

Anaren

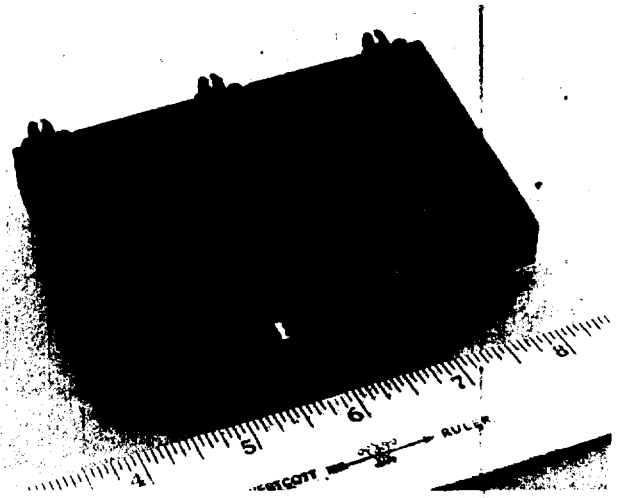
6635 Kirkville Road
 East Syracuse
 New York 13057 USA
 TEL: (315) 432-8909
 FAX: (315) 432-9121
 UK: (44) 1705-232392

1 to 18 GHz

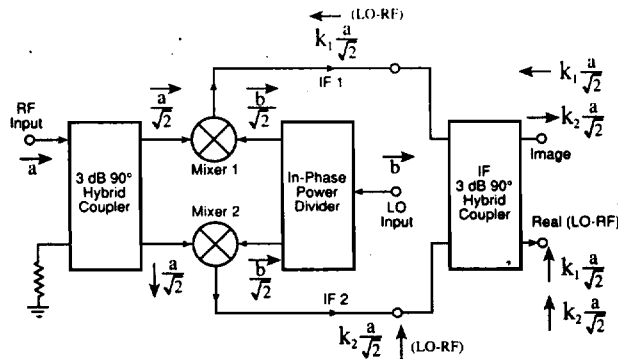
Image Rejection Mixers

30 to 360 MHz IF
 Frequencies

Anaren image rejection mixers discriminate between the IF signals produced when the LO frequency is above or below the RF signal frequency. Since the IF frequency is the same in both cases, the discrimination cannot be made by filtering, but by means of a phasing technique. Because the magnitude of the two IF signals are equal but one leads or lags the other by 90° depending on which image is present, they can be summed in a quadrature hybrid operating at the IF frequency. One image sums to one hybrid output port (IF1) and the second sums to the other output port (IF2). Additional image rejection can be obtained by a simple gating scheme (See Diagram).



Biased models are available which allow good conversion loss even with reduced LO power. Reduced LO power operation also improves the harmonic intermodulation performance of the mixer.



Features

Excellent image suppression
 Low conversion loss
 Multi-octave RF bandwidths
 Octave IF bandwidths
 Biased versions

Applications

- Wideband sweeping receivers
- Spectrum analyzers
- Surveillance receivers
- Wideband test/Instrumentation
- "Starved LO" systems

Electrical Specifications

Model Number	Frequency GHz	Isolation LO-RF dB Min/Typ	Convers. Loss dB Max/Typ	IF Output ¹ MHz	RF VSWR Max/Typ:1	LO VSWR Max/Typ:1	Image Reject @IF dB Max/Typ	LO Power nom dBm
150015-60	1.0-2.0	14/20	8.5/7.0	40-80	2.0/1.4	2.5/1.5	15/20	+7
150016-60	2.0-4.0	14/20	8.5/7.0	40-80	2.0/1.5	2.5/1.6	15/20	+7
150260-60	2.0-8.0	20/25	11.0/8.5	50-70	1.9/1.5	1.58/1.25	19/23	+12
150017-60	4.0-8.0	14/20	9.0/7.5	40-80	2.0/1.6	2.5/1.7	15/20	+7
150270-60	7.5-18.0	18/25	11.0/9.0	40-80	2.3/1.8	2.0/1.7	17/20	+7
150018-60	8.0-12.4	14/20	9.5/8.0	40-80	2.0/1.6	2.5/1.7	15/20	+7
150019-60	12.4-18.0	11/17	10.5/8.5	40-80	2.5/1.7	3.0/1.8	13/18	+7

¹ Specifications are for 60 MHz IF center frequency. Other IF center frequencies are available from 30 to 240 MHz.
 Connectors on all units: SMA
 Biased versions also available.

email: applications@anaren.com
 web site: www.anaren.com



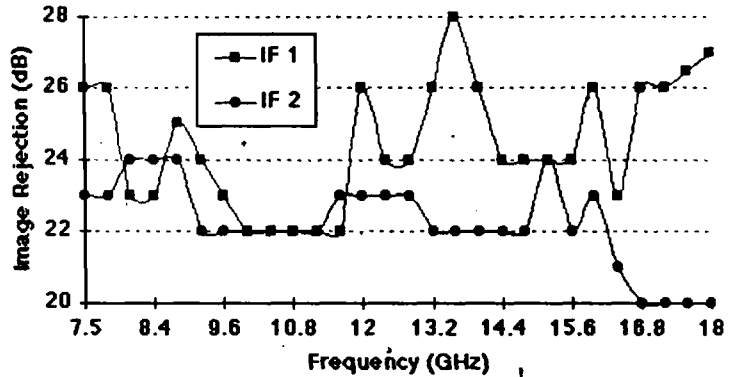
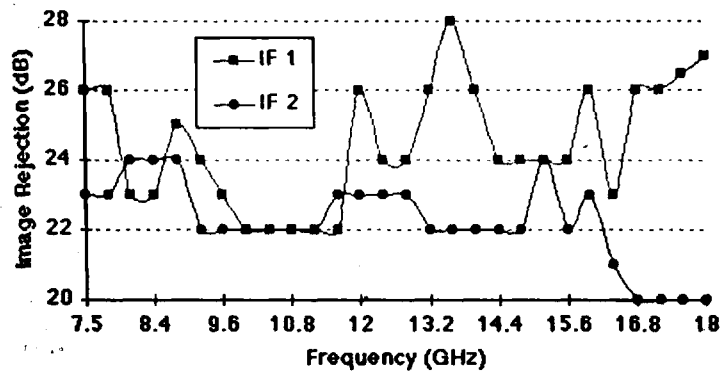
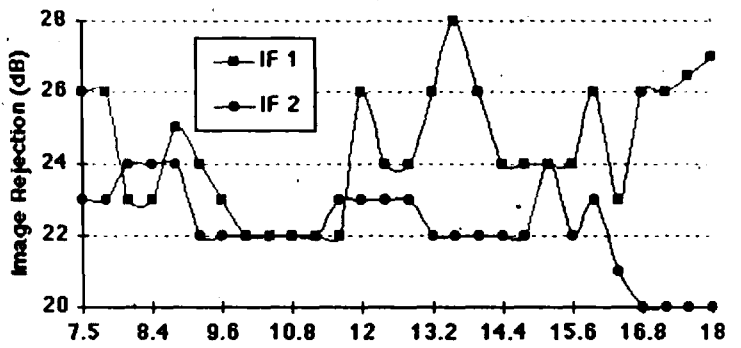
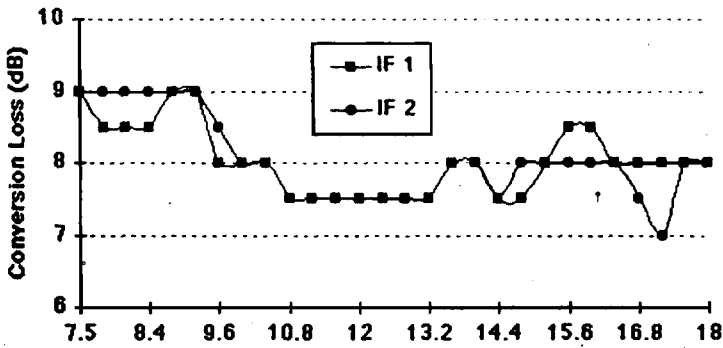
Typical Performance

Model 15 0270-150
RF Freq: 7.5-18 GHz

RF Power: -10 dBm
LO Power: +12 dBm

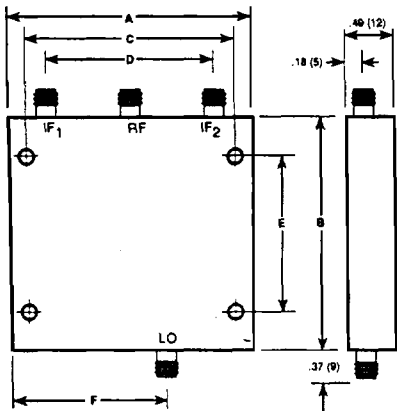
IF Freq: 150 MHz
Temp: Ambient

Test Date: 3/10/97
Tested by A. Allen

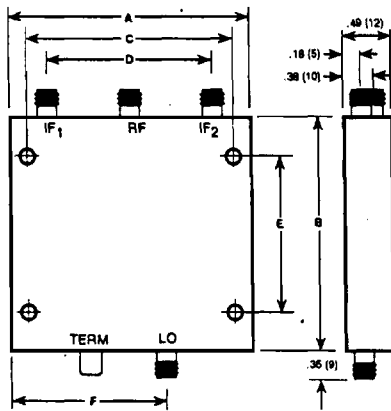


Mechanical Specifications

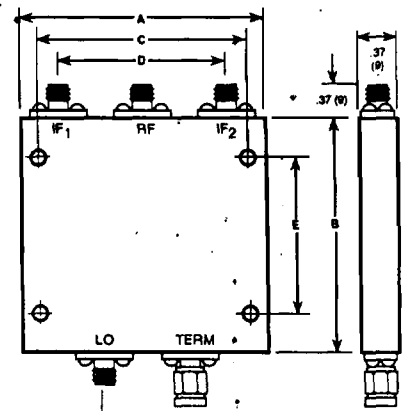
Model Number	Case Style	A		B		C		D		E		F		Weight	
		In	mm	In	mm	In	mm	In	mm	In	mm	In	mm	oz	gram
15 0015-60	MX 07	3.00	76	2.50	64	2.75	70	2.00	51	2.00	51	1.95	50	7.4	210
15 0016-60	MX 07	3.00	76	2.50	64	2.75	70	2.00	51	2.00	51	1.95	50	7.4	210
15 0017-60	MX 07	3.00	76	2.50	64	2.75	70	2.00	51	2.00	51	1.95	50	7.4	210
15 0018-60	MX 07	3.00	76	2.50	64	2.75	70	2.00	51	2.00	51	1.95	50	7.4	210
15 0019-60	MX 09	3.00	76	2.50	64	2.75	70	2.00	51	2.00	51	1.95	50	7.4	210
15 0260-60		4.20	xx	2.70	xx	3.96	xx	3.44	xx	2.00	51	1.60	xx	11.0	xx
15 0270-60	MX 13	4.10	104	2.64	67	3.86	98	3.40	95	1.40	37	2.55	65	9.5	269



MX 07



MX 09



MX 13