

Agilent 70427A specification summary

RF input	1.5 GHz to 26.5 GHz	IF output IF output power IF gain	5 MHz to 1.2 GHz 0 to +5 dBm (>30 dBm input) 0 to 45 dB (5 dB steps)
Input power	+30 dBm max 30 dBm min	Mixing spurious <6 GHz >6 GHz	(<+15 dBm at mixer) <50 dBc (except below) <70 dBc
Noise figure	20 dB (typical)	Carrier frequency range (GHz) where a mixing spur will occur <100 MHz from carrier	Typical spurious (dBc)
Spectral purity	for input signals <0 dBm, noise at offsets >1 kHz may increase by 1 dB for every dB of input power reduction	1.586 – 1.614 1.790 – 1.81, 1.912 – 1.928 2.392 – 2.408, 2.872 – 2.888 2.990 – 3.000	20 30 30 30
LO resolution	600 MHz (2.4 GHz – 25.8 GHz)	1.708 – 1.720, 1.993 – 2.007	40
O power	0 to +16 dBm (2.4 – 6.6 GHz) 0 to +10 dBm (7.2 – 25.8 GHz)	2.240 – 2.260, 2.493 – 2.507 2.737 – 2.749, 3.592 – 3.600 2.051 – 2.063, 2.095 – 2.100 2.565 – 2.578, 2.793 – 2.807 3.000 – 3.007, 3.080 – 3.092 3.493 – 3.507, 4.108 – 4.120 4.193 – 4.200	40 40 50 50 50 50 50

Downconverter noise floor

(all oscillators locked)

Input frequency		Offset from carrier (Hz)									Spurious (dBc)	
		1	10	100	1k	10k	100k	1M	10M	100M <100	>1k	>1k
1.5 to 3.0 GHz	Typical	50	80	100	128	138	145	145	145	145	60	80
	Specification	45	75	95	123	133	140	140	140	140	50	65
3.0 to 6.0 GHz	Typical	44	74	94	122	134	144	147	147	147	50	80
	Specification	39	69	89	117	129	139	142	142	142	44	70
6.0 to 12.0 GHz	Typical	38	68	88	116	128	140	143	143	143	50	80
	Specification	33	63	83	111	123	135	138	138	138	40	70
12.0 to 18.0 GHz	Typical	35	65	85	113	125	137	140	140	140	47	70
	Specification	30	60	80	108	120	132	135	135	135	37	60
18.0 to 26.5 GHz	Typical	32	62	82	110	122	130	130	130	130	44	65
	Specification	27	57	77	105	117	125	125	125	125	34	55

mm bands (when adding the 11970 series harmonic mixers)

26 - 40	Typical	26	56	76	104	116	128	130	131	131	54	80
33 - 50	Typical	26	56	76	104	116	128	130	131	131	44	70
40 - 60	Typical	23	53	73	101	113	125	127	128	128	50	80
50 - 75	Typical	23	53	73	101	113	125	127	128	128	40	70
75 - 110	Typical	20	50	70	97	109	120	122	122	122	47	70

General specifications

Operating temperature range: +0 °C to + 55 °C

Warm-up time: 20 minutes

General considerations:

The 70427A has low susceptibility to RFI and mechanical vibration. Care must be exercised however, in making measurements in high RFI or mechanical vibration environments as spurious signals may be induced in the module.