

AEROFLEX

A passion for performance.

Vector

Digital

Analog

MultiSource

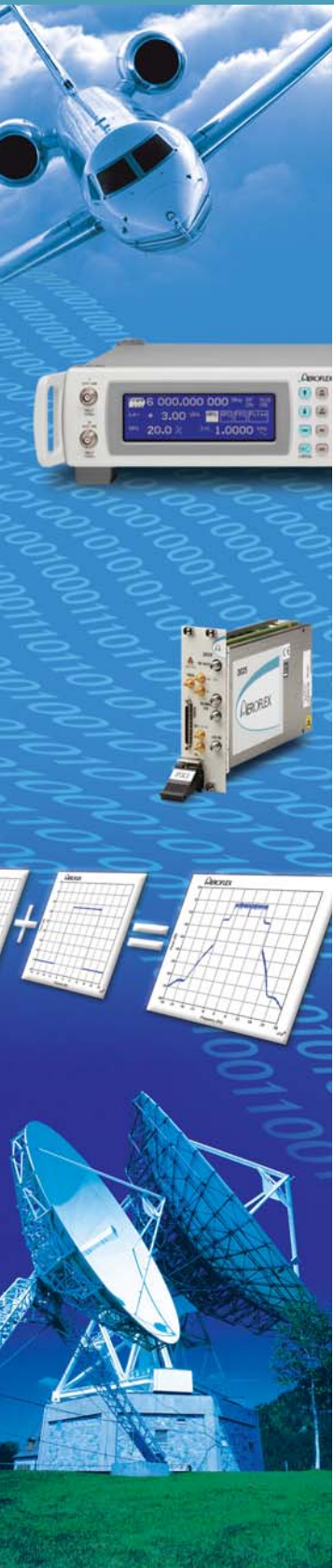
VXI



Signal Sources

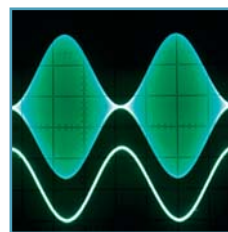
Signal Generation

Aeroflex Signal Sources



With its 2002 purchase of IFR, which included Marconi Instruments bought in 1998, Aeroflex is now one of the top three signal source suppliers worldwide.

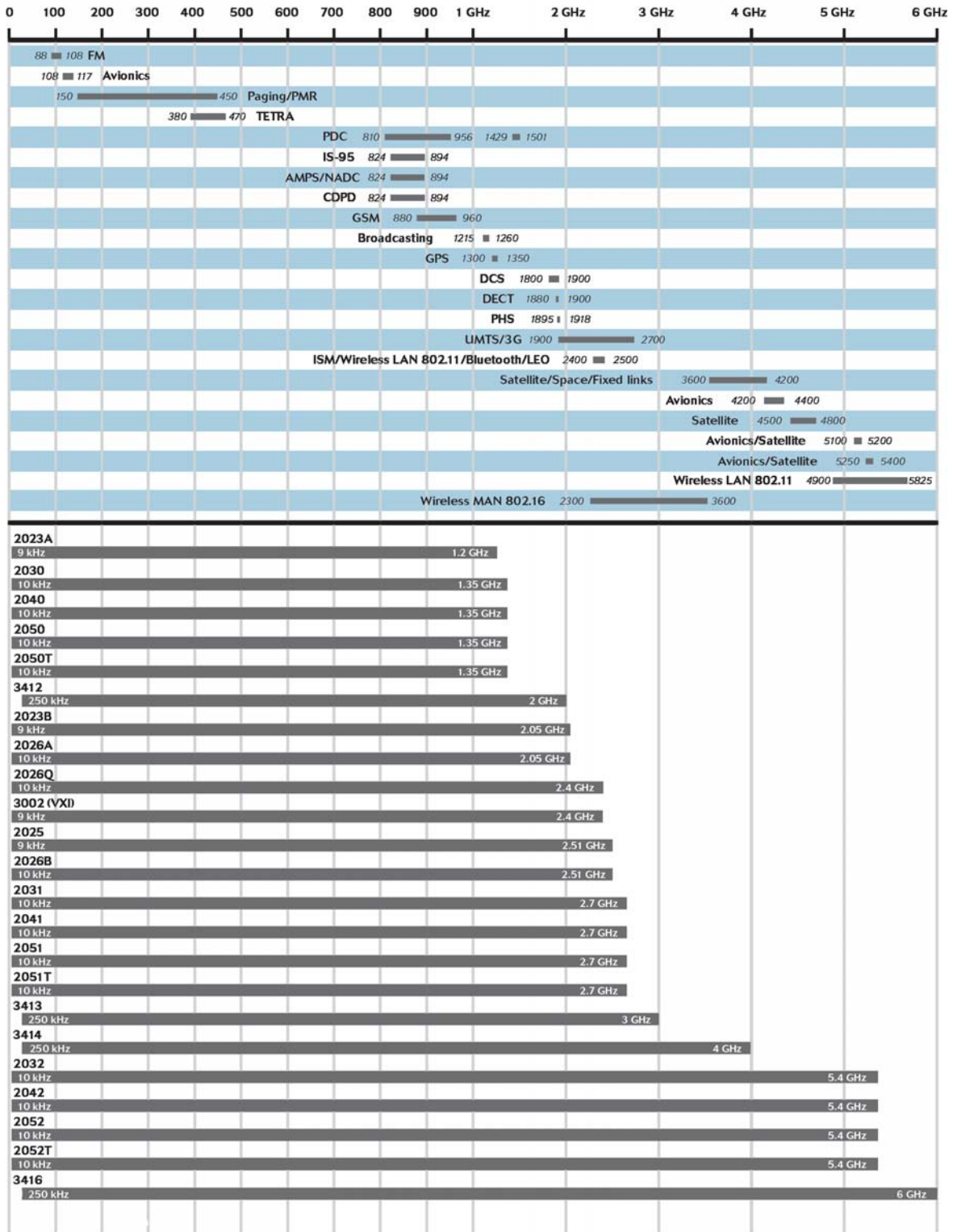
Inheriting Marconi Instruments' reputation for quality, reliability and innovation, Aeroflex retains patents and intellectual property improving signal generation throughout the industry. For example, Marconi Instruments created the Fractional-N synthesis technology necessary to produce high-resolution, low phase-noise carrier signals in signal sources. In turn, Aeroflex develops and executes its entire line of signal sources with excellent phase-noise characteristics plus exceptionally high output power. The priority at Aeroflex is to understand your signal source needs. If there isn't a standard source perfectly suited for your needs, Aeroflex has the resident expertise to create the right test solution for you. Combining the quality of Aeroflex signal sources, their reliability, excellent price/performance ratios, conservative specifications and minimal requirements for maintenance, every Aeroflex test system represents an outstanding lifetime value.



Enabling communications



Frequency Allocation (MHz)



worldwide.

Signal Generation

Aeroflex Signal Sources

3410 Series

Sets the new standard for high performance wideband vector, digital and analog modulation.



The fully featured 3410 Series is designed for the most exacting test requirements of today's advanced wideband digital radio receivers and power amplifiers. The use of touch screen technology with an intuitive user interface combine to make an easy to operate instrument for both technicians and advanced users. With 2009 models benefiting from enhanced EVM performance the 3410 Series continues to offer "no compromise" capabilities in both R&D and manufacturing environments.

“...List Mode has a setting time of less than 500 μ s and is ideal for frequency hopping and semi-conductor production applications...”

The patented high dynamic range wideband IQ modulation system delivers excellent linearity (ACP) and accuracy in vector mode. An optional dual-channel arbitrary waveform generator, with impressive memory size, is available to store and generate long complex sequences of waveforms (or one single waveform), so that rigorous testing can be accomplished faster, without lengthy interruptions for downloading.

Differential I/Q outputs, combined with comprehensive voltage bias and offset facilities, are optionally available to simplify component and module testing.

The 3410 Series can be configured with a choice of high output level accuracy and resolution electronic or mechanical attenuators. These offer very fast frequency and level switching or higher output powers.

Generation and loading of waveform files for the arbitrary waveform generator is a short and simple task of completing modulation templates using the Windows™ based **IQCreator™** software package. Templates are available for generic digital modulation schemes such as FSK, QAM and PSK, as well as 2G, 2.5G, 3G and 4G cellular standards, digital PMR, WLAN and WMAN formats.



Type: Digital, vector and analog

Frequency: Models range from 250 kHz to 6 GHz

Output Power: Up to +19 dBm RF

Modulation Linearity: Guaranteed -70 dBc ACP (Adjacent Channel Power) for 3GPP test model 1/64 channel



2023A/B & 2025

General-purpose sources with excellent phase-noise characteristics and high output power



These compact, lightweight, full-featured yet economical instruments are used at all stages in a product's lifecycle, including R&D, manufacturing test and field service. Models in this series are used in numerous applications, from wireless communications systems to EMC to avionics test. Pulse modulation is built-in for EMC testing and an optional fast modulator is suited for radar. A SINAD option provides a unique one-box solution to simplify receiver testing and a unique DC input option allows use in a vehicle or external supply in the field.

In addition, a version of this signal source, the 3002, is available in the VXI format.

"...With its level of performance, this compact general purpose signal generator delivers outstanding value for money...."

Type: analog

Frequency: Models range from 9 kHz to 2.51 GHz

Output Power: Up to +25 dBm RF

Phase-noise characteristics: Better than -124 dBc/Hz

2026A/B

The only broadband multi-source signal generator, ideal for intermodulation and receiver testing



Available in two-source and three-source high-power configurations, the 2026A/B is an ideal solution for testing amplifiers, mixers, receiver systems, filters, and other components. The 2026A/B is a perfect solution for intermodulation and radio-receiver interference testing.

The typical setup for intermodulation testing requires the difficult and time-consuming task of assembling and calibrating individual signal sources as a system. Because Aeroflex has combined and precisely calibrated the 2026A/B outputs, you can avoid lengthy setup times and get accurate test results immediately.

The 2026Q version was designed specifically for testing CDMA systems. It works as a stand-alone for CDMA testing or can be combined with Aeroflex's CDMA Auto-Station to extend the testing capabilities of this high-volume test station for CDMA-based handsets.

Type: analog

Frequency: Models range from 9 kHz to 2.51 GHz

Output Power: Up to +25 dBm RF

Two Tone IMD: <-80 dBc at 0 dBm

Signal Generation

Aeroflex Signal Sources

2030

Offering ultimate flexibility to meet any targeted application



The 2030 is a high-performance, advanced analog instrument. Through the use of a wide range of options, it can be configured for almost any application.

Four analog modes are available. There are options for high power, avionics, a second internal modulation oscillator, pulse modulation, adding RF profiles and complex sweep, an internal pulse generator and many more. Standard features include programmable modulation sources, wide modulation bandwidths and outstanding accuracy.

Thanks to its flexibility and accuracy, the 2030 enjoys widespread adoption in the avionics industry. It is the industry standard for testing aircraft and airport systems, and is the de facto standard for testing ILS, VOR and DME.

2040

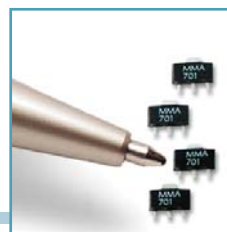
Delivering best-in-class phase-noise performance



The 2040 is the only real choice for those applications with critical measurements where excellent phase-noise characteristics and low spurious signals are required.

The 2040 offers a choice of two low-noise modes. It retains the comprehensive analog modulation of the 2030 series and can also be fitted with a second internal modulation oscillator. Options include pulse modulation, RF profiles and complex sweep, an internal pulse generator, and more.

The 2040 is an excellent choice for avionics applications, or for performing receiver and radar tests in R&D and manufacturing.



Type: analog

Frequency: Models range from 10 kHz to 5.4 GHz

Output Power: Up to +19 dBm RF

Phase-noise characteristics: Less than -116 dBc/Hz

Type: analog

Frequency: Models range from 10 kHz to 5.4 GHz

Output Power: Up to +19 dBm RF

Phase-noise characteristics: Better than -140 dBc/Hz



2023A Series	2026A Series	2030 Series	2040 Series	2050/T Series	3410 Series	Primary Application
(3002 VXI)	MultiSource	Advanced Analog	Low Phase Noise	Digital	Digital RF Signal Generator	
●	●	●	●	●	●	Receiver: sensitivity adjacent channel, Blocking, spurious response, SINAD
●	●	●	●	●	●	Amplifier: intermodulation, 1 dB compression testing
●	●	●	●	●	●	Mixers, filters, component characterization
		●	●	●	●	Avionics ILS/VOR/DME
●	●	●	●	●	●	Wireless product test
●	●	●	●	●	●	EMC
				●	●	TETRA
●	●	●			●	Paging
						Modulation Modes
	●			●	●	2G (CDMA, GSM, NADC, PDC, PHS)
					●	2.5G (EDGE)
					●	3G (cdma2000, WCDMA)
					●	WLAN (Bluetooth, IEEE 802.11a, b & g)
					●	WMAN (802.16e OFDM, OFDMA)
				●	●	TETRA
				●	●	APCO P25, IDEN
				●	●	Digital vector modulation
				●	●	IQ
●	●	●	●	●	●	AM analog
●	●	●	●	●	●	FM
●	●	●	●	●	●	WBFM
●	●	●	●	●	●	Pulse modulation
●	●	●	●	●	●	FSK
						Option Features
OPTION (std 3002)	STANDARD	OPTION (2030 only)	OPTION (2040 only)		STANDARD	High Power
OPTION (not 3002)	OPTION	STANDARD	STANDARD	STANDARD	STANDARD	High Stability Frequency Standard
		OPTION	OPTION	OPTION		Second Modulation Oscillator
					OPTION	List Mode
		OPTION	OPTION	OPTION		Avionics
		OPTION				DME
OPTION		OPTION				Pulse Generator
		OPTION	OPTION	OPTION		RF Profile / Complex Sweep
		OPTION (not 2032)	OPTION (not 2042)	OPTION (not 2052)	OPTION	Electronic Attenuator
STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	OPTION	Mechanical Attenuator
OPTION (not 3002)	OPTION	OPTION	OPTION	OPTION	OPTION	Fast Pulse Modulator
OPTION (not 3002)						SINAD
					OPTION	Dual Arbitrary Waveform Generator
					OPTION	Differential I/Q Analog Outputs
					OPTION	Real Time Baseband

DIGITAL

ANALOG

IQCreator

Waveform Creation and Simulation

Designed for use with Aeroflex's digital RF signal generators, including the 3410, **IQCreator™** enables you to create waveform files that emulate digitally modulated RF transmission formats.

IQCreator™ is a free, easy to use, Windows-based software application that enables a user to set up a modulation scheme and then create an ARB (Arbitrary Waveform Generator) file. Graphical displays of the waveform FFT, vector and constellation diagrams, etc. can be viewed and exported for use in other Windows™ applications. The ARB file may be saved or downloaded into the ARB. User-defined configurations can also be saved. Consequently, it is possible to load previously saved setups to regenerate the ARB files quickly and easily.

IQCreator™ is under constant development as communications systems and modulation standards evolve.

To keep up with the ever changing standards the software is available as a free download from the Aeroflex website where it is constantly updated with the latest modulation schemes. The current version can produce files for a wide variety of formats that are then down-loaded into the 3410 ARB where the signal can be generated. Always check to make sure you have the latest version as more modulation formats and features are constantly being added.



To download the latest version of **IQCreator™** please visit:

www.aeroflex.com/IQCreator

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AEROFLEX
A passion for performance.



Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.