

Frequency Mixer

ADE-R1LH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+7	+10	+13
10.10	40.10	5.04	4.84	4.74
40.10	70.10	5.36	5.13	5.02
70.10	100.10	5.33	5.15	5.05
100.10	130.10	5.35	5.16	5.09
130.10	160.10	5.40	5.22	5.14
160.10	190.10	5.42	5.26	5.16
190.10	220.10	5.50	5.32	5.22
220.10	250.10	5.51	5.34	5.23
250.10	280.10	5.61	5.40	5.25
280.10	310.10	5.76	5.54	5.36
310.10	340.10	5.81	5.61	5.43
340.10	370.10	5.81	5.58	5.41
370.10	400.10	5.80	5.53	5.39
400.10	430.10	5.97	5.61	5.46
430.10	460.10	6.27	5.85	5.59
460.10	490.10	6.51	6.16	5.80
490.10	520.10	6.66	6.33	5.99
520.10	550.10	6.87	6.46	6.03
550.10	580.10	7.04	6.45	5.91
580.10	610.10	7.03	6.33	5.86
610.10	640.10	6.97	6.28	5.86
640.10	670.10	6.87	6.25	5.88
670.10	700.10	6.80	6.29	6.00
700.10	730.10	6.79	6.35	6.05
730.10	760.10	6.85	6.43	6.16
760.10	790.10	6.96	6.59	6.37
780.10	810.10	7.06	6.71	6.50
810.10	840.10	7.17	6.85	6.69
830.10	860.10	7.34	7.04	6.92
860.10	890.10	7.63	7.34	7.23
880.10	910.10	7.81	7.55	7.45
910.10	940.10	8.27	8.00	7.89
930.10	960.10	8.58	8.26	8.14
960.10	990.10	9.17	8.80	8.66
980.10	1010.10	9.66	9.20	9.02
1010.10	1040.10	10.42	9.85	9.63
1030.10	1060.10	11.01	10.38	10.11
1060.10	1090.10	11.99	11.29	10.97
1080.10	1110.10	12.77	11.99	11.65
1110.10	1140.10	14.17	13.20	12.90

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+7	+10	+13
10.10	40.10	24.96	24.08	29.62
40.10	70.10	25.60	25.30	25.15
70.10	100.10	26.04	22.33	30.26
100.10	130.10	21.62	26.46	20.35
130.10	160.10	20.92	22.82	18.02
160.10	190.10	23.27	18.88	16.19
190.10	220.10	20.27	16.27	15.01
220.10	250.10	20.19	15.46	15.00
250.10	280.10	14.92	13.76	14.56
280.10	310.10	13.22	12.17	12.67
310.10	340.10	15.44	14.60	14.82
340.10	370.10	16.22	14.46	15.51
370.10	400.10	16.04	14.78	17.43
400.10	430.10	14.00	14.36	16.31
430.10	460.10	8.76	10.79	13.34
460.10	490.10	6.92	7.56	10.04
490.10	520.10	6.60	6.89	8.39
520.10	550.10	6.55	7.27	8.60
550.10	580.10	6.84	7.87	9.86
580.10	610.10	7.43	8.65	11.67
610.10	640.10	7.93	10.19	13.70
640.10	670.10	9.47	12.98	17.48
670.10	700.10	11.72	16.74	22.83
700.10	730.10	13.81	23.92	16.12
730.10	760.10	16.02	18.72	14.30
760.10	790.10	15.21	17.24	15.52
780.10	810.10	14.36	16.33	16.27
810.10	840.10	13.02	14.65	16.29
830.10	860.10	12.51	14.41	16.68
860.10	890.10	12.18	14.93	17.20
880.10	910.10	12.18	15.72	16.95
910.10	940.10	12.44	15.85	16.61
930.10	960.10	12.30	15.09	16.48
960.10	990.10	11.96	15.53	17.00
980.10	1010.10	11.74	16.06	17.08
1010.10	1040.10	11.51	16.75	16.41
1030.10	1060.10	11.72	17.09	15.93
1060.10	1090.10	11.58	16.47	14.14
1080.10	1110.10	11.39	15.68	13.02
1110.10	1140.10	10.21	13.73	10.63

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+5dBm (dB)		
		@LO (dBm)		
		+7	+10	+13
10.10	40.10	-1.59	-1.25	-1.07
40.10	70.10	-1.43	-1.10	-0.83
70.10	100.10	-1.49	-1.15	-0.85
100.10	130.10	-1.40	-1.03	-0.75
130.10	160.10	-1.33	-1.00	-0.77
160.10	190.10	-1.32	-1.00	-0.76
190.10	220.10	-1.24	-0.92	-0.71
220.10	250.10	-1.24	-0.93	-0.70
250.10	280.10	-1.24	-0.93	-0.71
280.10	310.10	-1.11	-0.85	-0.67
310.10	340.10	-1.14	-0.86	-0.69
340.10	370.10	-1.36	-1.01	-0.82
370.10	400.10	-1.57	-1.13	-0.90
400.10	430.10	-1.81	-1.36	-1.05
430.10	460.10	-1.93	-1.58	-1.24
460.10	490.10	-1.96	-1.64	-1.35
490.10	520.10	-2.09	-1.75	-1.52
520.10	550.10	-2.03	-1.75	-1.58
550.10	580.10	-1.97	-1.82	-1.69
580.10	610.10	-2.01	-1.88	-1.67
610.10	640.10	-2.13	-1.93	-1.71
640.10	670.10	-2.18	-1.91	-1.71
670.10	700.10	-2.13	-1.81	-1.59
700.10	730.10	-2.07	-1.76	-1.56
730.10	760.10	-2.09	-1.78	-1.58
760.10	790.10	-1.91	-1.59	-1.41
780.10	810.10	-1.84	-1.55	-1.36
810.10	840.10	-1.90	-1.56	-1.32
830.10	860.10	-1.85	-1.46	-1.21
860.10	890.10	-1.91	-1.44	-1.20
880.10	910.10	-1.95	-1.40	-1.14
910.10	940.10	-1.95	-1.35	-1.11
930.10	960.10	-2.02	-1.36	-1.14
960.10	990.10	-2.03	-1.33	-1.16
980.10	1010.10	-2.09	-1.38	-1.20
1010.10	1040.10	-2.22	-1.40	-1.28
1030.10	1060.10	-2.36	-1.46	-1.34
1060.10	1090.10	-2.60	-1.56	-1.46
1080.10	1110.10	-2.75	-1.59	-1.50
1110.10	1140.10	-2.83	-1.78	-1.64

REV. X2

ADE-R1LH+

101013

Page 1 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant

P.O. Box 350186, Brooklyn, New York 11235-0008 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



Frequency Mixer

ADE-R1LH+

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=261.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=10.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=510.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+10			+10			+10
240.00	21.10	5.39	10.00	20.10	5.19	500.00	10.10	6.10
234.25	26.85	5.38	20.00	30.10	4.97	490.00	20.10	6.01
228.50	32.60	5.34	30.00	40.10	4.89	480.00	30.10	5.98
222.75	38.35	5.33	40.00	50.10	4.86	470.00	40.10	5.92
217.00	44.10	5.34	50.00	60.10	4.98	460.00	50.10	5.88
211.25	49.85	5.29	60.00	70.10	4.85	450.00	60.10	5.87
205.50	55.60	5.28	70.00	80.10	4.91	440.00	70.10	5.84
199.75	61.35	5.29	80.00	90.10	4.94	430.00	80.10	5.81
194.00	67.10	5.25	90.00	100.10	4.86	420.00	90.10	5.83
188.25	72.85	5.26	100.00	110.10	4.88	410.00	100.10	5.79
182.50	78.60	5.26	110.00	120.10	4.95	400.00	110.10	5.79
176.75	84.35	5.25	120.00	130.10	4.86	390.00	120.10	5.81
171.00	90.10	5.27	130.00	140.10	4.96	380.00	130.10	5.80
165.25	95.85	5.24	140.00	150.10	4.97	370.00	140.10	5.82
159.50	101.60	5.24	150.00	160.10	5.01	360.00	150.10	5.82
153.75	107.35	5.26	160.00	170.10	5.09	350.00	160.10	5.80
148.00	113.10	5.24	170.00	180.10	5.00	340.00	170.10	5.81
142.25	118.85	5.26	180.00	190.10	5.12	330.00	180.10	5.82
136.50	124.60	5.26	190.00	200.10	5.11	320.00	190.10	5.81
130.75	130.35	5.16	200.00	210.10	5.03	310.00	200.10	5.85
125.00	136.10	5.25	210.00	220.10	5.10	290.00	220.10	5.85
119.25	141.85	5.26	220.00	230.10	5.10	280.00	230.10	5.88
113.50	147.60	5.26	240.00	250.10	5.09	260.00	250.10	5.88
107.75	153.35	5.29	250.00	260.10	4.99	250.00	260.10	5.91
102.00	159.10	5.26	270.00	280.10	5.15	230.00	280.10	5.95
96.25	164.85	5.28	280.00	290.10	5.20	220.00	290.10	5.96
90.50	170.60	5.31	300.00	310.10	5.33	200.00	310.10	5.99
84.75	176.35	5.29	310.00	320.10	5.25	190.00	320.10	5.96
79.00	182.10	5.32	330.00	340.10	5.22	170.00	340.10	5.96
73.25	187.85	5.32	340.00	350.10	5.27	160.00	350.10	5.92
67.50	193.60	5.31	360.00	370.10	5.31	140.00	370.10	5.90
61.75	199.35	5.34	370.00	380.10	5.36	130.00	380.10	5.85
56.00	205.10	5.32	390.00	400.10	5.20	110.00	400.10	5.79
50.25	210.85	5.34	400.00	410.10	5.27	100.00	410.10	5.77
44.50	216.60	5.37	420.00	430.10	5.37	80.00	430.10	5.85
38.75	222.35	5.34	430.00	440.10	5.32	70.00	440.10	5.90
33.00	228.10	5.37	450.00	460.10	5.45	50.00	460.10	6.05
27.25	233.85	5.38	460.00	470.10	5.46	40.00	470.10	6.15
15.75	245.35	5.46	480.00	490.10	5.46	20.00	490.10	6.32
10.00	251.10	5.69	490.00	500.10	5.49	10.00	500.10	6.67

Frequency Mixer

ADE-R1LH+

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+7	+10	+13	+7	+10	+13
40.10	59.97	64.00	67.36	67.04	68.30	69.00
70.10	65.92	66.86	66.04	59.26	57.64	56.26
100.10	62.91	62.91	63.17	53.98	51.96	50.98
130.10	60.41	61.24	61.12	49.66	48.48	47.91
160.10	60.33	61.09	61.39	46.75	46.09	45.88
190.10	57.16	56.92	56.86	44.84	44.36	44.29
220.10	57.69	57.75	57.39	43.14	42.93	42.95
250.10	54.98	55.37	55.55	41.74	41.60	41.60
280.10	53.46	52.90	52.65	41.36	41.44	41.11
310.10	55.14	54.76	54.17	41.30	41.56	40.79
340.10	52.48	52.88	53.12	39.12	39.02	38.45
370.10	48.56	49.28	49.88	38.58	38.42	37.74
400.10	45.96	46.87	47.43	39.40	38.55	36.99
430.10	43.83	44.74	45.57	39.65	36.99	35.05
460.10	42.36	43.07	43.74	39.34	35.13	33.20
490.10	41.68	42.41	42.81	39.39	34.51	31.90
520.10	41.41	42.13	42.51	36.99	33.73	30.68
550.10	41.38	41.78	42.07	35.35	32.46	29.94
580.10	41.24	41.14	40.78	34.14	31.30	28.65
610.10	40.56	39.86	38.50	33.36	30.04	26.50
640.10	40.35	39.01	37.55	32.98	28.31	24.81
670.10	37.97	36.22	35.00	32.08	26.57	23.49
700.10	35.75	34.10	33.28	30.67	25.18	22.68
730.10	34.63	33.46	32.80	29.74	24.60	22.08
760.10	33.44	32.46	31.63	29.82	24.63	21.70
790.10	32.52	31.28	30.33	30.09	24.33	21.44
810.10	32.49	31.03	29.98	29.40	23.94	21.03
840.10	32.12	30.26	28.67	27.43	23.59	20.56
860.10	31.95	29.82	27.86	25.51	22.90	19.89
890.10	31.21	28.40	26.28	22.97	21.47	18.97
910.10	30.43	27.43	25.40	21.49	20.66	18.52
940.10	29.05	26.07	24.13	19.57	19.65	17.96
960.10	27.71	25.13	23.22	18.36	18.93	17.55
990.10	26.09	23.66	21.99	16.92	17.89	16.88
1010.10	24.91	22.88	21.27	16.14	17.39	16.65
1040.10	23.84	21.98	20.38	15.17	16.68	16.23
1060.10	23.16	21.12	19.69	14.72	16.18	16.01
1090.10	22.09	20.48	18.91	14.03	15.56	15.56
1110.10	21.51	19.92	18.57	13.60	15.04	15.28
1140.10	20.65	19.24	18.14	13.15	14.50	15.01

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+7	+10	+13
10.10	40.10	43.98	43.89	43.68
40.10	70.10	33.39	33.30	33.33
70.10	100.10	29.09	29.30	29.34
100.10	130.10	26.72	27.07	26.97
130.10	160.10	25.25	25.15	25.32
160.10	190.10	23.94	24.21	24.30
190.10	220.10	23.60	23.91	24.07
220.10	250.10	22.91	23.44	23.82
250.10	280.10	22.50	23.02	23.48
280.10	310.10	22.50	22.73	23.11
310.10	340.10	23.11	23.34	23.69
340.10	370.10	23.76	24.40	25.14
370.10	400.10	24.08	25.23	25.88
400.10	430.10	22.71	23.87	24.48
430.10	460.10	20.70	21.29	21.88
460.10	490.10	19.23	19.49	19.67
490.10	520.10	18.15	18.17	18.33
520.10	550.10	17.34	17.34	17.49
550.10	580.10	17.01	17.04	17.23
580.10	610.10	16.99	17.08	17.31
610.10	640.10	17.18	17.12	17.14
640.10	670.10	17.02	16.82	16.69
670.10	700.10	16.44	16.12	15.92
700.10	730.10	15.58	15.24	14.96
730.10	760.10	14.70	14.33	14.05
760.10	790.10	13.77	13.42	13.15
780.10	810.10	13.13	12.81	12.50
810.10	840.10	12.26	11.85	11.48
830.10	860.10	11.61	11.17	10.73
860.10	890.10	10.62	10.13	9.65
880.10	910.10	10.06	9.53	9.09
910.10	940.10	9.15	8.68	8.29
930.10	960.10	8.64	8.13	7.75
960.10	990.10	7.80	7.40	7.08
980.10	1010.10	7.32	7.03	6.73
1010.10	1040.10	6.70	6.42	6.17
1030.10	1060.10	6.32	6.03	5.81
1060.10	1090.10	5.96	5.66	5.43
1080.10	1110.10	5.65	5.35	5.11
1110.10	1140.10	5.42	5.07	4.85

Frequency Mixer

ADE-R1LH+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+7	+10	+13		+7	+10	+13		+7	+10	+13
10.10	40.10	2.07	2.10	2.18	40.10	1.25	1.64	2.11	10.10	2.19	1.92	1.63
40.10	70.10	1.37	1.29	1.26	70.10	1.51	2.18	2.99	20.10	2.22	1.94	1.64
70.10	100.10	1.14	1.08	1.08	100.10	1.59	2.31	3.19	30.10	2.23	1.95	1.64
100.10	130.10	1.32	1.22	1.16	130.10	1.45	2.09	2.84	40.10	2.21	1.93	1.63
130.10	160.10	1.18	1.10	1.07	160.10	1.50	2.17	2.97	50.10	2.22	1.94	1.64
160.10	190.10	1.19	1.11	1.06	190.10	1.57	2.27	3.11	60.10	2.25	1.97	1.66
190.10	220.10	1.23	1.14	1.09	220.10	1.53	2.19	2.96	70.10	2.28	1.99	1.68
220.10	250.10	1.11	1.05	1.05	250.10	1.57	2.25	3.04	80.10	2.29	2.00	1.69
250.10	280.10	1.18	1.09	1.03	280.10	1.65	2.33	3.15	90.10	2.30	2.01	1.70
280.10	310.10	1.16	1.10	1.08	310.10	1.65	2.31	3.09	100.10	2.30	2.00	1.69
310.10	340.10	1.07	1.01	1.05	340.10	1.68	2.36	3.16	110.10	2.28	1.99	1.68
340.10	370.10	1.07	1.06	1.10	370.10	1.76	2.46	3.28	120.10	2.27	1.99	1.68
370.10	400.10	1.23	1.29	1.34	400.10	1.78	2.44	3.24	130.10	2.26	1.98	1.67
400.10	430.10	1.06	1.17	1.23	430.10	1.84	2.50	3.30	140.10	2.25	1.97	1.67
430.10	460.10	1.14	1.03	1.06	460.10	1.99	2.65	3.47	150.10	2.27	1.99	1.68
460.10	490.10	1.14	1.10	1.13	490.10	2.05	2.73	3.52	160.10	2.29	2.00	1.70
490.10	520.10	1.15	1.07	1.01	520.10	2.09	2.80	3.61	170.10	2.28	2.00	1.70
520.10	550.10	1.29	1.21	1.13	550.10	2.16	2.89	3.73	180.10	2.30	2.02	1.72
550.10	580.10	1.23	1.13	1.03	580.10	2.17	2.88	3.70	190.10	2.31	2.03	1.73
580.10	610.10	1.38	1.28	1.25	610.10	2.20	2.91	3.73	200.10	2.28	2.01	1.71
610.10	640.10	1.46	1.36	1.30	640.10	2.26	2.98	3.82	220.10	2.26	1.99	1.70
640.10	670.10	1.49	1.43	1.41	670.10	2.26	2.95	3.78	230.10	2.24	1.97	1.69
670.10	700.10	1.73	1.69	1.67	700.10	2.29	3.00	3.83	250.10	2.30	2.02	1.73
700.10	730.10	1.73	1.69	1.67	730.10	2.40	3.14	4.01	260.10	2.27	2.01	1.73
730.10	760.10	1.93	1.91	1.89	760.10	2.46	3.16	3.99	280.10	2.28	2.02	1.74
760.10	790.10	2.08	2.05	2.02	790.10	2.54	3.21	4.00	290.10	2.26	2.00	1.72
780.10	810.10	2.05	2.02	1.99	810.10	2.67	3.34	4.14	310.10	2.25	1.99	1.72
810.10	840.10	2.25	2.22	2.20	840.10	2.88	3.50	4.29	320.10	2.23	1.98	1.71
830.10	860.10	2.43	2.35	2.30	860.10	2.95	3.51	4.23	340.10	2.27	2.01	1.74
860.10	890.10	2.21	2.10	2.04	890.10	3.10	3.59	4.25	350.10	2.25	1.99	1.73
880.10	910.10	2.15	2.06	2.02	910.10	3.31	3.78	4.42	370.10	2.23	1.98	1.72
910.10	940.10	2.54	2.42	2.37	940.10	3.62	3.97	4.54	380.10	2.22	1.97	1.71
930.10	960.10	2.58	2.42	2.35	960.10	3.67	3.95	4.44	400.10	2.20	1.95	1.70
960.10	990.10	2.35	2.20	2.15	990.10	3.79	4.00	4.42	410.10	2.19	1.94	1.70
980.10	1010.10	2.48	2.32	2.27	1010.10	4.01	4.21	4.61	430.10	2.19	1.94	1.69
1010.10	1040.10	2.73	2.51	2.45	1040.10	4.12	4.30	4.66	440.10	2.17	1.93	1.69
1030.10	1060.10	2.57	2.37	2.30	1060.10	3.95	4.12	4.44	460.10	2.13	1.89	1.65
1060.10	1090.10	2.51	2.31	2.25	1090.10	3.82	4.03	4.35	470.10	2.14	1.90	1.66
1080.10	1110.10	2.77	2.55	2.48	1110.10	3.83	4.09	4.44	490.10	2.10	1.87	1.64
1110.10	1140.10	2.75	2.53	2.44	1140.10	3.59	3.88	4.24	500.10	2.09	1.87	1.64

REV. X2
ADE-R1LH+
101013
Page 4 of 5

Harmonics Tables

RF HARMONICS ORDER	(-dBm)												
	(-dBc)												
	0	-	-	11	27	11	43	17	37	23	48	61	54
	1	-	17	+0	26	12	32	22	34	43	49	38	63
	2	86	61	44	67	45	67	44	60	47	64	52	> 75
	3	> 90	62	55	64	55	70	53	64	60	71	63	> 75
	4	> 90	> 75	> 75	> 75	> 75	> 75	> 74	> 75	> 72	> 75	> 75	> 75
	5	> 90	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75
	6	> 90	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75
	7	> 90	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75
	8	> 90	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 73	> 75	> 75
	9	> 90	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75
10	> 90	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	> 75	
RF CAL		0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions: RF IN: 250.00 MHz; -10.00 dBm.
 LO IN: 280.00 MHz; +10.00 dBm
 IF OUT: 30.00 MHz; -15.39 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)											
	0	-	-	19	40	23	50	30	49	38	64	53	78
	1	-	18	+0	28	12	38	24	40	42	54	50	65
	2	64	52	38	68	40	55	42	52	43	70	49	84
	3	> 90	41	39	45	40	47	39	43	45	50	57	60
	4	> 90	70	60	64	57	63	55	62	51	61	56	69
	5	> 90	69	66	63	49	68	48	71	48	65	60	70
	6	> 90	79	68	78	68	78	67	81	65	69	74	71
	7	> 90	83	78	82	77	71	67	72	63	68	58	68
	8	> 90	> 85	83	> 85	81	> 85	81	82	74	74	71	80
	9	> 90	> 85	> 85	> 85	81	83	78	> 85	77	> 85	72	84
	10	> 90	> 85	> 85	> 85	> 85	> 85	> 85	> 85	83	> 85	83	> 85
	RF CAL	0	1	2	3	4	5	6	7	8	9	10	

LO HARMONICS ORDER

Test conditions: RF IN: 250.00 MHz; .00 dBm.
 LO IN: 280.00 MHz; +10.00 dBm
 IF OUT: 30.00 MHz; -5.43 dBm

- Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.
 2. + entry denotes harmonics are in (dBc) above IF OUTPUT.
 3. RF Cal represent the Harmonics level of the RF input signal to the mixer.