Frequency Mixer ADE-ED16303/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=64MHz (dB)		
		@LO (dBm)		
		+7	+10	+13
40.1	104.1	7.79	7.54	7.32
50.1	114.1	7.64	7.41	7.06
60.1	124.1	7.57	7.37	7.09
72.1	136.1	7.65	7.27	7.22
82.1	146.1	7.43	7.24	7.11
92.1	156.1	7.34	7.13	6.92
106.1	170.1	7.11	6.90	6.81
114.1	178.1	6.88	6.67	6.56
126.1	190.1	6.70	6.55	6.39
136.1	200.1	6.68	6.51	6.42
146.1	210.1	6.54	6.45	6.36
158.1	222.1	6.63	6.51	6.40
168.1	232.1	6.73	6.60	6.46
180.1	244.1	6.84	6.71	6.55
190.1	254.1	6.96	6.78	6.68
200.1	264.1	7.06	6.87	6.71
212.1	276.1	7.17	6.93	6.76
222.1	286.1	7.27	6.98	6.75
232.1	296.1	7.35	7.03	6.78
244.1	308.1	7.59	7.24	6.98
254.1	318.1	7.82	7.41	7.11
266.1	330.1	8.02	7.59	7.26
276.1	340.1	8.20	7.73	7.36
286.1	350.1	8.45	7.92	7.55
298.1	362.1	8.68	8.10	7.69
308.1	372.1	8.81	8.21	7.78
320.1	384.1	9.01	8.35	7.85
330.1	394.1	9.22	8.50	7.97
340.1	404.1	9.46	8.66	8.11
352.1	416.1	9.71	8.89	8.30
362.1	426.1	9.95	9.08	8.47
372.1	436.1	10.17	9.25	8.63
384.1	448.1	10.40	9.46	8.79
394.1	458.1	10.57	9.59	8.92
406.1	470.1	10.74	9.73	9.02
416.1	480.1	10.93	9.87	9.11
426.1	490.1	11.13	10.01	9.21
438.1	502.1	11.42	10.23	9.40
448.1	512.1	11.60	10.39	9.51
460.1	524.1	11.83	10.58	9.67

RF (IN) (MHz)	LO (MHz)	IP-3 INPUT (dBm)		
		@LO (dBm)		
		+7	+10	+13
40.1	104.1	23.47	21.16	20.03
50.1	114.1	17.97	18.96	20.76
60.1	124.1	17.72	19.59	22.85
72.1	136.1	19.17	22.42	25.28
82.1	146.1	20.80	23.65	25.90
92.1	156.1	22.67	25.14	27.61
106.1	170.1	24.11	27.79	28.90
114.1	178.1	25.89	28.07	27.76
126.1	190.1	25.94	28.40	31.39
136.1	200.1	29.22	30.33	31.43
146.1	210.1	29.60	31.30	32.31
158.1	222.1	28.63	33.46	31.99
168.1	232.1	27.51	31.78	31.55
180.1	244.1	27.44	28.19	28.75
190.1	254.1	25.67	30.31	29.12
200.1	264.1	22.70	25.80	28.32
212.1	276.1	21.38	24.05	28.46
222.1	286.1	19.49	22.76	25.42
232.1	296.1	17.77	21.40	23.72
244.1	308.1	16.43	19.83	22.99
254.1	318.1	15.27	18.51	21.65
266.1	330.1	14.10	17.23	20.39
276.1	340.1	13.21	16.16	19.23
286.1	350.1	12.63	15.45	18.39
298.1	362.1	12.07	14.82	17.60
308.1	372.1	11.68	14.36	16.89
320.1	384.1	10.88	13.52	16.18
330.1	394.1	10.10	12.74	15.34
340.1	404.1	9.68	12.31	14.97
352.1	416.1	9.36	12.02	14.63
362.1	426.1	8.90	11.53	14.14
372.1	436.1	8.50	11.07	13.61
384.1	448.1	8.30	10.83	13.32
394.1	458.1	8.26	10.80	13.29
406.1	470.1	8.14	10.56	13.00
416.1	480.1	7.92	10.27	12.68
426.1	490.1	7.66	9.98	12.33
438.1	502.1	7.51	9.86	12.25
448.1	512.1	7.35	9.61	11.95
460.1	524.1	7.20	9.38	11.62

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+13dBm (dB)		
		@LO (dBm)		
		+7	+10	+13
40.1	104.1	1.49	0.61	0.25
50.1	114.1	1.66	0.82	0.55
60.1	124.1	1.65	0.85	0.55
72.1	136.1	1.31	0.82	0.36
82.1	146.1	1.17	0.65	0.34
92.1	156.1	0.94	0.53	0.36
106.1	170.1	0.66	0.38	0.21
114.1	178.1	0.54	0.31	0.18
126.1	190.1	0.40	0.20	0.16
136.1	200.1	0.34	0.20	0.11
146.1	210.1	0.33	0.16	0.10
158.1	222.1	0.28	0.17	0.14
168.1	232.1	0.32	0.16	0.14
180.1	244.1	0.51	0.25	0.19
190.1	254.1	0.75	0.38	0.18
200.1	264.1	1.05	0.49	0.26
212.1	276.1	1.54	0.68	0.30
222.1	286.1	2.10	0.98	0.44
232.1	296.1	2.73	1.38	0.65
244.1	308.1	3.48	1.85	0.86
254.1	318.1	4.05	2.31	1.11
266.1	330.1	4.65	2.81	1.41
276.1	340.1	4.95	3.12	1.65
286.1	350.1	5.20	3.43	1.87
298.1	362.1	5.48	3.74	2.13
308.1	372.1	5.79	4.02	2.36
320.1	384.1	6.25	4.49	2.77
330.1	394.1	6.65	4.91	3.15
340.1	404.1	6.96	5.26	3.47
352.1	416.1	7.36	5.64	3.85
362.1	426.1	7.57	5.90	4.09
372.1	436.1	7.69	6.05	4.25
384.1	448.1	7.72	6.09	4.33
394.1	458.1	7.80	6.21	4.42
406.1	470.1	7.97	6.40	4.63
416.1	480.1	8.11	6.57	4.84
426.1	490.1	8.28	6.78	5.06
438.1	502.1	8.43	6.99	5.29
448.1	512.1	8.58	7.15	5.45
460.1	524.1	8.62	7.22	5.55

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=146.1MHz (dB) @LO (dBm) +10
136.0	10.1	12.33
130.0	16.1	10.74
124.0	22.1	9.89
118.0	28.1	9.28
112.0	34.1	8.91
104.0	42.1	8.55
98.0	48.1	8.26
92.0	54.1	8.03
86.0	60.1	7.93
78.0	68.1	7.75
72.0	74.1	7.59
66.0	80.1	7.55
60.0	86.1	7.50
52.0	94.1	7.45
46.0	100.1	7.39
40.0	106.1	7.33
34.0	112.1	7.30
28.0	118.1	7.19
20.0	126.1	7.18
14.0	132.1	7.26
10.0	156.1	6.95
28.0	174.1	6.67
46.0	192.1	6.51
66.0	212.1	6.47
84.0	230.1	6.40
104.0	250.1	6.48
122.0	268.1	6.56
142.0	288.1	6.69
160.0	306.1	6.96
178.0	324.1	7.07
198.0	344.1	7.17
216.0	362.1	7.21
236.0	382.1	7.36
254.0	400.1	7.56
274.0	420.1	7.75
292.0	438.1	7.83
310.0	456.1	7.96
330.0	476.1	8.13
348.0	494.1	8.31
368.0	514.1	8.49

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=106.1MHz (dB) @LO (dBm) +10
10.0	116.1	8.13
20.0	126.1	7.87
30.0	136.1	7.70
40.0	146.1	7.43
50.0	156.1	7.35
62.0	168.1	7.17
72.0	178.1	7.08
82.0	188.1	6.97
92.0	198.1	6.91
104.0	210.1	6.75
114.0	220.1	6.90
124.0	230.1	6.89
134.0	240.1	6.90
146.0	252.1	6.97
156.0	262.1	7.02
166.0	272.1	7.08
176.0	282.1	7.21
186.0	292.1	7.31
198.0	304.1	7.44
208.0	314.1	7.59
218.0	324.1	7.68
228.0	334.1	7.86
240.0	346.1	8.03
250.0	356.1	8.15
260.0	366.1	8.23
270.0	376.1	8.38
282.0	388.1	8.52
292.0	398.1	8.68
302.0	408.1	8.75
312.0	418.1	8.93
322.0	428.1	9.09
334.0	440.1	9.23
344.0	450.1	9.35
354.0	460.1	9.43
364.0	470.1	9.57
376.0	482.1	9.74
386.0	492.1	9.91
396.0	502.1	10.06
406.0	512.1	10.21
418.0	524.1	10.37

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=186.1MHz (dB) @LO (dBm) +10
176.0	10.1	12.73
172.0	14.1	11.78
168.0	18.1	11.04
164.0	22.1	10.54
160.0	26.1	10.11
156.0	30.1	9.82
152.0	34.1	9.59
148.0	38.1	9.45
144.0	42.1	9.26
140.0	46.1	9.09
136.0	50.1	8.90
132.0	54.1	8.77
128.0	58.1	8.67
124.0	62.1	8.59
120.0	66.1	8.45
116.0	70.1	8.32
112.0	74.1	8.24
108.0	78.1	8.22
104.0	82.1	8.18
100.0	86.1	8.12
96.0	90.1	8.09
92.0	94.1	7.88
88.0	98.1	7.90
84.0	102.1	7.92
80.0	106.1	7.88
76.0	110.1	7.96
72.0	114.1	7.90
68.0	118.1	7.81
64.0	122.1	7.79
60.0	126.1	7.78
56.0	130.1	7.69
52.0	134.1	7.65
48.0	138.1	7.58
44.0	142.1	7.58
40.0	146.1	7.46
36.0	150.1	7.49
32.0	154.1	7.40
28.0	158.1	7.31
24.0	162.1	7.38
20.0	166.1	7.29

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	+7	+10	+13	+7	+10	+13
104.1	58.64	58.96	59.12	49.22	49.17	48.97
114.1	57.01	57.49	57.42	48.33	48.18	48.07
124.1	56.37	57.13	56.74	47.47	47.31	47.19
136.1	55.43	55.08	55.48	46.09	46.01	45.84
146.1	54.21	53.94	53.92	44.65	44.49	44.33
156.1	53.02	52.72	52.46	42.85	42.73	42.56
170.1	50.30	50.27	49.98	40.17	39.98	39.75
178.1	48.73	48.46	48.27	38.71	38.48	38.25
190.1	46.32	46.09	45.87	36.58	36.33	36.09
200.1	44.61	44.41	44.22	34.99	34.74	34.49
210.1	43.27	43.09	42.95	33.54	33.30	33.09
222.1	42.32	42.14	42.03	32.55	32.38	32.24
232.1	42.40	42.30	42.16	32.70	32.59	32.51
244.1	43.61	43.43	43.36	33.57	33.48	33.42
254.1	44.87	44.65	44.57	34.41	34.31	34.25
264.1	45.83	45.71	45.55	35.19	35.06	34.99
276.1	46.57	46.28	46.06	35.99	35.87	35.79
286.1	47.21	46.80	46.61	36.65	36.55	36.45
296.1	48.46	48.06	47.72	37.30	37.20	37.10
308.1	50.27	49.75	49.40	38.08	37.97	37.91
318.1	51.24	50.71	50.27	38.64	38.56	38.47
330.1	52.30	51.59	51.09	39.06	39.00	38.94
340.1	53.31	52.57	52.03	39.23	39.21	39.16
350.1	54.59	53.66	53.05	39.35	39.33	39.31
362.1	55.20	54.18	53.49	39.39	39.40	39.39
372.1	55.87	54.76	53.85	39.49	39.51	39.54
384.1	56.62	55.50	54.57	39.60	39.64	39.68
394.1	57.90	56.50	55.51	39.83	39.93	39.97
404.1	59.34	57.32	56.17	39.99	40.08	40.15
416.1	60.68	58.71	57.52	40.23	40.32	40.43
426.1	62.80	60.65	59.04	40.24	40.33	40.45
436.1	63.97	62.01	60.33	40.16	40.31	40.46
448.1	62.54	61.98	60.48	40.04	40.20	40.36
458.1	61.94	61.56	60.32	39.95	40.16	40.32
470.1	61.38	61.98	61.33	39.86	40.02	40.18
480.1	61.76	63.58	64.16	39.99	40.19	40.33
490.1	59.65	61.92	63.53	40.10	40.29	40.47
502.1	58.08	60.12	61.24	40.26	40.46	40.69
512.1	59.17	61.97	64.06	40.16	40.40	40.60
524.1	56.67	59.26	61.62	40.10	40.35	40.57

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		+7	+10	+13
40.1	104.1	23.29	22.48	21.77
50.1	114.1	21.88	21.14	20.61
60.1	124.1	24.72	24.31	23.78
72.1	136.1	28.19	27.81	27.29
82.1	146.1	30.70	30.48	30.03
92.1	156.1	34.03	33.75	33.27
106.1	170.1	36.56	36.04	36.22
114.1	178.1	38.67	38.64	38.79
126.1	190.1	40.65	40.27	41.22
136.1	200.1	42.89	42.45	42.53
146.1	210.1	41.72	41.89	42.13
158.1	222.1	40.92	41.24	40.95
168.1	232.1	38.54	38.75	38.55
180.1	244.1	37.62	37.36	37.76
190.1	254.1	36.17	35.95	35.96
200.1	264.1	36.24	35.36	35.37
212.1	276.1	34.19	34.04	33.63
222.1	286.1	33.81	33.74	33.46
232.1	296.1	33.43	33.49	33.29
244.1	308.1	33.28	33.35	33.23
254.1	318.1	32.80	32.70	32.46
266.1	330.1	32.00	31.55	31.42
276.1	340.1	32.33	31.96	31.89
286.1	350.1	31.56	31.11	30.73
298.1	362.1	32.54	31.86	31.39
308.1	372.1	31.50	30.79	30.31
320.1	384.1	32.74	31.81	31.28
330.1	394.1	32.19	31.06	30.31
340.1	404.1	33.81	32.28	31.51
352.1	416.1	33.66	31.95	30.91
362.1	426.1	34.92	32.75	31.81
372.1	436.1	35.44	32.83	31.68
384.1	448.1	37.20	33.76	32.12
394.1	458.1	37.67	34.35	32.73
406.1	470.1	39.16	34.86	32.78
416.1	480.1	40.50	35.79	33.50
426.1	490.1	42.46	36.24	33.34
438.1	502.1	42.29	38.93	35.21
448.1	512.1	42.70	39.51	35.10
460.1	524.1	39.95	41.50	37.32

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		+7	+10	+13
40.1	104.1	1.52	1.60	1.67
50.1	114.1	1.54	1.64	1.75
60.1	124.1	1.59	1.71	1.83
72.1	136.1	1.60	1.71	1.84
82.1	146.1	1.63	1.74	1.85
92.1	156.1	1.65	1.76	1.87
106.1	170.1	1.71	1.82	1.93
114.1	178.1	1.71	1.82	1.92
126.1	190.1	1.72	1.83	1.93
136.1	200.1	1.74	1.84	1.93
146.1	210.1	1.73	1.82	1.91
158.1	222.1	1.75	1.85	1.93
168.1	232.1	1.63	1.72	1.81
180.1	244.1	1.62	1.71	1.80
190.1	254.1	1.61	1.70	1.79
200.1	264.1	1.50	1.58	1.67
212.1	276.1	1.50	1.57	1.65
222.1	286.1	1.49	1.56	1.64
232.1	296.1	1.47	1.54	1.61
244.1	308.1	1.44	1.50	1.56
254.1	318.1	1.47	1.52	1.58
266.1	330.1	1.48	1.53	1.58
276.1	340.1	1.48	1.52	1.57
286.1	350.1	1.53	1.56	1.60
298.1	362.1	1.58	1.61	1.66
308.1	372.1	1.61	1.64	1.68
320.1	384.1	1.64	1.66	1.69
330.1	394.1	1.72	1.74	1.77
340.1	404.1	1.74	1.77	1.80
352.1	416.1	1.76	1.78	1.81
362.1	426.1	1.81	1.82	1.85
372.1	436.1	1.84	1.86	1.89
384.1	448.1	1.87	1.90	1.93
394.1	458.1	1.88	1.90	1.94
406.1	470.1	1.94	1.97	2.00
416.1	480.1	1.98	2.01	2.05
426.1	490.1	1.97	2.00	2.04
438.1	502.1	2.02	2.04	2.08
448.1	512.1	2.02	2.05	2.09
460.1	524.1	2.04	2.07	2.11

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	+7	+10	+13
104.1	5.54	5.53	5.53
114.1	5.56	5.55	5.54
124.1	5.46	5.47	5.48
136.1	5.40	5.39	5.40
146.1	5.31	5.31	5.31
156.1	5.17	5.17	5.16
170.1	4.87	4.85	4.83
178.1	4.58	4.57	4.54
190.1	3.94	3.91	3.86
200.1	3.17	3.12	3.06
210.1	2.36	2.30	2.25
222.1	1.69	1.66	1.64
232.1	1.68	1.70	1.71
244.1	2.11	2.13	2.16
254.1	2.52	2.54	2.57
264.1	2.89	2.90	2.93
276.1	3.26	3.27	3.29
286.1	3.50	3.51	3.52
296.1	3.70	3.71	3.72
308.1	3.90	3.90	3.91
318.1	4.02	4.02	4.03
330.1	4.13	4.14	4.14
340.1	4.22	4.23	4.23
350.1	4.30	4.30	4.30
362.1	4.37	4.37	4.38
372.1	4.42	4.42	4.43
384.1	4.48	4.49	4.49
394.1	4.53	4.54	4.54
404.1	4.56	4.57	4.57
416.1	4.58	4.58	4.59
426.1	4.61	4.61	4.62
436.1	4.62	4.63	4.63
448.1	4.68	4.68	4.68
458.1	4.69	4.70	4.70
470.1	4.72	4.72	4.73
480.1	4.74	4.75	4.75
490.1	4.75	4.76	4.76
502.1	4.78	4.78	4.79
512.1	4.79	4.79	4.80
524.1	4.81	4.82	4.82

IF (OUT) (MHz)	IF VSWR @LO=250.1MHz (:1) @LO (dBm)		
	+7	+10	+13
10.1	1.46	1.34	1.35
14.1	1.41	1.35	1.33
20.1	1.36	1.35	1.25
26.1	1.43	1.37	1.31
32.1	1.46	1.39	1.35
38.1	1.49	1.42	1.39
44.1	1.54	1.48	1.41
50.1	1.50	1.44	1.40
56.1	1.48	1.43	1.35
62.1	1.44	1.39	1.33
68.1	1.43	1.37	1.30
74.1	1.44	1.39	1.32
80.1	1.45	1.39	1.33
86.1	1.47	1.41	1.35
92.1	1.48	1.40	1.34
98.1	1.44	1.37	1.33
104.1	1.40	1.34	1.28
110.1	1.36	1.30	1.24
116.1	1.36	1.30	1.25
122.1	1.39	1.33	1.28
126.1	1.43	1.37	1.31
132.1	1.46	1.40	1.35
138.1	1.46	1.41	1.34
144.1	1.45	1.38	1.32
150.1	1.41	1.35	1.29
156.1	1.37	1.30	1.25
162.1	1.35	1.28	1.23
168.1	1.35	1.29	1.23
174.1	1.37	1.31	1.25
180.1	1.37	1.31	1.25
186.1	1.35	1.29	1.24
192.1	1.31	1.25	1.20
198.1	1.28	1.22	1.16
204.1	1.26	1.20	1.15
210.1	1.27	1.22	1.17
216.1	1.30	1.25	1.19
222.1	1.32	1.26	1.21
228.1	1.33	1.27	1.21
234.1	1.30	1.24	1.18
240.1	1.26	1.20	1.15

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	---	---	7.35	23.33	33.96	30.64	35.23	24.84	34.06	31.29	34.81	53.31
1	---	30.04	---	35.54	10.25	35.97	19.47	42.26	29.81	43.10	56.93	46.25
2	115.50	64.77	69.26	70.70	73.18	74.72	91.08	79.08	92.67	75.22	81.99	70.56
3	125.68	98.14	90.59	98.85	82.07	97.38	80.94	99.79	84.14	99.78	91.97	106.98
4	125.53	100.27	104.81	94.16	104.38	94.42	106.95	105.34	106.90	108.32	106.85	106.81
5	127.31	107.84	106.63	102.81	103.26	102.57	104.44	108.27	106.25	107.52	107.59	108.36
6	125.84	108.74	101.98	106.36	90.03	107.22	88.77	105.99	96.01	105.68	106.38	109.83
7	125.98	108.64	108.92	104.26	105.89	96.08	107.63	94.55	108.82	104.55	106.69	106.53
8	125.59	108.60	107.92	107.25	105.21	102.77	99.76	103.69	101.64	106.29	107.50	106.97
9	124.26	106.77	107.23	105.19	106.27	101.34	100.16	98.56	100.19	93.20	105.71	101.42
10	126.50	107.93	107.82	104.23	109.36	96.19	107.85	90.80	109.79	86.75	108.57	98.15
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 146 MHz; -10 dBm.**
LO IN: 210 MHz; +10.00 dBm
IF OUT: 64 MHz; -16.68 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	---	---	17.29	33.07	42.68	40.44	44.91	34.39	44.20	38.34	44.05	50.64
1	---	27.80	---	33.80	10.55	35.52	19.92	42.36	30.49	44.10	56.45	47.13
2	102.57	54.00	57.44	61.44	62.15	67.05	78.19	71.50	77.46	64.45	69.97	59.70
3	114.90	74.93	71.41	76.14	62.98	73.93	60.62	75.91	62.73	80.76	69.04	86.78
4	119.08	94.89	100.69	99.26	102.36	89.35	97.39	97.49	101.13	100.98	103.54	92.65
5	121.21	105.30	90.17	102.75	91.98	112.41	89.14	106.27	90.17	111.36	94.51	107.59
6	121.34	116.75	101.72	107.93	90.26	113.24	87.98	107.09	96.99	110.35	103.92	117.85
7	119.85	117.33	95.37	114.76	94.52	107.88	97.18	107.16	94.12	114.92	95.48	118.46
8	120.05	116.90	116.11	117.80	118.18	113.85	112.32	114.50	111.76	116.29	115.85	118.10
9	121.53	110.12	106.44	102.42	101.79	97.31	96.40	97.09	102.46	91.65	102.89	97.61
10	119.92	117.21	114.81	108.88	118.22	99.46	117.91	87.62	114.48	89.17	117.60	99.94
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 146 MHz; 0 dBm.**
LO IN: 210 MHz; +10.00 dBm
IF OUT: 64 MHz; -6.82 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 represents the Harmonics level of the RF Input Signal to the mixer