

SKYASTAR

Assured to fly

Product Catalog

RF over Fiber



20GHz Microwave Signal Generator



Broadband Microwave Modules



Custom Design



www.skyastar.com



China



US

SKYASTAR TECHNOLOGIES CORP.

is specialized in developing and manufacturing RF, microwave, optronics modules and subsystems. Innovatively develops microwave signal generator and test solution.

Backed by an extensive experience in RF, microwave, optronics and software, custom designs are also available upon request.

SKYASTAR products serve three primary target markets: communication, medical and industry and other. Applications for our products in these target markets include wireless broadband, high resolution imaging, security, CATV and auto test system.

SKYASTAR has a global team and heritage of over 10 years technical innovation.

RF over Fiber



Features

- ◆ Small size
- ◆ Fiber link up to 60km
- ◆ Low power consumption
- ◆ DOCSIS3.1 compatible
- ◆ SCTE 195 2013 compatible

Applications

- ◆ Cable TV
- ◆ Distributed antenna
- ◆ GPS signal transmission
- ◆ 4G LTE and 5G wireless communication

Parameter	Condition	1.2GHz	3GHz	4GHz	6GHz	Unit
Part Number		Fx-0PxxxxFx-W000	Fx-0LxxxxFx-V000	Fx-xSxxxxxx-W000	Fx-0CxxxxFS-V000	
Frequency Range		30M ~ 1.2G	30M ~ 3G	10M ~ 4G	100M ~ 6G	Hz
Gain ⁽¹⁾		0	0	0	0	dB
Ripple of Passband		±2	±2	±2	±3	dB
VSWR (50 Ω)		1.5:1	2.0:1	1.5:1	2.5:1	
P-1		10	10	10	18	dBm
SFDR ⁽¹⁾	1GHz	110	110	110	112	dB-Hz ^{2/3}
	3GHz	-	110	105	-	dB-Hz ^{2/3}
	5GHz	-	-	-	105	dB-Hz ^{2/3}
Input IP3 ⁽¹⁾	1GHz	28	28	32	40	dBm
	3GHz	-	27	25	-	dBm
	5GHz	-	-	-	32	dBm
Noise Figure ⁽¹⁾	1GHz	35	35	33	35	dB
	3GHz	-	37	38	-	dB
	5GHz	-	-	-	46	dB
Impedance		50 or 100	50 or 100	50 or 100	50	Ohm
Wavelength		1100 ~ 1620	1100 ~ 1620	1100 ~ 1620	1100 ~ 1620	nm
Power Consumption		Tx : 0.5 (-5V, Tx No Gain) Rx : 1.0 or 0.5 (+5V, Rx with Gain) XFP-RF Tx : 1.5 XFP-RF Rx : 1.0	Tx : 0.5 (-5V, Tx No Gain) Rx : 1.0 (+5V, Rx with Gain) XFP-RF Tx : 1.5 XFP-RF Rx : 1.0	Tx : 0.5 (-5V, Tx No Gain) Rx : 1.0 (+5V, Rx with Gain) XFP-RF Tx : 1.5 XFP-RF Rx : 1.0	Tx : 0.5 (-5V, Tx No Gain) Rx : 1.0 (+5V, Rx with Gain)	W
Size(L*W:H) ⁽²⁾		XFP or TX: 36*15*10 RX: 36*15*10	XFP or TX: 36*15*10 RX: 36*15*10	XFP or TX: 36*15*10 RX: 36*15*10	TX: 105*110*28 RX: 105*110*28 Option : 36*15*10	mm
Operating Temperature		-40 ~ +70	-40 ~ +70	-40 ~ +70	-20 ~ +70	°C

Note: (1) Test at 0dB optical insertion loss(Tx No Gain, Rx with Gain)
 (2) Other size of transmitter and receiver is also available upon request.

20GHz Microwave Signal Generator



SSG1000 series

Features

- ◆Ultra low frequency resolution : 1μHz
- ◆Wide frequency range : 10MHz ~ 20GHz
- ◆Auto Level Control (ALC) with closed loop
- ◆Support external or internal narrow pulse modulation: 20ns pulse width
- ◆Support external or internal fast frequency sweep (without ALC): 50000 points in 1ms
- ◆Battery power supply is optional
- ◆Output power up to +17dBm@10GHz

Applications

- ◆Field testing
- ◆Service installation
- ◆R&D laboratories
- ◆Test and measurement
- ◆Local oscillator
- ◆Auto test system

Typical Specification (@25 °C)

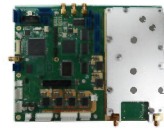
Frequency Range	10MHz~20 GHz			10MHz~20 GHz		
Part Number	SG-KNN-S000			SG-KBN-R000		
Frequency Resolution	1 μHz			1 μHz		
Frequency Accuracy	±0.5 ppm			±0.5 ppm		
Frequency Stability	<0.1 ppm			<0.1 ppm		
Frequency Aging	<1ppm			<1ppm		
Frequency Switch Time	5 ms			5 ms		
Output Power	-100dBm ~ +5dBm@10MHz ~ 30MHz -100dBm ~ +10dBm@30MHz ~ 50MHz -100dBm ~ +17dBm@50MHz ~ 9GHz -100dBm ~ +10dBm@9GHz ~ 15GHz -100dBm ~ +5dBm@15GHz ~ 17GHz -100dBm ~ 0 dBm@17GHz ~ 20GHz			-100dBm ~ +5 dBm@10MHz ~ 30MHz -100dBm ~ +10dBm@30MHz ~ 50MHz -100dBm ~ +17dBm@50MHz ~ 9GHz -100dBm ~ +10dBm@9GHz ~ 15GHz -100dBm ~ +5 dBm@15GHz ~ 17GHz -100dBm ~ 0 dBm@17GHz ~ 20GHz		
Power Resolution	0.1dB			0.1dB		
Pulse Modulation	rise/fall time : ≤10ns ON/OFF ratio : >80dB@6GHz pulse width : ≥20ns			rise/fall time : ≤10ns ON/OFF ratio : >80dB@6GHz pulse width : ≥20ns		
Phase Noise		10GHz	20GHz		10GHz	20GHz
	dBc/Hz @100Hz	-68	-65	dBc/Hz @100Hz	-68	-65
	dBc/Hz @1kHz	-88	-81	dBc/Hz @1kHz	-88	-81
	dBc/Hz @10kHz	-89	-84	dBc/Hz @10kHz	-89	-84
	dBc/Hz @100kHz	-88	-82	dBc/Hz @100kHz	-88	-82
	dBc/Hz @1MHz	-108	-102	dBc/Hz @1MHz	-108	-102
dBc/Hz @10MHz	-128	-122	dBc/Hz @10MHz	-128	-122	
Spurious	<-35dBc@ harmonics <-65dBc@ non-harmonics,, <10GHz <-57dBc@ non-harmonics,, >10GHz			<-35dBc@ harmonics <-65dBc@ non-harmonics,, <10GHz <-57dBc@ non-harmonics,, >10GHz		
Operating Voltage	100~240VAC @50~ 60Hz			100~240VAC @50~60Hz		
Power Consumption	40W			60W		
Battery Operation	/			4 hours		
Operating Temperature	0°C~55°C			0°C~40°C		
storage temperature	-20°C~70°C			-20°C~70°C		

Broadband Microwave Modules

1、 Broadband PLL Module

- ◆Wide output frequency range from 4GHz~8GHz
- ◆Ultra small frequency step : 1 μ Hz
- ◆Switch frequency time only 300 μ s
- ◆Phase noise performance : -85dBc/Hz @10kHz, 8GHz
- ◆Support fast frequency sweeps

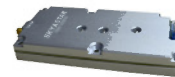
PL-CNS-W000



2、 Broadband Power Detector Module

- ◆Ultra broadband operating frequency from 10MHz~20GHz
- ◆Wide power detect range: 60dB
- ◆High accuracy : 0.1dB
- ◆Analog voltage or ADC output
- ◆Temperature sensor output

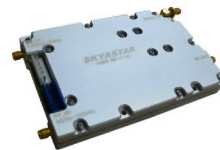
PD-KS-W000



3、 With Pulse Modulation Broadband Variable Gain Power Amplifier

- ◆Ultra wide bandwidth from 10MHz to 20GHz
- ◆Flat frequency response: ± 1 dB
- ◆Max 20dB gain and wide variable gain range over 77dB
- ◆Output power P-1dB up to 25dBm@10GHz
- ◆Pulse modulation is optional

PA-K2730NS-W000



4、 Broadband Power Attenuator Module

- ◆Ultra broadband from 10MHz to 20GHz
- ◆Max attenuation up to 70dB, step is 60dB
- ◆Max input RF power up to 30dBm

AT-KS60-W000



5、 20GHz Directional Coupler

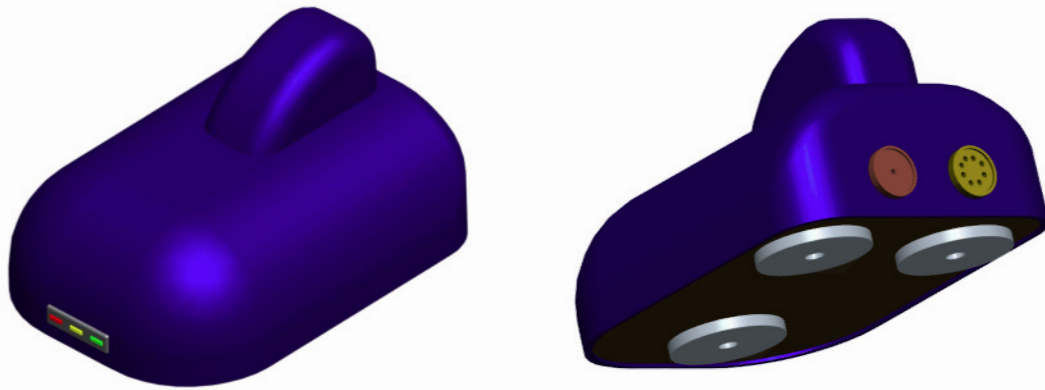
- ◆ Frequency: 10MHz~20GHz
- ◆ Max insertion loss: 4.5dB@20GHz
- ◆ Min directivity: 10dB
- ◆ Low return loss: -10dB
- ◆ Coupling factor deviation: 15 \pm 1.5dB

CP-K1630S-U000



Custom Design

ADS-B TX/RX



Wireless Audio, Video and Data Transmission

