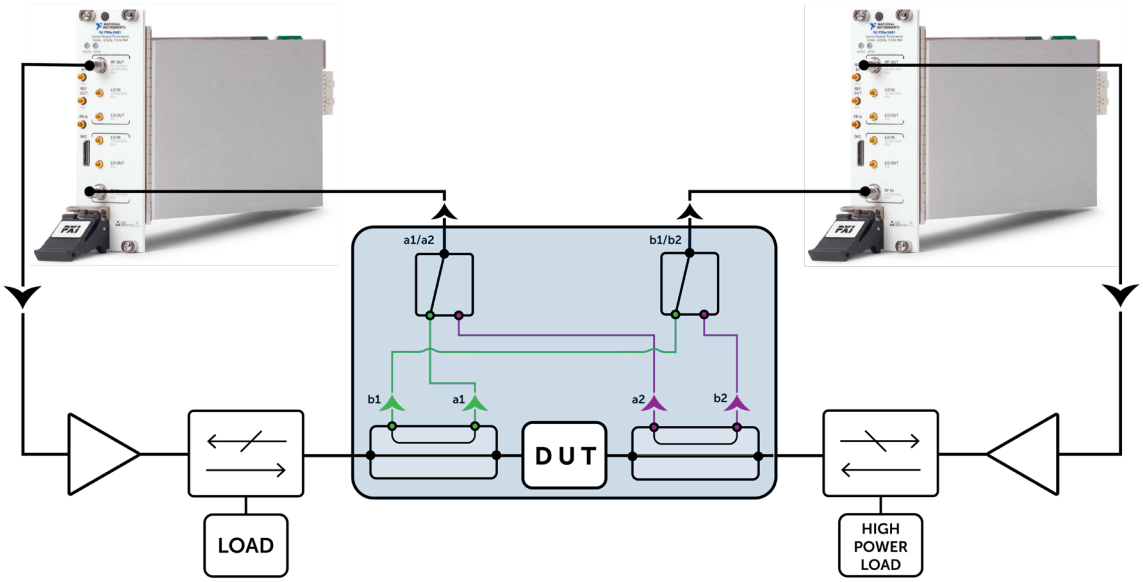
Computer Controlled Microwave Tuner

General

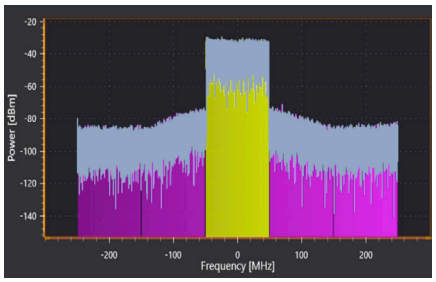
Focus Microwaves' RAPID digital tuner technology is now available for very wideband communication signals, supporting the latest 5G FR1 and IEEE 802.11ax standards. This new architecture leverages the raw performance of National Instruments PXIe-5841* PXI Vector Signal Transceiver.

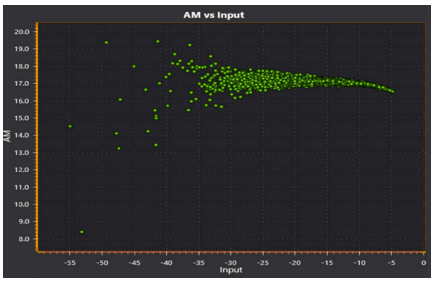
The Rapid VT, utilizes two PXIe-5841 VSTs to make a VNA architecture with up to 1GHz active load pull bandwidth capability. The system solution provides a flexible load pull test platform that can be used to test the latest high bandwidth and high modulation cellular standards such as 1024QAM 802.11ax but can also be configured for fast load pull and s-parameter measurements. This opens up the possibility of using this system in all parts of the design cycle, from initial device characterisation, to MMIC or PA design, design verification testing and ultimately to product testing in the factory.

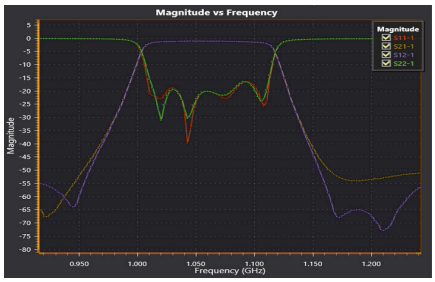
Setup



Measurements







*also supports PXIe-5840 & PVIe-5646

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VST Specifications

VST Model PXIe-5841
Chassis PXIe-1092 / 1095 with OCXO Option

Specifications

For all transmit & receive specs please see VST datasheet
https://www.ni.com/pdf/manuals/378128a.pdf

S Parameter Performance Summary*

		CW		Pulse		
	Frequency Range [GHz]	Dynamic Range [dB]	Average Power [dBm]	Min Width [ns]	Dynamic Range [dB]	Peak Power [dBm]
RAPID-605	0.5 - 6	70	40	200	70	50
RAPID-1805	0.5 - 6		40			50
	6 - 18	65			65	
RAPID-4005	0.5 - 6	70	33		70	43
	6 - 18	65			65	
	18 - 40	60			60	

Load Pull Performance Summary*

		CW			Pulse		
	Frequency Range [GHz]	Dynamic Range [dB]	Accuracy [dB]	Average Power [dBm]	Min Width	Dynamic Range [dB]	Peak Power [dBm]
RAPID-605	0.5 - 6	>60	40	47	200	>60	53
RAPID-1805	0.5 - 18			47			53
RAPID-4005	0.5 - 40			33			43

		Modulation			
	Frequency Range [GHz]	Dynamic Range [dB]	Accuracy [dB]	Average Power [dBm]	Bandwidth [MHz]
RAPID-605	0.5 - 6	>60	40	47	100 / 250 / 500 / 1000
RAPID-1805	0.5 - 18			47	
RAPID-4005	0.5 - 40			33	

*These specifications are with regards to Rapid load pull system performance only and at +23C +/-2C
** 201 points in default settings over the complete frequency range

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