

SA series Multi-channel frequency source

Features

- Maximum output frequency 20GHz
- 40dB dynamic power output range
- Continuous wave and pulse output
- Up to 6 independent signal outputs
- Low phase noise (option)
- Support network port, USB, Bluetooth and WIFI control

Frequency Range	1601	10MHz~6GHz
	1602	10MHz~10GHz
	1603	10MHz~20GHz
	1602L	80MHz~10GHz
	1603L	80MHz~20GHz
Frequency Resolution (Hz)	1601	3
	1602	
	1603	
	1602L	0.001
	1603L	
Frequency Switching Time (us)		≤200
Power	1601	-25dBm~+15dBm
	1602	-25dBm~+13dBm
	1603	
	1602L	
	1603L	
Frequency List		1024 List
Power Resolution (dB)		0.1
Power Stability (dB)		±0.5 (0~+40°C) ; ±1.5 (0~+40°C) ;
Power Accuracy (dB)		±1.5 (<0dBm) ±0.5 (≥0dBm)
Frequency Stability		±0.3ppm (Same as reference)
Frequency Accuracy		±0.3ppm (Same as reference)
Non-Harmonic Spurious (dBc) ★		-70 (Typ)
Harmonics (dBc) ★		10MHz~3GHz:≤-30
		3GHz~20GHz:≤-40
Pulse Modulation		
Pulse depth ★★		≥60dBc
pulse width		100ns~10ms
Pulse period		500ns~10ms
Rise/Fall Time		≤30ns/50ns
Notes : ★ The relevant indexes are tested under the conditions of output power 0dBm, ambient temperature 25+ C, and so on ★★ The relevant indexes are tested under the conditions of output power 10dBm, ambient temperature 25+ C, and so on		

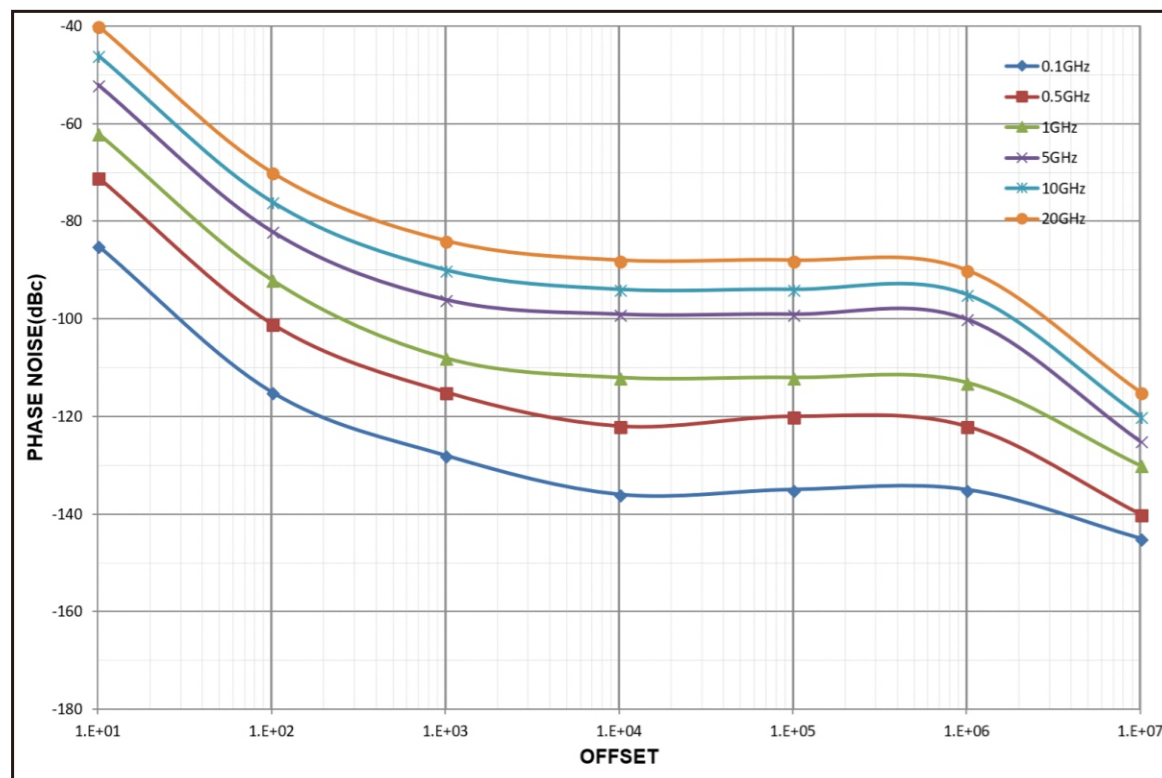
Phase Noise

Model	SA1601/SA1602/SA1603				
Phase Noise	1GHz	2.5GHz	5GHz	10GHz	20GHz
dBc/Hz@100Hz	≤-92	≤-88	≤-82	≤-76	≤-70
dBc/Hz@1kHz	≤-108	≤-102	≤-96	≤-90	≤-84
dBc/Hz@10kHz	≤-112	≤-105	≤-99	≤-93	≤-87
dBc/Hz@100kHz	≤-112	≤-105	≤-99	≤-93	≤-87
dBc/Hz@1MHz	≤-113	≤-106	≤-100	≤-95	≤-90

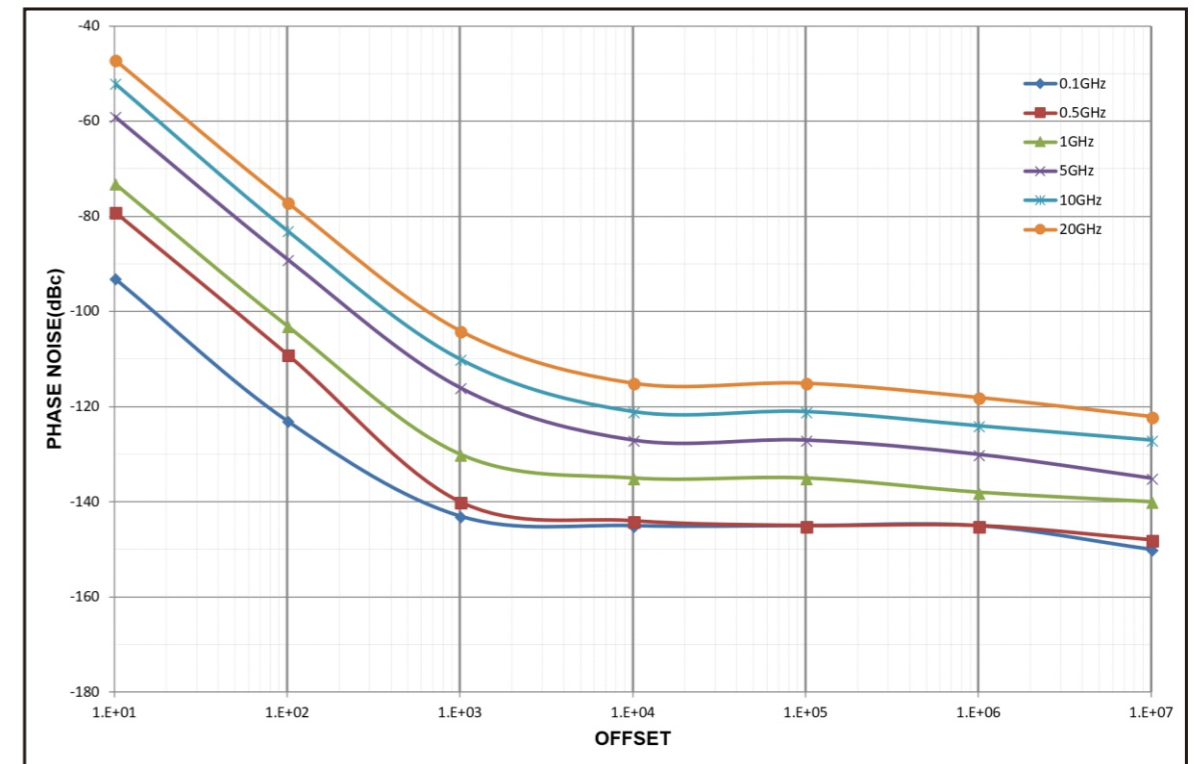
Low Phase Noise

Model	SA1601L/SA1602L (Low Phase Noise)				
Phase Noise	0.5GHz Typ (Max.)	1GHz Typ (Max.)	5GHz Typ (Max.)	10GHz Typ (Max.)	20GHz Typ (Max.)
dBc/Hz@100Hz	-109/-105	-103/-99	-89/-85	-83/-77	-77/-71
dBc/Hz@1kHz	-140/-136	-130/-127	-116/-113	-110/-107	-104/-101
dBc/Hz@10kHz	-144/-139	-135/-131	-127/-122	-121/-116	-115/-110
dBc/Hz@100kHz	-145/-140	-135/-131	-127/-122	-121/-116	-115/-110
dBc/Hz@1MHz	-145/-140	-138/-133	-130/-125	-124/-121	-118/-115

Phase Noise(SA1601/1602/1603)



Low Phase Noise(SA1602L/SA1603L)



General & Environmental Specifications

Supply Voltage	220V
Connector	RF : SMA-kFD ;
Control Interface	Ethernet port, Serial port
Temperature Range (operating/non-operating) (°C)	0~+40/-20~+70

Ordering Information

Part Number	Description
SA1600	Host and control software
SA1601	Frequency Range : 10MHz~6GHz
SA1602	Frequency Range : 10MHz~10GHz
SA1603	Frequency Range : 10MHz~20GHz
SA1601L	Frequency Range : 80MHz~10GHz , Low Phase Noise option
SA1602L	Frequency Range : 80MHz~20GHz , Low Phase Noise option