



MARKET STUDY

6GHz RF Signal Generator (1 Channel)

Berkeley Nucleonics, Keysight, Rohde & Schwarz



Model 835



Model 845



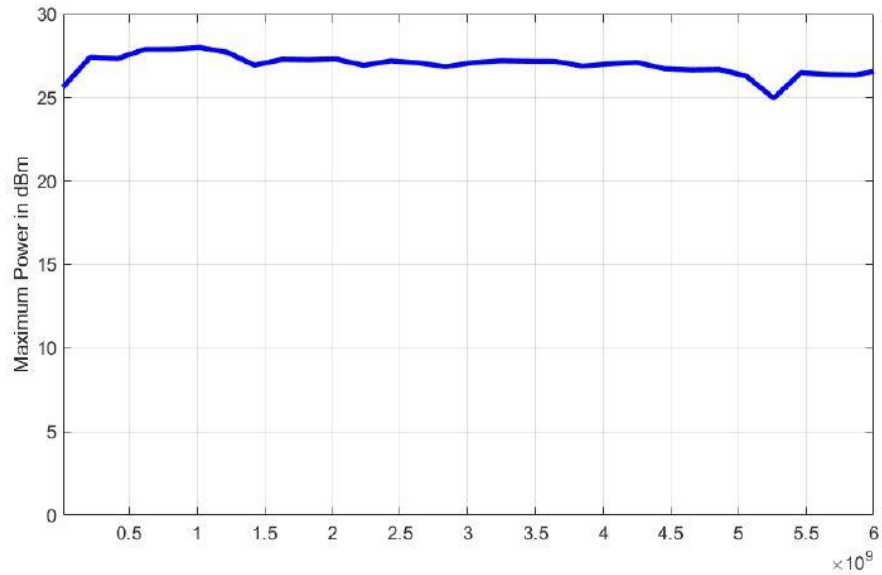
Model	Model 835	Model 845	N5171B	N5181B	SMB100B
Frequency range	9 kHz to 2.4, 6.1 GHz	9 kHz to 6.1 GHz	9 kHz to 1.3.6 GHz	9 kHz to 3.6 GHz	8 kHz to 1.3.6 GHz
Attenuator	-120 dBm	-120 dBm	-130 dBm	-130 dBm	-127 dBm
Max. power	Std/PE3 option	Std/PE3 option	std 1EA	std 1EA	std B32 B32+K32
Frequency Agility	200 μ s, 30 μ s option FS	200 μ s, 30 μ s option FS	5ms	5ms	1ms
1 GHz	18/17	27/27	18/21	18/21	18 21 26
3 GHz	18/17	27/26	18/21	18/21	18 21 26
5 GHz	18/17	27/26	16/18	16/18	18 21 26
6 GHz	18/17	27/25	16/18	16/18	18 20 26

Model	Model 835	Model 845	N5171B	N5181B	SMB100B
Duty Stability	0.5ppm	0.5ppm	1ppm	1ppm	1ppm, 0.1ppm, 0.03ppm
PN level 1 GHz, 20 kHz	-130 dBc/Hz"	-130 dBc/Hz"	-122 dBc/Hz	-131/-141 UNX	-132 dBc/Hz
Harmonics	-30 dBc, >4 GHz -60 dBc -option FILT	-30 dBc, >4 GHz -60 dBc -option FILT	-30 dBc	-30 dBc	-30 dBc
Non-harmonics					
1 GHz	-65	-75	-72	-87	-76
3 GHz	-65	-65	-66	-81	-70
6 GHz	-65	-65	-60	-75	-64
IM Modulation	standard	standard	option UNW	option UNW	option

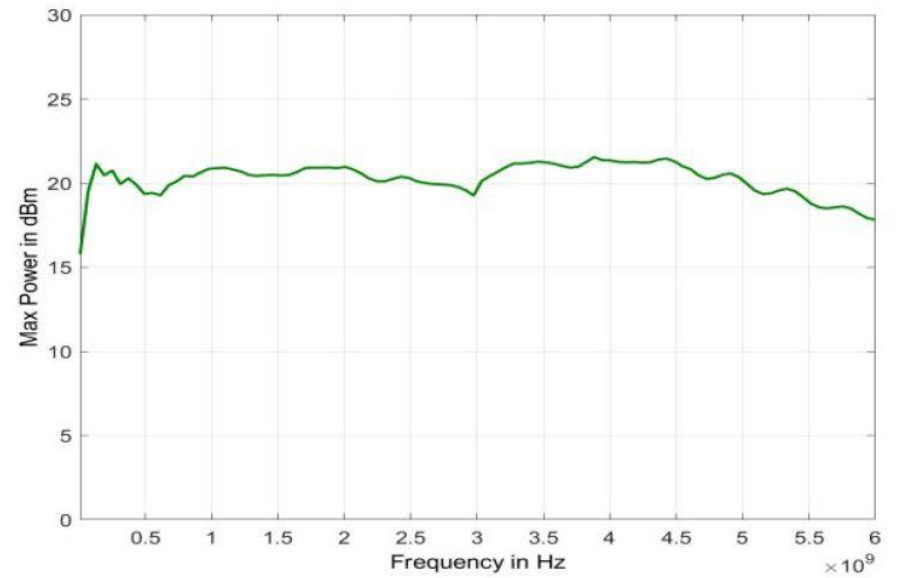
Model	Model 835	Model 845	N5171B	N5181B	SMB100B
Pulse Width	15 ns	15 ns	20 ns	20 ns	20 ns
Permission to Install MI	15 ns, option NP 5 ns	15 ns, option NP 5 ns	10 ns	10 ns	10 ns
Power Consumption	20 W	20 S	160 W	160 W	110 W
Operation from an external battery	Yes	Yes	No	No	No
Frequency modulation					
Deviation in World Cup Mode	6 GHz-100 MHz	6 GHz-100 MHz	6 GHz-16 MHz	6 GHz-16 MHz	6 GHz-16 MHz

Power Graphs

BNC Model 845

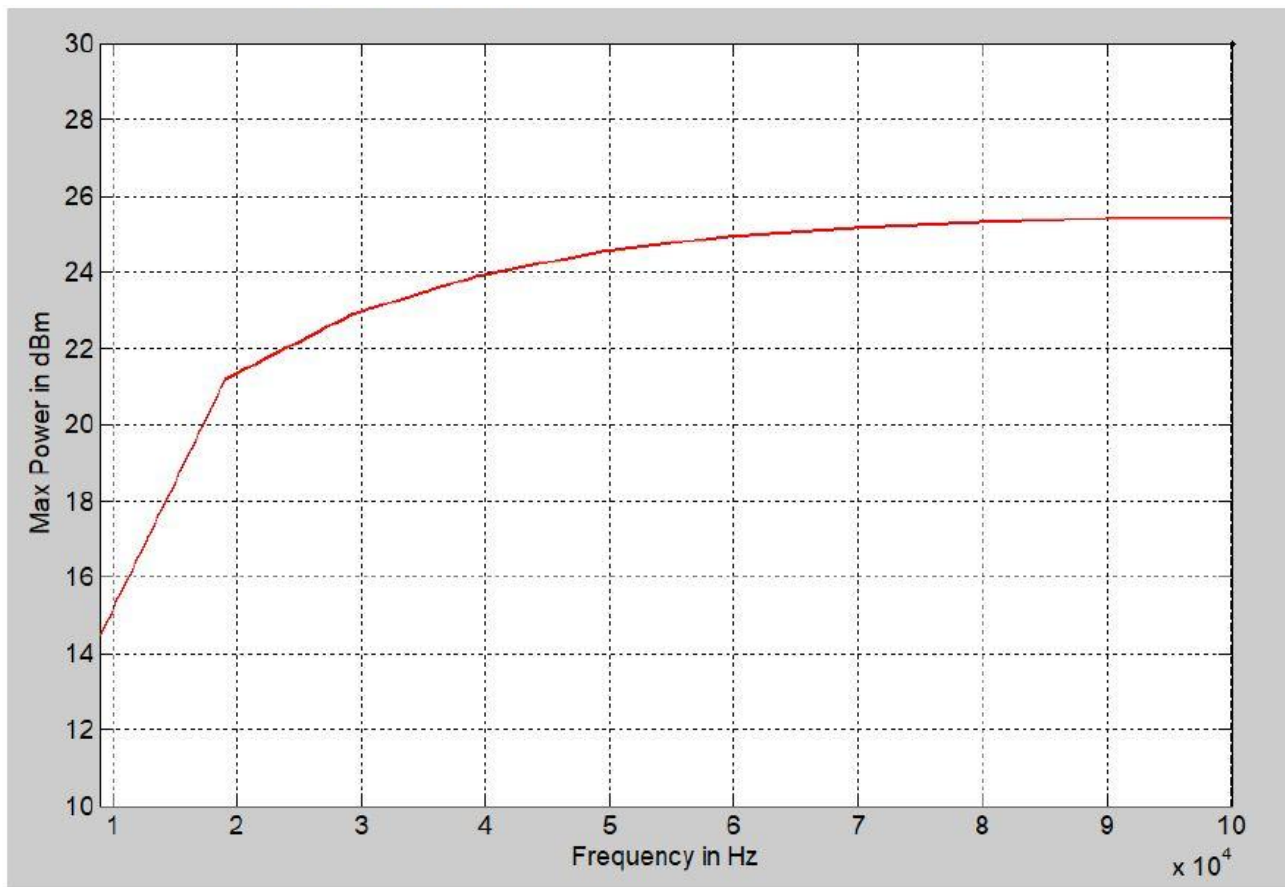


BNC Model 835



Power Graphs Model 845 from 9 kHz

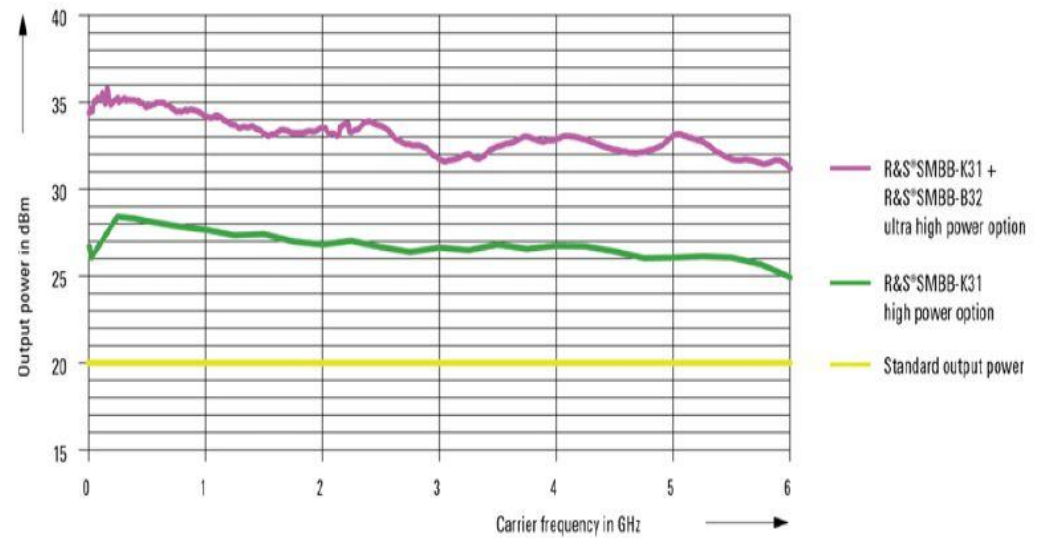
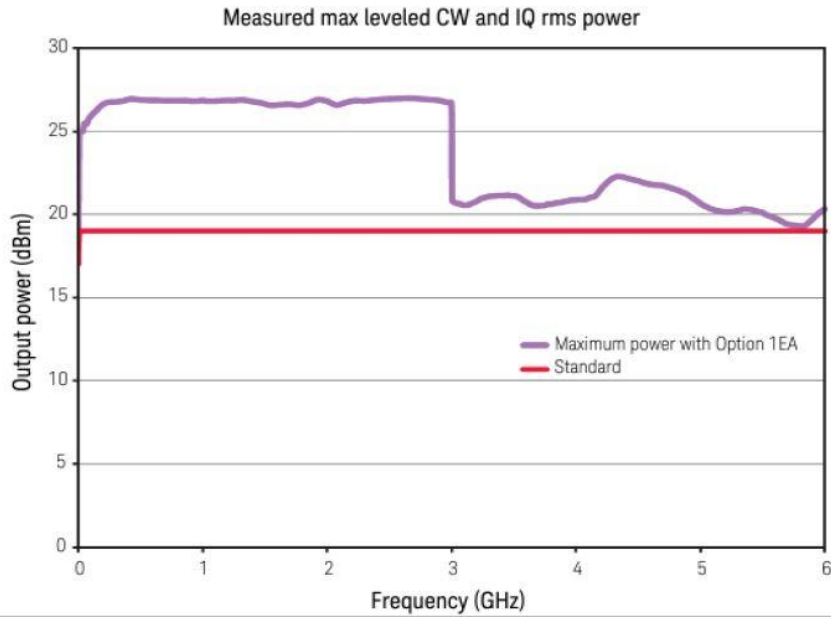
BNC Model 845



The unit is equipped with state-of-the-art signal amplification technology, allowing high power to be achieved in the lower 9kHz to 100 kHz frequency range, whereas most analog class models reach high power from 10 MHz onwards.

Power Graphs

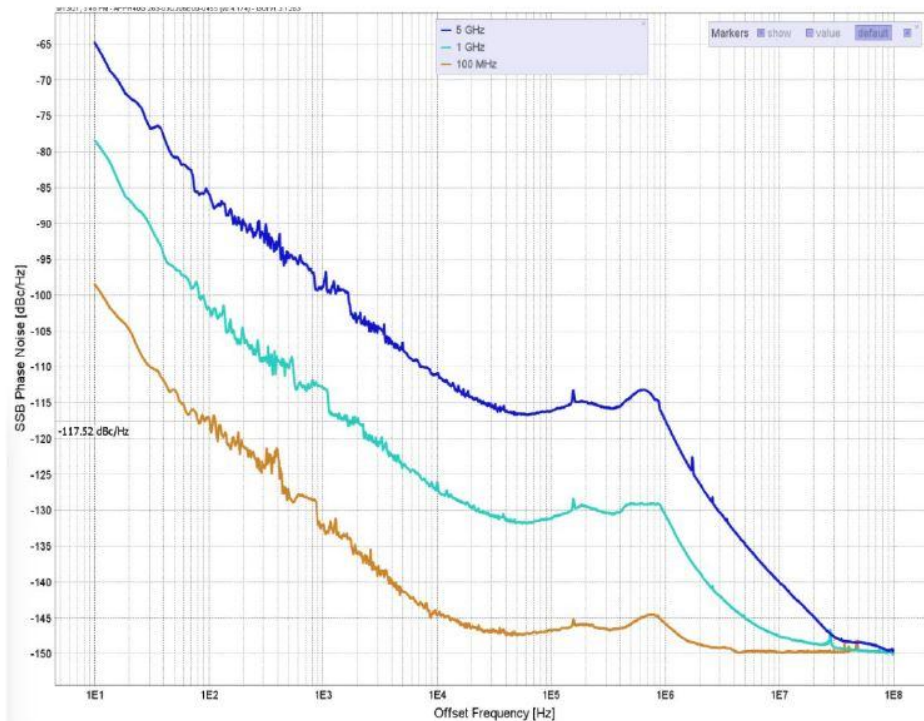
Keysight N5171B | N5181B



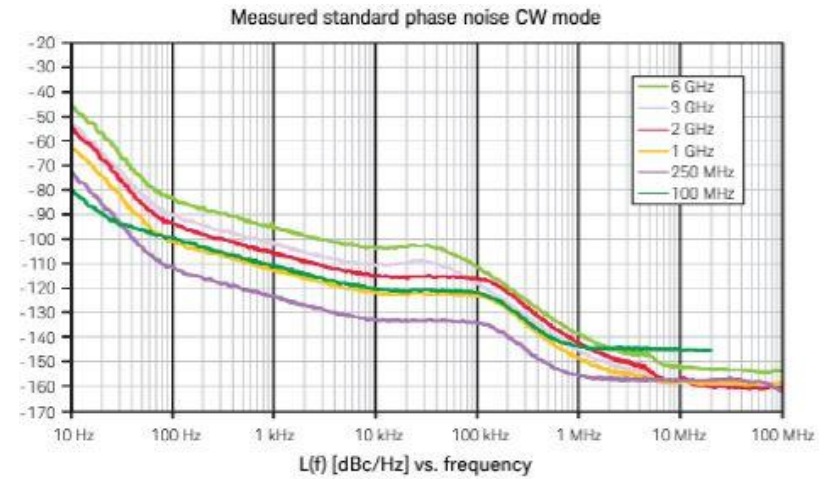
Measured output power for the base unit, with the high power option (R&S®SMBB-K31) and with the additional ultra high power option (R&S®SMBB-B32).

Phase Noise BNC vs. Keysight

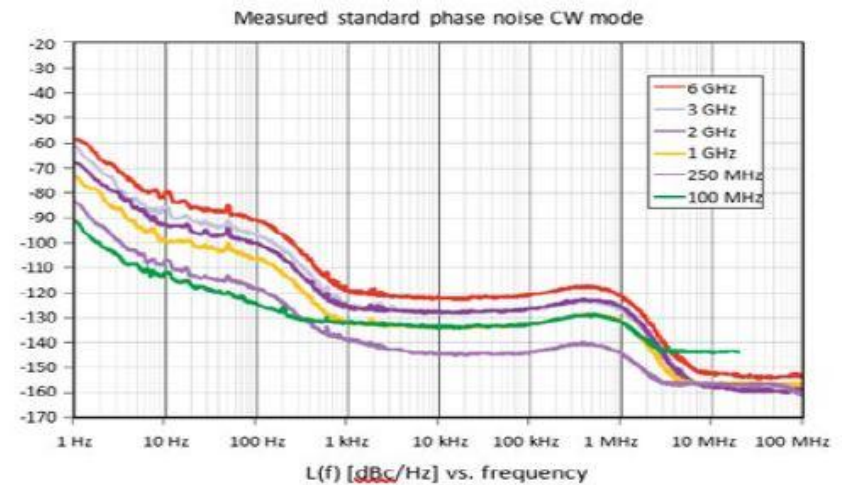
BNC Model 835



N5171B

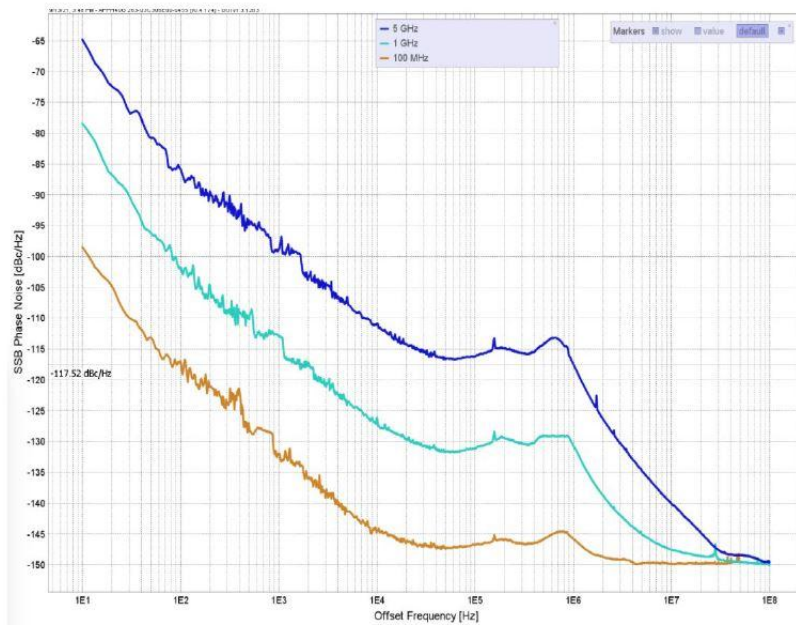


N5181B

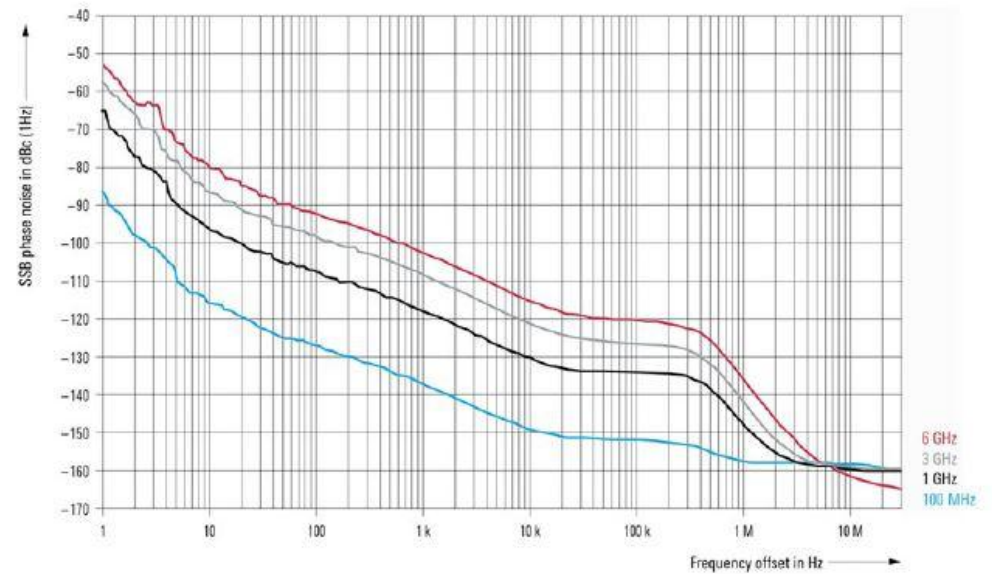


Phase Noise BNC vs. R&S

BNC Model 835

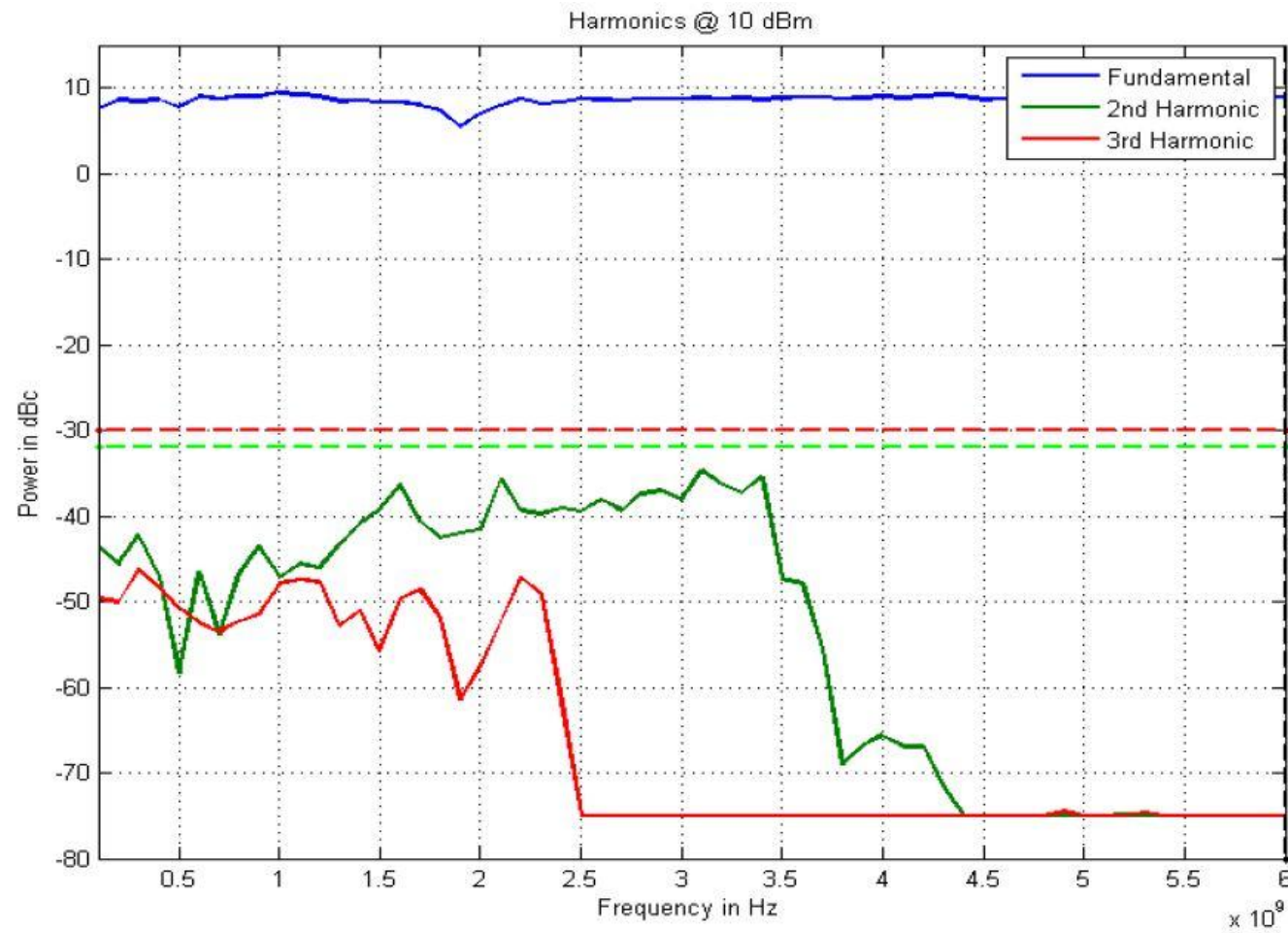


SMB100B



Measured SSB phase noise with R&S®SMBB-B1H option.

Harmonics BNC with FILT Option





BNC Options without Analogues

BNC provides a cost-effective solution in terms of price, phase noise, power, and frequency agility.

Name	Description	Who Better to Offer
B3	Work from the internal accumulator	Field tests, measurements, for related departments
1URM	1U rackmount	Production
NP	Pulse setting resolution 5 ns	Radar
EB6	Adapter cable work from an external power bank	Field tests, antenna measurements, for related departments



Summary of Berkeley Nucleonics 6GHz RF Signal Generator

- The Berkeley Nucleonics devices offer the users leading performance at a remarkable value. The emphasis on phase noise in this line of devices ensures users years of performance as phase noise has become a consequential parameter in DUT testing in recent years. The guaranteed Phase Noise of -130dBc/Hz @ 1GHz w/ 20kHz rivals all competition in this class, while still providing a robust $+25\text{dBm}$ power output.
- The Berkeley Nucleonics devices offer frequency adjustments at 200 microseconds (switching speed), again a leading specification in this class.
- If harmonics are a concern, the 835-6/845-6 offer a FILT option which guarantees -60dBc from 4GHz . Competitive models guarantee only -30dBc .
- Battery powered options enable field use, something no other benchtop unit can offer in this class.
- The cost of the standard unit is about 50% less than competitors and comes loaded with modulation capabilities included. Harmonics and Phase Noise are guaranteed at higher levels than competitors as well.
- Low power consumption ensures reliability and a MTBF of 10 years. Delivery is stock to 4 weeks ARO.