

SK9901x is a RF multi-meter based on the network analyzer architecture. Five models covering the frequency 5kHz to 22 GHz. The main feature of the SK9901x is a full dual-port VNA, extend simple spectrum display, field strength meter, RF source, AF source, and dual-port comparator utility functions based on the network analyzer architecture.



The five models cover different frequency ranges, please note that the SK9901B low frequency starts at 1GHz.

	SK9901J	SK9901K	SK9901R	SK9901T	SK9901B
Frequency range (standard)	5kHz~2GHz	5kHz~4GHz	5kHz~7GHz	5kHz~10GHz	1GHz~22GHz
Frequency range (allowed settings)	0kHz~2GHz	0kHz~4.1GHz	0kHz~7GHz	0kHz~10GHz	10MHz~22.5GHz
SPAN range	1kHz~2GHz	1kHz~4GHz	1kHz~7GHz	1kHz~10GHz	1kHz~22.5GHz

Aside from the differences mentioned above, all the released models of the SK9901x have the same basic functionality.

The SK9901x frequency resolution 1Hz, level resolution 0.001dB and a phase resolution 0.1°. The receiver is designed with no tunable parts and has good linearity over the entire dynamic range.

The product is made for portability, with minimal volume and weight advantages in the same class of instruments, very suitable for field experiments, on-site construction and other uses. With the built-in lithium battery and easy operating design, It can support a full day of intense measurements. With USB Type-C charge ability makes engineer do not need to carry a DC adapter.

Free *KCSOI* software makes it easy to expand the measurement capabilities in the lab and measure remotely via an Ethernet connection.

Ordering Information

Model	Frequency range	Part numbers	State
SK9901J	5kHz...2GHz	SK99517.04.1	mass production
SK9901K	5kHz...4GHz	SK99517.04.2	mass production
SK9901R	5kHz...7GHz	SK99517.07.1	pre-release
SK9901T	5kHz...10GHz	SK99517.10.1	NA
SK9901B	1GHz...22GHz	SK99517.22.1	NA

Technical Parameters

The technical specifications of SK9901x are basically the same, with slightly different output levels for different models. This table is for selection reference only, subject to the parameters contained in the datasheet.

Obj	Condition	Typical value					Note
		SK9901J	SK9901K	SK9901R	SK9901T	SK9901B	
Sweep speed	RBW=30kHz, per point	0.8ms					When dual ports calibration is turned on, speed reduced to ½.
	RBW=10kHz, per point	1ms					
	RBW=6kHz, per point	1.2ms					
	RBW=1kHz, per point	3ms					
	10kHz,201pt sweep	0.2s					
Output level for all modes (set to maximum gain)	1MHz-4GHz	3dBm				13dBm	
	4GHz-6GHz			0dBm	0dBm	10dBm	
	6GHz-10GHz				-3dBm	10dBm	
	10GHz-22GHz					6dBm	
Output adj. range		60dB				45dB	
Noise floor	1MHz-4GHz	-107dBm				-113 dBm	RBW=1kHz
	4GHz-6GHz			-100dBm	-100dBm	-110 dBm	
	6GHz-22GHz				-90dBm	-100 dBm	
Dynamic range for transmission measurements	1MHz-1GHz	100dB				--	
	1GHz-4GHz	93dB				110dB	
	4GHz-10GHz			90dB	80dB	100dB	
	10GHz-22GHz					80dB	
Transmission uncertainty	1MHz-10GHz	± (0.2+0.02L)					>Dynamic range+20dB
	10GHz-22GHz	± (0.3 + 0.02 L)					
S11 uncertainty	3dB < RL < 25dB	± (0.5 + 0.1 RL)					<20dB
S11 directionality	After calibration	42dB				NA	
Phase Uncertainty	100kHz-1GHz	2°					Return loss <20dB
	1GHz-10GHz	5°			7°	5°	
	10GHz-22GHz					15°	
VSWR of the port	1MHz-10GHz	1.5					static
Tracer noise	RMS value	0.005dB				0.01dB	Loss <10dB
IF Feedthrough Suppression		30dB					
Frequency stability, per year		1ppm					
Supply voltage	DC	11V-32V (charger socket), 5V (Type-C port)					
	AC Power Adapter	105V-230V					
	internal battery	6.5V-8.4V					
Damage level	All Ports	DC15V, +20dBm					
LCD resolution		800×480px					
Dimensions		200×114×46mm (L×W×T)					
Weight	Include battery	1.3kg					
	Package standard	2.5kg					

NOTE: Unless otherwise noted, metrics are measured in medium speed mode, with an analytical bandwidth (RBW) of 10 kHz, output attenuation of 0, temperature of 25°C, and calibrated by the user. A few occasional or permanent anomalous data segments may be outside the range of the parameter.