

## Are you ready to solve next generation communications systems challenges?

### Arbitrary Waveform Generation – Direct to RF Capability

Next generation communications system such as 5G, WiFi-6 and UWB signify a move to both wider bandwidths and higher frequency ranges. Instrumentation is often limited to carrier frequencies below 6GHz with a maximum of 20MHz of Modulation Bandwidth. However new technologies require bandwidths from 160MHz to more than 2000MHz (2GHz).

### Technology, Frequency Range and Bandwidth

The Proteus series of Arbitrary Waveform generators offers direct-to-RF signal generation capability ensuring that your instrumentation can meet the requirements of next generation systems. The PXI modular system is configurable from a minimum of two or four channels per module, with a maximum of 44 baseband (I/Q) Channels or 44 Direct-to-RF Channels available in a 19" rack form factor.

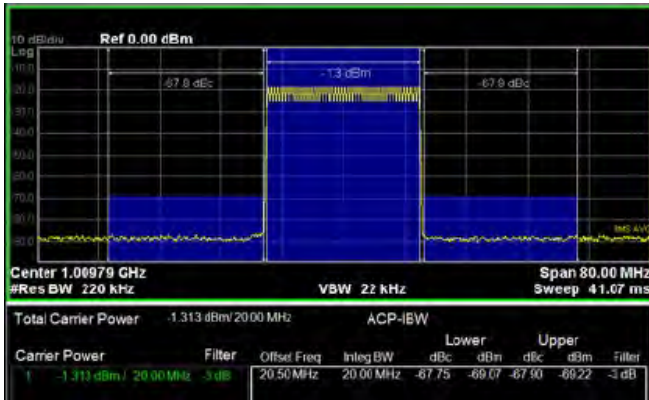


### Key instrument capability

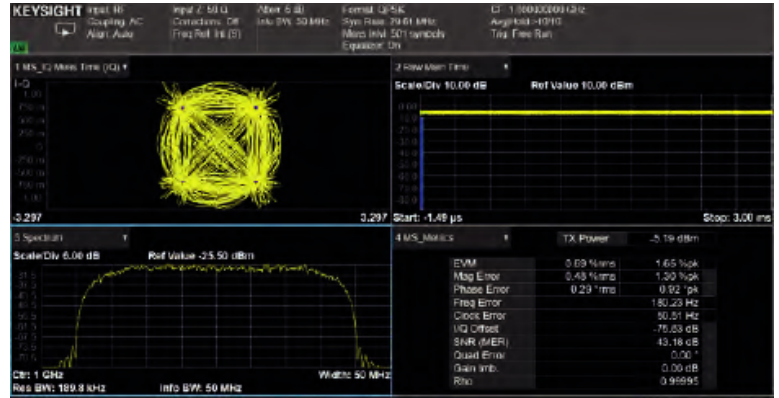
- Signal generation range  $\leq 9\text{GHz}$  (1st & 2nd Nyquist),  $< 13.5\text{GHz}$  (3rd Nyquist)
- Modulation Bandwidth  $\leq 4.5\text{GHz}$
- 5dBm Max Output Power (1.2Vpp)
- 20MHz ACP better than -65dBc (Typ)
- SFDR -80dBc (Typ)
- IQ and Direct to RF outputs – 2 or 4 outputs per module for Analog IQ or direct to RF with the units built-in digital IQ Modulator (two independent IQ modulators per channel)
- MIMO capable with synchronized multiple channel configurations including full control over the carrier phase for the I/Q modulators

Technology	Frequency Range	Bandwidth
5G	$< 6\text{GHz}$	20MHz – 1000MHz
WiFi-6 (802.11ax)	$< 7\text{GHz}$	20MHz-320MHz
802.11ad	$< 70\text{GHz}$	2160MHz
UWB	$< 10\text{GHz}$	500MHz-1500MHz

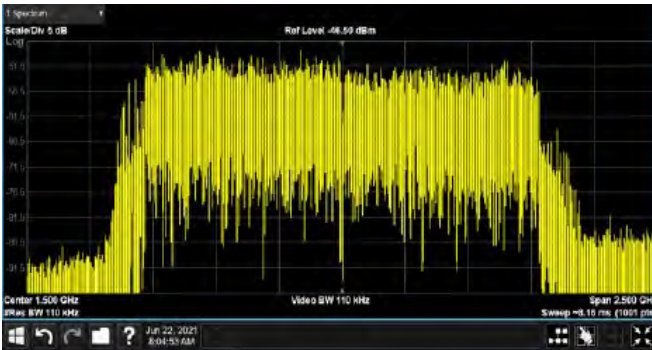
## Industry Leading Adjacent Channel Performance



## Aligned and Calibrated Built-in IQ Modulator



## Wide-Bandwidth Generation Capability



## Learning Resources On-line

- [Arbitrary Waveform Generators - Proteus Series](#)
- [Generating and Measuring Communications Signals with the Proteus AWT](#)
- [Direct Generation/Acquisition of Microwave Signals](#)

## Video

- [Wireless & Communications – application video demos](#)
- [Real Time Waveform Streaming using direct to RF Arbitrary Waveform Transceivers](#)
- [Wide Band IQ – Next generation signals such as 5G and WiFi-6 wide analog Bandwidths with Tabor's Proteus AWT](#)