MXG Signal Generators

Enhanced with 4-ports, DDS Architecture, and Embedded Reflectometer

Keysight's Breadth and Depth Supports Customers' Innovations

[1]Per company estimate. [2]As of fiscal year end. [3]Includes indirect channel. [4]Patents awarded to Keysight and Keysight's business under Agilent and HP. [5]Per external sources. [6]Sites with >50 R&D engineers.

Key Statistics FY24

#1
Market Position[1]

$5.0B
Revenue[2]

30K+
Total Customers[3]

3,800+
Patents[4]

100+
Countries Served

15K+
Employees

~$26B
Market Cap[2,5]

22
R&D Sites[6]

Keysight Signal Generator

Find *your* optimum performance

VXG

PSG

PXI SG

MXG

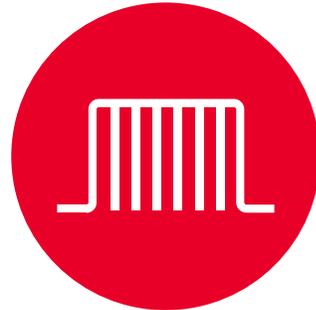G2

EXG

CXG

AP500xA

Performance

KEYSIGHT
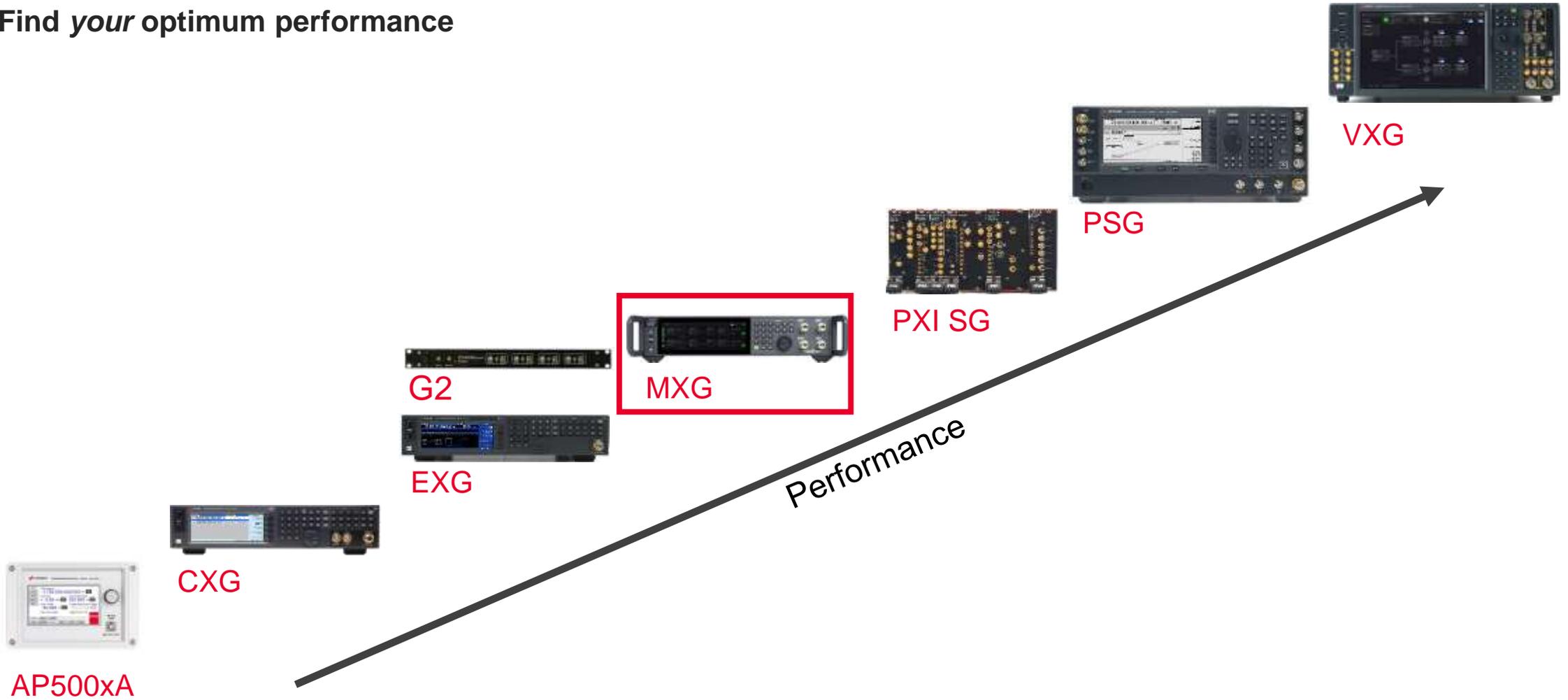
New Requirements are Driving More Advanced Testing

Complex modulations

Example: more complex QAM modulation schemes

Wider bandwidths

Example: increasing 5G bandwidth requirements

Multiple antenna techniques

Example: higher - order MIMO schemes

Increasing spectrum congestion

Example: IoT proliferation

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New Requirements Need Next-Gen Test Instruments

Keysight's latest midrange signal generators

MXG Vector – Model N5182B

MXG Analog – Model N5181B
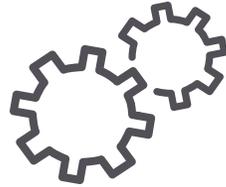
Next-Gen

MXG Vector – Model N5186A

Next-Gen

MXG Analog – Model N5185A

Advanced and Integrated Capabilities to Enhance RF Testing

New Capabilities include

- High performance DDS DAC technology to eliminate distortion

- Embedded reflectometer to streamline match correction and improve accuracy

- Simplify complex test setups with 1-4 channels in 2U box

- Meet narrow and wideband requirements with up to 1 GHz bandwidth

Continued exceptional ease-of-use

- Seamlessly create complex modulations directly on the screen using signal generation software

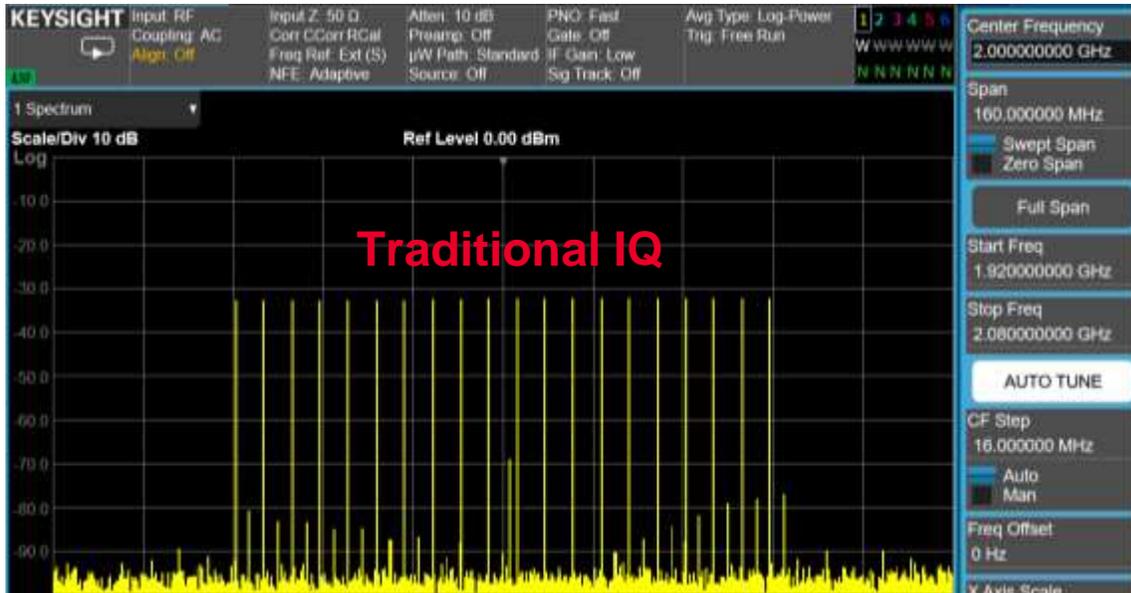- Ease-of-use with intuitive touch panel interface

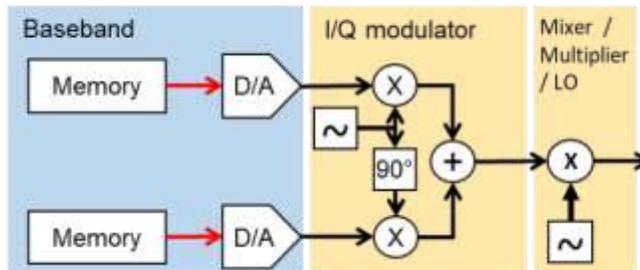# Direct Digital Synthesis (DDS) Eliminates Distortion

IQ modulator images degrade dynamic range

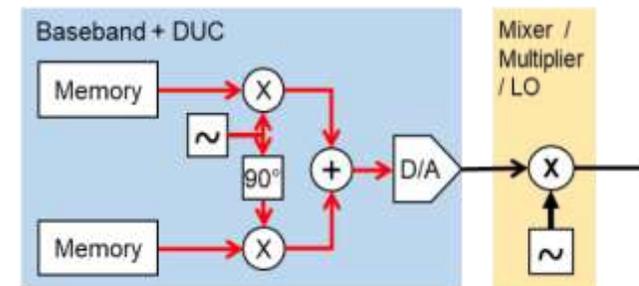Analog I/Q up-conversion causes distortion

Digital up-conversion avoids distortion

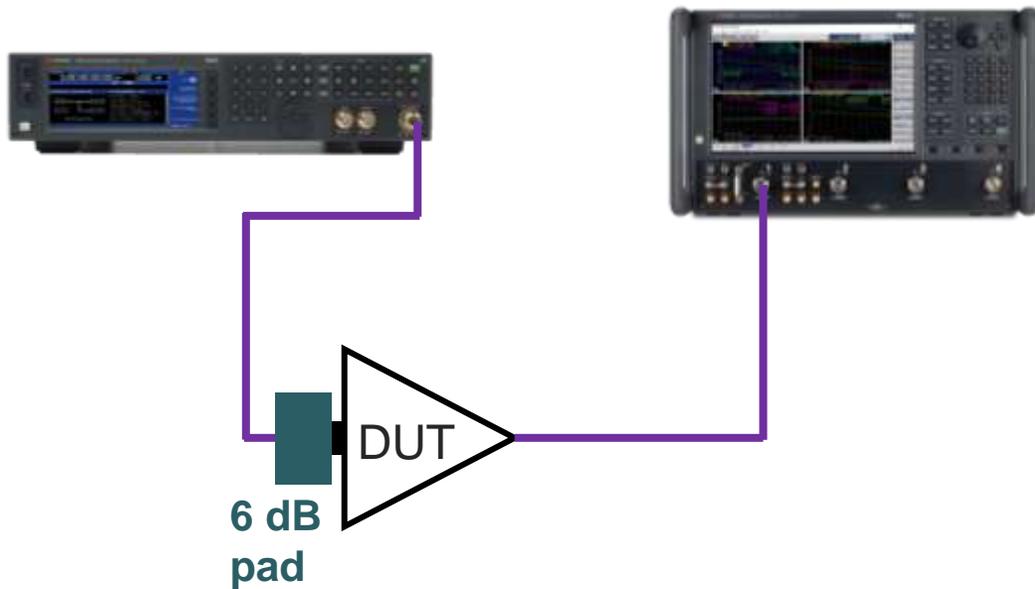

Traditional baseband architecture

Baseband with DUC architecture

Accelerate Workflows with Embedded Reflectometer

Before

6 dB pad

- Requires VNA to characterize DUT match
- Requires a pad to improve mismatch, degrades power
- Requires measurement uncertainty calculations
- Process consumes hours or days

After

- Requires N5186A-V08 (embedded reflectometer)
- Reduces manual calculations and errors
- Processes and executes in minutes

# Improve Test Accuracy with an Embedded Reflectometer

With the press of one button, calculate the DUT reflection coefficient or perform spot correction.

Improve test accuracy and frequency response by quickly

- Characterizing fixtures with Ecal and generate an .s2p file for de-embedding.
- Measuring S11 at the reference plane and generate an .s1p file.
- Performing a spot correction into the current load or ideal 50-ohm load.

*E7653APPC or VNA is required to generate .s2p files to extend reference plane closer to DUT
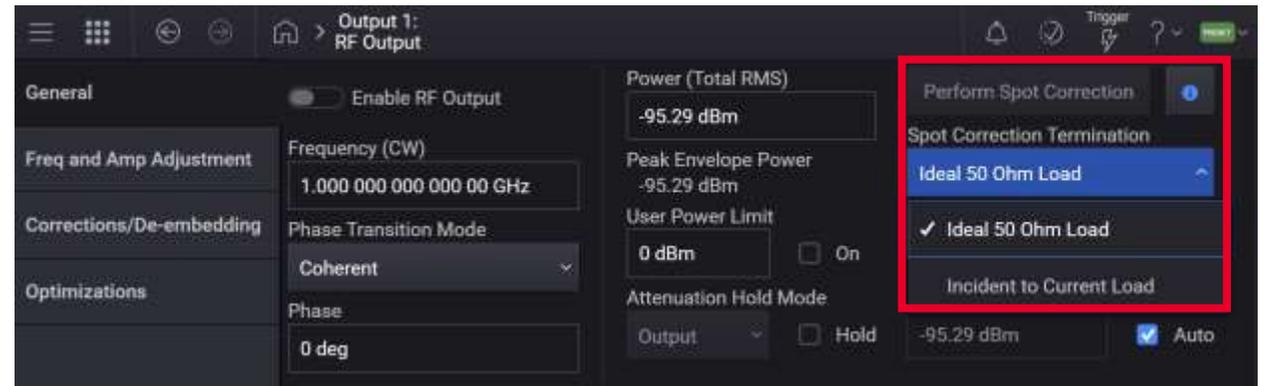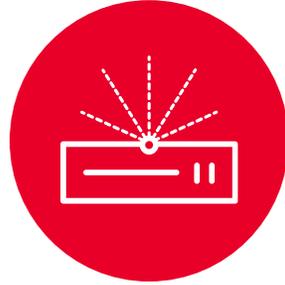
Excellent Bandwidth vs. Density

Generate up to four complex independent test signals

Create four independent and coherent standards-based waveforms in a 2U box.

- Generate signals with up 1 GHz modulation bandwidth per channel.

- Ready for intra- and inter-band aggregation with up to 4 GHz per instrument.

- Three maximum frequency options are offered: 3 GHz, 6 GHz, 8.5 GHz

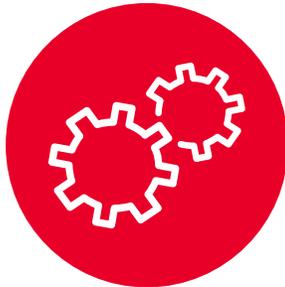- Factory calibrated for magnitude and phase across frequency and all attenuator states.

KEYSIGHT

The MXGs are

Compact

- Up to 4 signal generators in one 2U box
- Excellent bandwidth vs. density

Integrated

- Embedded reflectometer
- Signal creation tools

Performance

- Excellent signal accuracy
- Low distortion

Services Are Your Strategic Advantage

Amplify your in-house expertise and empower your engineers with comprehensive services that support your product life cycles

- KeysightCare
- Calibration
- Repair
- Startup assistance
- KeysightAccess

Access service and support where and when you need it

- 30 countries
- 7 regional megahubs with 55+ local centers of expertise
- >1,500 service and technical experts
- 16 ISO/IEC 17,025 accreditation bodies

[1]Such as ANAB, CNAS, JCSS, KOLA, and UKAS, and regional standards like Z540.3. View the full list at keysight.com/find/accreditation

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