Frequency Mixer AMCY-ED12780/1

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=138MHz (dB) @LO (dBm)		
		-1	+1	+3
106.0	244.0	11.36	10.24	9.55
141.0	279.0	9.71	8.83	8.19
176.0	314.0	8.10	7.50	7.15
211.0	349.0	7.41	7.00	6.78
246.0	384.0	7.00	6.77	6.66
281.0	419.0	6.89	6.75	6.69
316.0	454.0	6.75	6.63	6.59
351.0	489.0	6.97	6.81	6.73
386.0	524.0	7.02	6.91	6.89
421.0	559.0	6.89	6.82	6.83
461.0	599.0	6.58	6.45	6.38
496.0	634.0	6.67	6.54	6.45
536.0	674.0	6.76	6.63	6.54
571.0	709.0	6.71	6.59	6.49
611.0	749.0	6.82	6.72	6.67
646.0	784.0	7.25	7.21	7.15
686.0	824.0	7.13	7.10	7.07
721.0	859.0	7.01	7.02	7.00
761.0	899.0	7.04	7.05	7.01
796.0	934.0	7.04	7.04	7.03
836.0	974.0	7.03	7.01	7.02
871.0	1009.0	6.84	6.80	6.80
911.0	1049.0	7.16	7.12	7.10
946.0	1084.0	7.23	7.18	7.16
986.0	1124.0	7.22	7.12	7.04
1021.0	1159.0	7.33	7.20	7.10
1061.0	1199.0	7.49	7.37	7.29
1096.0	1234.0	7.68	7.60	7.55
1136.0	1274.0	8.13	8.04	7.99
1171.0	1309.0	8.49	8.41	8.38
1211.0	1349.0	8.82	8.73	8.70
1246.0	1384.0	8.76	8.62	8.57
1286.0	1424.0	8.90	8.69	8.61
1321.0	1459.0	9.09	8.81	8.68
1361.0	1499.0	9.99	9.56	9.26
1396.0	1534.0	9.01	8.63	8.43
1436.0	1574.0	8.70	8.45	8.30
1471.0	1609.0	8.82	8.61	8.48
1511.0	1649.0	9.29	9.14	9.07
1546.0	1684.0	10.27	10.21	10.20

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm) @LO (dBm)		
		-1	+1	+3
106.0	244.0	13.26	14.27	14.79
141.0	279.0	14.30	16.10	18.65
176.0	314.0	16.11	17.92	19.72
211.0	349.0	16.28	17.15	18.62
246.0	384.0	18.81	19.94	21.01
281.0	419.0	20.76	22.44	23.70
316.0	454.0	23.44	25.28	27.68
351.0	489.0	22.46	22.70	23.49
386.0	524.0	23.33	22.65	22.62
421.0	559.0	27.25	29.56	30.83
461.0	599.0	24.32	26.63	27.91
496.0	634.0	22.46	23.65	24.11
536.0	674.0	22.36	23.91	25.01
571.0	709.0	20.32	21.77	22.88
611.0	749.0	23.94	27.42	30.78
646.0	784.0	28.72	29.68	30.75
686.0	824.0	31.43	32.57	32.86
721.0	859.0	29.79	32.82	32.06
761.0	899.0	29.96	31.87	32.66
796.0	934.0	31.19	33.43	33.27
836.0	974.0	28.46	29.03	29.53
871.0	1009.0	26.65	27.42	27.54
911.0	1049.0	27.86	28.28	27.96
946.0	1084.0	30.00	29.93	30.53
986.0	1124.0	26.18	26.93	27.49
1021.0	1159.0	26.01	26.87	27.27
1061.0	1199.0	26.48	27.42	27.96
1096.0	1234.0	22.49	23.00	23.56
1136.0	1274.0	23.16	24.50	25.60
1171.0	1309.0	25.07	26.24	26.45
1211.0	1349.0	26.99	33.14	33.15
1246.0	1384.0	23.51	26.77	29.37
1286.0	1424.0	20.78	23.21	25.03
1321.0	1459.0	21.69	23.71	25.38
1361.0	1499.0	25.65	24.96	24.99
1396.0	1534.0	20.70	22.01	23.59
1436.0	1574.0	22.12	23.38	24.89
1471.0	1609.0	23.27	24.36	25.91
1511.0	1649.0	24.02	25.24	26.53
1546.0	1684.0	24.97	26.23	27.13

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+15dBm (dB) @LO (dBm)		
		-1	+1	+3
106.0	244.0	0.89	0.79	0.65
141.0	279.0	0.95	0.94	0.77
176.0	314.0	1.62	1.24	0.92
211.0	349.0	1.34	1.10	0.88
246.0	384.0	0.96	0.74	0.57
281.0	419.0	0.86	0.65	0.47
316.0	454.0	0.61	0.45	0.32
351.0	489.0	0.37	0.33	0.30
386.0	524.0	0.47	0.36	0.30
421.0	559.0	0.38	0.28	0.21
461.0	599.0	0.59	0.52	0.47
496.0	634.0	0.45	0.31	0.22
536.0	674.0	0.19	0.08	0.02
571.0	709.0	0.11	0.05	0.00
611.0	749.0	0.07	0.08	0.08
646.0	784.0	0.35	0.27	0.21
686.0	824.0	0.17	0.13	0.12
721.0	859.0	0.26	0.18	0.16
761.0	899.0	0.24	0.17	0.14
796.0	934.0	0.20	0.16	0.14
836.0	974.0	0.30	0.27	0.26
871.0	1009.0	0.39	0.35	0.32
911.0	1049.0	0.30	0.25	0.23
946.0	1084.0	0.35	0.26	0.22
986.0	1124.0	0.52	0.41	0.34
1021.0	1159.0	0.60	0.45	0.38
1061.0	1199.0	0.66	0.48	0.39
1096.0	1234.0	0.69	0.50	0.39
1136.0	1274.0	0.58	0.37	0.26
1171.0	1309.0	0.61	0.40	0.29
1211.0	1349.0	0.64	0.42	0.29
1246.0	1384.0	0.98	0.74	0.52
1286.0	1424.0	1.41	1.14	0.84
1321.0	1459.0	1.17	0.96	0.76
1361.0	1499.0	0.63	0.64	0.63
1396.0	1534.0	0.80	0.83	0.78
1436.0	1574.0	0.78	0.70	0.60
1471.0	1609.0	0.69	0.61	0.53
1511.0	1649.0	0.69	0.58	0.49
1546.0	1684.0	0.57	0.46	0.39

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=752MHz (dB) @LO (dBm) +1
472.0	280.0	10.64
446.3	305.7	9.53
420.7	331.3	8.31
395.0	357.0	7.91
369.3	382.7	8.09
343.7	408.3	8.30
318.0	434.0	7.93
292.3	459.7	7.51
266.7	485.3	7.38
241.0	511.0	7.38
215.3	536.7	6.95
189.7	562.3	6.85
164.0	588.0	6.77
138.3	613.7	6.65
112.7	639.3	6.50
87.0	665.0	6.41
61.3	690.7	6.48
35.7	716.3	6.47
10.0	742.0	7.08
32.5	784.5	7.29
66.2	818.2	7.00
99.9	851.9	7.04
133.6	885.6	6.97
167.3	919.3	7.17
201.0	953.0	7.38
234.7	986.7	7.58
257.2	1009.2	7.60
290.9	1042.9	7.53
313.4	1065.4	7.55
347.1	1099.1	7.87
369.6	1121.6	8.08
403.3	1155.3	8.28
425.7	1177.7	8.40
459.5	1211.5	9.14
481.9	1233.9	9.29
515.6	1267.6	9.53
538.1	1290.1	9.62
571.8	1323.8	9.92
594.3	1346.3	10.03
628.0	1380.0	10.32

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=705.5MHz (dB) @LO (dBm) +1
10.5	716.0	6.83
30.5	736.0	6.66
50.5	756.0	6.90
70.5	776.0	7.30
90.5	796.0	7.16
100.5	806.0	7.09
120.5	826.0	7.06
130.5	836.0	7.00
150.5	856.0	7.10
160.5	866.0	7.09
180.5	886.0	7.12
190.5	896.0	7.19
210.5	916.0	7.35
220.5	926.0	7.50
240.5	946.0	7.60
250.5	956.0	7.70
270.5	976.0	7.78
280.5	986.0	7.79
300.5	1006.0	7.87
310.5	1016.0	7.88
330.5	1036.0	7.90
340.5	1046.0	7.89
360.5	1066.0	7.84
370.5	1076.0	7.84
390.5	1096.0	7.93
400.5	1106.0	8.01
420.5	1126.0	8.12
430.5	1136.0	8.21
450.5	1156.0	8.49
460.5	1166.0	8.68
480.5	1186.0	9.17
490.5	1196.0	9.32
510.5	1216.0	9.53
520.5	1226.0	9.60
540.5	1246.0	9.69
550.5	1256.0	9.72
570.5	1276.0	9.77
580.5	1286.0	9.82
600.5	1306.0	10.02
610.5	1316.0	10.15

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=798.5MHz (dB) @LO (dBm) +1
510.5	288.0	10.71
500.5	298.0	10.29
490.5	308.0	9.96
480.5	318.0	9.65
470.5	328.0	9.17
460.5	338.0	8.73
450.5	348.0	8.48
440.5	358.0	8.16
430.5	368.0	7.95
420.5	378.0	7.77
410.5	388.0	7.82
400.5	398.0	7.89
390.5	408.0	8.05
380.5	418.0	8.14
370.5	428.0	8.16
360.5	438.0	8.15
350.5	448.0	8.08
340.5	458.0	7.97
320.5	478.0	7.81
310.5	488.0	7.80
290.5	508.0	7.76
280.5	518.0	7.49
260.5	538.0	7.16
250.5	548.0	7.07
230.5	568.0	6.97
220.5	578.0	6.91
200.5	598.0	6.78
190.5	608.0	6.78
170.5	628.0	6.64
160.5	638.0	6.55
140.5	658.0	6.48
130.5	668.0	6.47
110.5	688.0	6.38
100.5	698.0	6.40
80.5	718.0	6.45
70.5	728.0	6.54
50.5	748.0	6.84
40.5	758.0	6.99
20.5	778.0	7.46
10.5	788.0	7.70

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB) @LO (dBm)			LO-IF ISOLATION (dB) @LO (dBm)		
	-1	+1	+3	-1	+1	+3
244.0	36.28	36.09	36.50	31.95	32.03	32.20
279.0	38.50	38.22	37.46	29.98	30.11	30.52
314.0	34.73	32.56	31.73	27.53	27.96	28.39
349.0	28.80	28.39	28.18	26.91	27.84	28.75
384.0	28.79	28.12	27.84	23.63	23.96	24.48
419.0	26.84	26.59	26.78	21.96	22.24	22.74
454.0	23.86	23.99	24.84	21.47	21.91	22.61
489.0	21.88	22.18	22.97	21.61	22.35	23.44
524.0	52.76	43.80	38.99	16.71	17.55	18.47
559.0	33.06	33.28	33.44	18.10	18.76	19.50
599.0	27.82	27.37	27.00	18.26	18.68	19.27
634.0	26.05	25.87	25.97	18.09	18.47	18.96
674.0	22.12	21.73	21.62	18.56	18.73	18.99
709.0	21.99	21.78	21.71	22.55	22.31	21.88
749.0	20.92	20.30	20.23	24.74	25.89	26.52
784.0	27.94	27.89	27.99	11.68	12.28	13.66
824.0	30.74	30.41	31.66	10.45	11.09	12.47
859.0	27.67	27.47	29.55	13.03	14.19	15.88
899.0	23.22	23.37	25.63	11.84	12.63	14.35
934.0	25.94	25.70	27.51	11.81	12.76	14.49
974.0	27.30	28.82	30.75	12.32	13.52	15.38
1009.0	25.86	26.52	27.79	13.50	14.56	15.96
1049.0	29.58	30.30	31.34	15.10	16.42	18.11
1084.0	27.20	28.10	29.05	15.71	16.95	18.64
1124.0	26.67	28.65	30.44	16.86	18.02	19.41
1159.0	27.26	29.53	31.75	18.22	19.50	20.93
1199.0	27.16	30.05	32.90	19.74	21.32	23.00
1234.0	27.78	31.74	36.10	21.43	23.64	26.03
1274.0	37.78	47.64	41.58	25.19	28.32	31.79
1309.0	36.90	35.02	33.86	24.28	26.59	29.03
1349.0	32.19	31.65	31.55	22.49	23.80	25.11
1384.0	26.10	25.94	25.99	22.58	24.04	25.38
1424.0	20.10	19.65	19.59	24.40	26.92	29.44
1459.0	17.06	16.63	16.83	24.33	24.93	25.02
1499.0	14.75	14.67	15.06	18.34	18.86	19.56
1534.0	13.16	13.49	14.20	17.10	18.03	19.16
1574.0	14.29	15.03	15.96	25.64	27.13	28.81
1609.0	15.66	16.61	17.66	28.93	31.29	34.21
1649.0	19.06	20.02	20.97	29.01	31.20	34.14
1684.0	22.99	23.18	23.57	25.87	27.19	28.95

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB) @LO (dBm)		
		-1	+1	+3
106.0	244.0	24.21	24.51	24.24
141.0	279.0	21.37	21.86	23.71
176.0	314.0	22.52	23.55	25.12
211.0	349.0	23.63	25.31	27.05
246.0	384.0	27.00	29.48	31.19
281.0	419.0	27.36	27.92	26.52
316.0	454.0	27.36	25.57	22.96
351.0	489.0	32.75	30.72	27.72
386.0	524.0	28.35	35.40	47.56
421.0	559.0	38.13	36.87	34.24
461.0	599.0	39.29	38.20	36.69
496.0	634.0	37.11	36.39	35.76
536.0	674.0	32.02	31.16	30.65
571.0	709.0	31.40	30.90	30.56
611.0	749.0	30.66	30.97	31.30
646.0	784.0	28.17	28.15	28.21
686.0	824.0	26.89	25.97	25.37
721.0	859.0	24.95	23.31	23.10
761.0	899.0	26.77	24.75	25.27
796.0	934.0	28.76	26.61	26.99
836.0	974.0	33.28	31.42	31.02
871.0	1009.0	33.42	35.02	36.08
911.0	1049.0	28.96	29.65	30.83
946.0	1084.0	27.70	27.79	28.30
986.0	1124.0	27.46	27.25	27.47
1021.0	1159.0	27.16	26.97	27.00
1061.0	1199.0	26.36	26.18	26.29
1096.0	1234.0	27.19	27.31	27.81
1136.0	1274.0	27.80	28.04	28.27
1171.0	1309.0	26.77	26.35	26.06
1211.0	1349.0	25.52	24.88	24.55
1246.0	1384.0	25.96	26.35	26.72
1286.0	1424.0	28.38	29.86	31.02
1321.0	1459.0	30.25	31.63	32.27
1361.0	1499.0	26.88	26.77	26.76
1396.0	1534.0	33.04	32.72	32.34
1436.0	1574.0	34.83	34.44	33.99
1471.0	1609.0	37.12	37.67	37.83
1511.0	1649.0	43.69	47.85	47.86
1546.0	1684.0	46.65	40.10	36.60

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1) @LO (dBm)		
		-1	+1	+3
106.0	244.0	4.56	4.14	3.82
141.0	279.0	2.41	2.17	2.03
176.0	314.0	1.64	1.51	1.44
211.0	349.0	1.20	1.14	1.19
246.0	384.0	1.07	1.11	1.20
281.0	419.0	1.22	1.23	1.27
316.0	454.0	1.36	1.35	1.36
351.0	489.0	1.46	1.43	1.42
386.0	524.0	1.50	1.44	1.42
421.0	559.0	1.50	1.46	1.45
461.0	599.0	1.60	1.55	1.54
496.0	634.0	1.68	1.64	1.62
536.0	674.0	1.59	1.54	1.50
571.0	709.0	1.58	1.52	1.47
611.0	749.0	1.39	1.30	1.24
646.0	784.0	1.26	1.28	1.29
686.0	824.0	1.39	1.40	1.40
721.0	859.0	1.42	1.43	1.43
761.0	899.0	1.45	1.46	1.47
796.0	934.0	1.51	1.53	1.54
836.0	974.0	1.54	1.56	1.57
871.0	1009.0	1.42	1.44	1.45
911.0	1049.0	1.34	1.38	1.40
946.0	1084.0	1.25	1.28	1.31
986.0	1124.0	1.08	1.12	1.14
1021.0	1159.0	1.09	1.10	1.12
1061.0	1199.0	1.32	1.31	1.32
1096.0	1234.0	1.53	1.53	1.54
1136.0	1274.0	1.77	1.78	1.81
1171.0	1309.0	1.93	1.94	1.96
1211.0	1349.0	2.07	2.08	2.10
1246.0	1384.0	2.16	2.15	2.17
1286.0	1424.0	2.27	2.22	2.20
1321.0	1459.0	2.33	2.24	2.19
1361.0	1499.0	2.54	2.38	2.27
1396.0	1534.0	2.42	2.26	2.17
1436.0	1574.0	2.37	2.23	2.13
1471.0	1609.0	2.41	2.28	2.18
1511.0	1649.0	2.57	2.45	2.36
1546.0	1684.0	2.93	2.84	2.77

LO (MHz)	LO VSWR (:1) @LO (dBm)		
	-1	+1	+3
244.0	4.51	4.53	4.55
279.0	4.30	4.32	4.34
314.0	4.18	4.20	4.23
349.0	4.17	4.18	4.20
384.0	4.14	4.15	4.15
419.0	4.19	4.19	4.18
454.0	4.00	3.99	3.96
489.0	3.70	3.66	3.62
524.0	3.42	3.37	3.32
559.0	3.07	3.04	3.01
599.0	2.75	2.73	2.72
634.0	2.52	2.51	2.50
674.0	2.33	2.32	2.32
709.0	2.22	2.22	2.22
749.0	2.15	2.15	2.16
784.0	2.07	2.07	2.07
824.0	2.12	2.13	2.13
859.0	2.31	2.32	2.30
899.0	2.55	2.54	2.49
934.0	2.70	2.66	2.57
974.0	2.81	2.75	2.68
1009.0	2.91	2.84	2.78
1049.0	2.87	2.83	2.78
1084.0	2.79	2.75	2.71
1124.0	2.61	2.57	2.55
1159.0	2.47	2.44	2.42
1199.0	2.35	2.33	2.33
1234.0	2.26	2.24	2.25
1274.0	2.18	2.16	2.18
1309.0	2.14	2.13	2.15
1349.0	2.11	2.10	2.12
1384.0	2.10	2.09	2.11
1424.0	2.14	2.13	2.15
1459.0	2.24	2.22	2.25
1499.0	2.49	2.48	2.50
1534.0	2.30	2.28	2.29
1574.0	2.20	2.22	2.27
1609.0	2.49	2.53	2.59
1649.0	2.92	2.96	3.01
1684.0	3.48	3.52	3.53

IF (OUT) (MHz)	IF VSWR @LO=914MHz (:1) @LO (dBm)		
	-1	+1	+3
10.0	1.34	1.41	1.42
30.0	1.32	1.37	1.38
50.0	1.34	1.38	1.40
70.0	1.41	1.45	1.46
90.0	1.44	1.47	1.48
110.0	1.48	1.51	1.52
130.0	1.55	1.58	1.59
150.0	1.68	1.70	1.71
170.0	1.72	1.74	1.75
190.0	1.79	1.80	1.81
210.0	1.88	1.90	1.91
230.0	1.97	1.99	2.00
250.0	1.98	2.00	2.01
270.0	2.05	2.07	2.07
290.0	2.14	2.16	2.17
310.0	2.17	2.18	2.19
330.0	2.16	2.18	2.18
350.0	2.19	2.21	2.22
370.0	2.25	2.26	2.27
390.0	2.21	2.22	2.23
410.0	2.22	2.23	2.24
440.0	2.18	2.19	2.19
460.0	2.22	2.23	2.23
490.0	2.21	2.22	2.22
510.0	2.19	2.20	2.20
540.0	2.22	2.22	2.22
560.0	2.21	2.21	2.20
590.0	2.20	2.19	2.18
610.0	2.15	2.14	2.13
640.0	2.15	2.13	2.12
660.0	2.18	2.15	2.13
690.0	2.29	2.26	2.25
710.0	2.49	2.46	2.45
740.0	2.73	2.70	2.69
760.0	2.85	2.83	2.82
790.0	2.96	2.95	2.95
810.0	3.02	3.01	3.00
840.0	3.10	3.10	3.10
860.0	3.10	3.11	3.12
890.0	2.97	2.99	3.00

Harmonics Tables

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	+1	5	14	18	26	33	30	39	34	51
1	-	17	+0	21	17	28	43	40	48	48	53	62
2	72	58	59	58	66	66	65	72	74	76	>78	>78
3	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
4	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
5	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
6	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
7	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
8	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
9	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
10	>90	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78	>78
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 752 MHz; -5.00 dBm.**
LO IN: 890 MHz; +1.00 dBm
IF OUT: 138 MHz; -12.12 dBm

RF HARMONICS ORDER	(-dBm)	(-dBc)										
0	-	-	9	15	23	29	36	44	40	50	44	61
1	-	16	+0	21	17	28	44	40	48	49	53	63
2	52	48	50	48	56	56	55	62	65	66	72	76
3	80	78	66	69	61	67	68	78	76	82	73	82
4	>90	>88	>88	>88	>88	87	>88	>88	>88	>88	>88	>88
5	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
6	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
7	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
8	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
9	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
10	>90	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88	>88
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: **RF IN: 752 MHz; 5.00 dBm.**
LO IN: 890 MHz; +1.00 dBm
IF OUT: 138 MHz; -2.11 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.