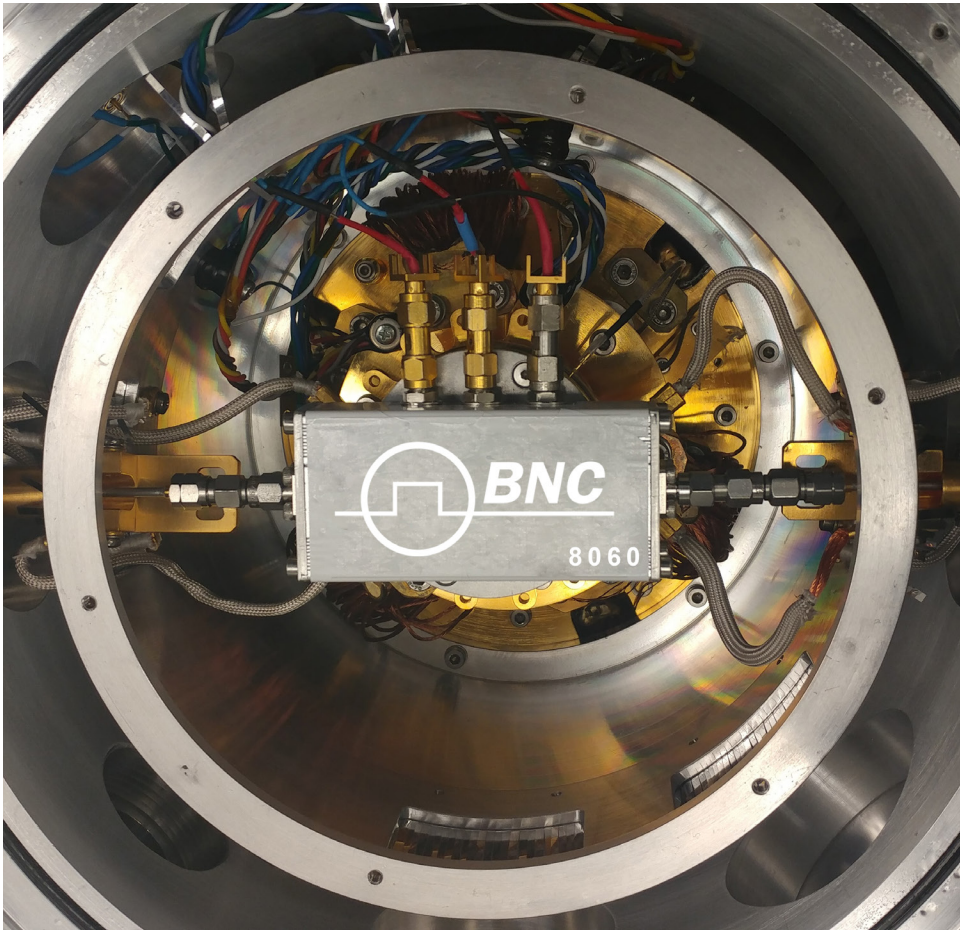


# Model 8060 Impedance Generator

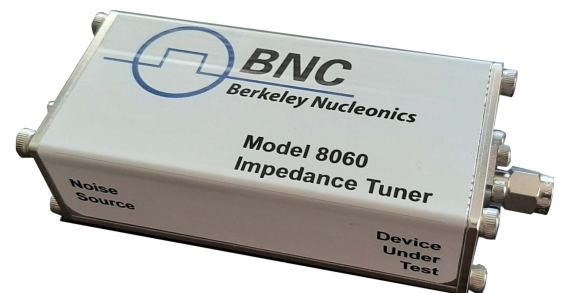


## Features

- Wideband Impedance Generator
- USB Driven, Compact Form Factor
- Solid-state Design for Fast Measurements
- On-board Temperature Sensor
- On-Board Memory Retains Calibration Data
- WiFi, Bluetooth, GPS/GNSS, 4G and 5G Optimized.

## Applications

- Receiver Design and Sensitivity Optimization
- Circuit Noise Performance Characterization
- Device and Circuit Modeling
- Electronic Circuit Debugging
- Education and Training



**Model 8060 Datasheet V0**  
0.1 GHz to 6 GHz Impedance Generator



# Model 8060 Impedance Generator

# Model 8060

## Description

The new Model 8060 Impedance Generator from Berkeley Nucleonics makes reliable, repeatable noise parameter measurements affordable for any laboratory. The digital device offers a standard frequency range from 0.1 MHz to 6.0 GHz and can be tuned up or down for application-specific needs.

A cryogenic option (Model 8060-C) provides greater performance capability allowing “cold” noise parameter measurements. Due to its small size and fully electronic design, the 8060 permits noise-parameter measurements of packaged and on-wafer devices, ensuring flexibility and short test times.

## Performance Specifications

### Physical Specifications

Parameter	Specifications	Comment
Housing/Enclosure Dimensions Width Length Height	4cm 8cm 2.5cm	Excluding Connectors.
RF connectors	Two RF connectors	- SMA standard
Non-RF connectors	USB-A and Mini USB connectors	
Total weight	125 g typ.	

### Electrical Performance at 25C

#### Digital

Parameter	Specifications	Comment
Communication protocol	USB 2.0	Connection thru micro-B USB
Temperature accuracy	2°C typ	
On-board RAM	192kB min.	
FLASH memory	5 MB min.	
Maximum COM Baud Rate	115.2 kbps	

#### RF

Parameter	Specifications	Comment
Number of impedance states	4	
Generated impedances within each of 4 regions	1	
THRU state return loss	20dB typ. 15dB min	100MHz to 4GHz
	15dB typ. 10dB min.	4GHz to 6GHz
THRU state insertion loss	3dB Max	
Impedance switch time	1ms Max	



# Model 8060 Impedance Generator

Model 8060

RMS repeatability	65dB Min	conservative estimate, limited by repeatability of measurement equipment
Input P1dB	33 dBm min	

### Noise Source Port

Parameter	Specifications	Comment
Connector	USB-A	
Vbus pin	Voltage: Same as IG0160C supply voltage Output current: 50 mA max	Noise source power supply
D+	Noise source control VOL=0.4Vmax VOH=3.0Vmin	Output from 8060
D-	Noise source temperature input (0V to 3V) Internal 10k pull up to 3.3V	Input to 8060
GND	Ground	

### Power Supply

Parameter	Specifications	Comment
Supply voltage range	4.75V to 5.25V	Per USB2.0 standard
Current draw	35 mA typ. 90 mA max	Noise source is not connected.

### Environmental

Parameter	Specifications	Comment
Ambient temperature	15°C to 30°C	
Operating relative humidity	20% to 80% non-condensing	
Storage relative humidity	20% to 80% non-condensing	
ESD	2 kV HBM	

### Regulatory

Parameter	Specifications	Comment
ICES-3	Compliant	
FCC Part 15, Subpart B, Class A	Compliant	



# Model 8060

Repeatability: Repeatability of the four tuner states

