

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
2.0	32.0	7.09	6.81	6.58
4.0	34.0	6.68	6.40	6.19
5.0	35.0	6.62	6.34	6.12
10.0	40.0	6.54	6.25	6.02
51.1	81.1	6.18	5.88	5.69
92.0	122.0	6.17	5.85	5.68
133.0	163.0	6.16	5.85	5.72
173.9	203.9	6.20	5.87	5.75
214.9	244.9	6.12	5.83	5.72
255.8	285.8	6.20	5.88	5.73
337.7	367.7	6.21	5.89	5.77
378.7	408.7	6.21	5.93	5.79
419.6	449.6	6.26	5.97	5.82
440.1	470.1	6.26	5.99	5.83
481.1	511.1	6.36	6.04	5.87
501.5	531.5	6.31	6.02	5.90
542.5	572.5	6.42	6.14	5.96
563.0	593.0	6.43	6.18	6.04
603.9	633.9	6.52	6.31	6.17
665.3	695.3	6.69	6.40	6.30
685.8	715.8	6.67	6.45	6.30
726.8	756.8	6.83	6.52	6.36
747.2	777.2	6.89	6.59	6.40
788.2	818.2	7.12	6.65	6.47
808.7	838.7	7.26	6.74	6.51
849.6	879.6	7.53	6.88	6.55
870.1	900.1	7.71	7.04	6.67
911.1	941.1	8.02	7.33	6.88
931.5	961.5	8.31	7.56	7.03
972.5	1002.5	8.71	7.90	7.33
993.0	1023.0	8.94	8.18	7.55
1033.9	1063.9	9.28	8.55	7.92
1054.4	1084.4	9.43	8.71	8.16
1095.3	1125.3	9.78	9.07	8.44
1156.8	1186.8	10.11	9.39	8.79
1177.2	1207.2	10.25	9.52	8.92
1218.2	1248.2	10.42	9.65	9.18
1238.7	1268.7	10.49	9.78	9.32
1279.6	1309.6	10.77	10.19	9.80
1300.1	1330.1	10.95	10.37	10.06

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	17.26	20.30	18.82
51.1	81.1	16.74	17.65	19.18
92.0	122.0	14.72	17.20	20.51
133.0	163.0	16.79	20.84	19.84
173.9	203.9	17.32	19.65	26.13
214.9	244.9	18.65	20.56	22.59
255.8	285.8	22.56	20.24	21.68
296.8	326.8	20.39	22.81	25.09
337.7	367.7	17.65	20.36	19.65
378.7	408.7	17.64	17.81	26.11
419.6	449.6	17.16	18.21	19.16
440.1	470.1	22.67	23.79	23.56
481.1	511.1	19.18	22.36	23.55
501.5	531.5	18.44	15.93	17.10
542.5	572.5	15.45	24.27	19.27
563.0	593.0	14.77	18.01	24.66
603.9	633.9	12.37	12.80	15.91
624.4	654.4	11.33	12.92	14.56
665.3	695.3	11.84	13.59	16.21
685.8	715.8	13.28	15.27	18.35
726.8	756.8	13.04	17.11	23.56
747.2	777.2	11.99	18.34	21.27
788.2	818.2	10.13	17.81	20.47
808.7	838.7	7.97	15.40	19.58
849.6	879.6	6.56	11.80	22.44
870.1	900.1	6.54	10.54	19.45
911.1	941.1	6.91	9.77	15.23
931.5	961.5	7.35	9.96	14.41
972.5	1002.5	7.74	10.72	15.42
993.0	1023.0	8.38	11.23	14.91
1033.9	1063.9	8.04	10.04	13.11
1054.4	1084.4	8.37	9.94	12.54
1095.3	1125.3	7.82	9.00	11.09
1115.8	1145.8	7.89	9.41	11.02
1156.8	1186.8	8.26	9.06	11.35
1177.2	1207.2	7.79	9.59	12.03
1218.2	1248.2	9.12	10.83	12.77
1238.7	1268.7	10.17	12.12	13.16
1279.6	1309.6	11.03	13.04	13.51
1300.1	1330.1	11.44	13.10	13.71

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	0.91	0.64	0.45
51.1	81.1	0.82	0.61	0.39
92.0	122.0	0.71	0.54	0.35
133.0	163.0	0.73	0.50	0.34
173.9	203.9	0.70	0.48	0.33
214.9	244.9	0.65	0.48	0.33
255.8	285.8	0.76	0.47	0.33
296.8	326.8	0.73	0.49	0.34
337.7	367.7	0.73	0.50	0.36
378.7	408.7	0.64	0.47	0.34
419.6	449.6	0.63	0.47	0.34
440.1	470.1	0.69	0.47	0.33
481.1	511.1	0.67	0.49	0.34
501.5	531.5	0.72	0.50	0.35
542.5	572.5	0.77	0.52	0.37
563.0	593.0	0.81	0.57	0.38
603.9	633.9	0.85	0.59	0.41
624.4	654.4	0.92	0.64	0.44
665.3	695.3	0.99	0.67	0.47
685.8	715.8	1.02	0.71	0.47
726.8	756.8	1.14	0.79	0.56
747.2	777.2	1.23	0.89	0.62
788.2	818.2	1.28	0.97	0.69
808.7	838.7	1.28	0.99	0.72
849.6	879.6	1.34	1.08	0.79
870.1	900.1	1.24	1.03	0.78
911.1	941.1	1.14	1.03	0.82
931.5	961.5	1.03	0.94	0.76
972.5	1002.5	0.83	0.82	0.73
993.0	1023.0	0.69	0.69	0.64
1033.9	1063.9	0.52	0.54	0.51
1054.4	1084.4	0.41	0.46	0.44
1095.3	1125.3	0.32	0.34	0.35
1115.8	1145.8	0.36	0.33	0.30
1156.8	1186.8	0.29	0.27	0.26
1177.2	1207.2	0.28	0.28	0.28
1218.2	1248.2	0.33	0.29	0.27
1238.7	1268.7	0.35	0.30	0.27
1279.6	1309.6	0.38	0.32	0.26
1300.1	1330.1	0.38	0.33	0.24

Frequency Mixer

TUF-1+

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=300.1MHz (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)=600.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
290.0	10.1	5.97	10.0	20.1	5.66	590.0	10.1	6.35
282.8	17.3	6.00	24.9	35.0	5.56	575.1	25.0	6.28
275.6	24.5	5.95	39.7	49.8	5.58	560.3	39.8	6.25
268.5	31.6	5.94	54.6	64.7	5.66	545.4	54.7	6.21
261.3	38.8	5.88	69.5	79.6	5.64	530.5	69.6	6.23
254.1	46.0	5.91	84.4	94.5	5.70	515.6	84.5	6.19
246.9	53.2	5.91	99.2	109.3	5.68	500.8	99.3	6.13
239.7	60.4	5.92	114.1	124.2	5.69	485.9	114.2	6.12
232.6	67.5	5.88	129.0	139.1	5.68	471.0	129.1	6.06
225.4	74.7	5.88	143.8	153.9	5.71	456.2	143.9	6.10
218.2	81.9	5.85	158.7	168.8	5.75	441.3	158.8	6.10
211.0	89.1	5.91	173.6	183.7	5.76	426.4	173.7	6.13
203.8	96.3	5.85	188.5	198.6	5.75	411.5	188.6	6.08
196.7	103.4	5.86	203.3	213.4	5.73	396.7	203.4	6.06
189.5	110.6	5.83	218.2	228.3	5.73	381.8	218.3	6.10
182.3	117.8	5.82	233.1	243.2	5.72	366.9	233.2	6.08
175.1	125.0	5.82	247.9	258.0	5.77	352.1	248.0	6.11
167.9	132.2	5.81	262.8	272.9	5.79	337.2	262.9	6.09
160.8	139.3	5.82	277.7	287.8	5.79	322.3	277.8	6.14
153.6	146.5	5.77	292.6	302.7	5.79	307.4	292.7	6.12
146.4	153.7	5.80	307.4	317.5	5.77	292.6	307.5	6.11
139.2	160.9	5.82	322.3	332.4	5.81	277.7	322.4	6.10
132.1	168.0	5.84	337.2	347.3	5.79	262.8	337.3	6.10
124.9	175.2	5.81	352.1	362.2	5.82	247.9	352.2	6.15
117.7	182.4	5.82	366.9	377.0	5.85	233.1	367.0	6.13
110.5	189.6	5.82	381.8	391.9	5.84	218.2	381.9	6.18
103.3	196.8	5.83	396.7	406.8	5.84	203.3	396.8	6.17
96.2	203.9	5.84	411.5	421.6	5.79	188.5	411.6	6.17
89.0	211.1	5.81	426.4	436.5	5.86	173.6	426.5	6.18
81.8	218.3	5.81	441.3	451.4	5.89	158.7	441.4	6.16
74.6	225.5	5.80	456.2	466.3	5.89	143.8	456.3	6.20
67.4	232.7	5.82	471.0	481.1	5.88	129.0	471.1	6.17
60.3	239.8	5.82	485.9	496.0	5.87	114.1	486.0	6.18
53.1	247.0	5.82	500.8	510.9	5.91	99.2	500.9	6.15
45.9	254.2	5.82	515.6	525.7	5.90	84.4	515.7	6.16
38.7	261.4	5.85	530.5	540.6	5.95	69.5	530.6	6.17
31.5	268.6	5.87	545.4	555.5	5.98	54.6	545.5	6.18
24.4	275.7	5.90	560.3	570.4	6.02	39.7	560.4	6.22
17.2	282.9	5.89	575.1	585.2	6.00	24.9	575.2	6.25
10.0	290.1	5.92	590.0	600.1	5.98	10.0	590.1	6.31

REV. X2

TUF-1+

100818

Page 2 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (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



Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
2.0	87.30	81.85	77.21	68.80	72.15	73.61
4.0	78.00	76.35	73.81	66.70	68.25	68.21
5.0	75.70	74.35	72.61	65.80	66.65	66.71
10.0	69.63	69.58	68.44	62.53	62.18	61.74
51.1	61.70	62.73	63.60	54.48	55.97	55.64
92.0	58.28	58.95	59.33	52.97	53.83	53.67
133.0	55.96	56.59	56.74	52.76	52.25	51.83
173.9	53.82	54.49	54.69	52.27	51.48	50.37
214.9	52.81	52.98	52.96	52.21	50.43	49.21
255.8	51.29	51.70	51.73	51.55	49.40	48.05
337.7	49.52	49.70	49.71	48.41	46.85	45.85
378.7	48.12	48.50	48.55	46.31	45.39	45.01
419.6	46.95	47.01	46.97	45.17	44.05	43.27
440.1	46.46	46.52	46.63	44.33	43.64	42.82
481.1	46.26	46.14	46.06	44.02	43.84	43.52
501.5	46.22	45.94	45.84	43.08	43.08	42.95
542.5	46.63	46.46	45.97	42.72	42.47	42.46
563.0	46.37	46.23	45.90	41.89	41.48	41.21
603.9	45.84	45.54	45.15	41.44	41.43	40.76
665.3	44.09	43.76	43.38	39.32	40.48	40.65
685.8	43.77	43.40	43.06	38.68	40.13	40.78
726.8	42.56	42.45	42.24	37.08	38.94	40.34
747.2	42.14	42.20	42.11	36.41	38.18	39.67
788.2	40.98	41.11	41.19	35.27	36.61	38.12
808.7	40.55	40.59	40.47	35.31	36.48	37.91
849.6	40.22	40.47	40.48	34.86	35.52	36.97
870.1	40.25	40.38	40.51	35.53	35.71	36.99
911.1	40.10	40.26	40.31	35.70	35.42	36.37
931.5	40.15	40.23	40.31	36.48	35.91	36.52
972.5	40.33	40.46	40.55	37.19	36.45	36.57
993.0	39.99	40.03	39.86	38.07	37.36	37.05
1033.9	40.28	40.23	40.10	38.55	38.63	38.03
1054.4	40.19	40.41	40.57	38.41	39.30	39.35
1095.3	39.78	39.88	40.04	36.63	37.47	38.56
1156.8	38.84	38.55	38.32	33.95	33.05	32.62
1177.2	38.52	37.95	37.56	33.57	32.19	31.47
1218.2	37.95	37.15	36.71	32.69	30.84	29.88
1238.7	37.98	37.22	36.69	32.31	30.37	29.27
1279.6	37.55	36.60	36.02	31.70	29.61	28.41
1300.1	37.21	36.24	35.52	31.41	29.24	27.96

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	47.19	49.02	51.18
51.1	81.1	35.95	35.74	35.74
92.0	122.0	31.27	31.22	31.17
133.0	163.0	28.62	28.63	28.54
173.9	203.9	27.07	27.08	27.11
214.9	244.9	25.98	26.08	26.05
255.8	285.8	25.52	25.54	25.54
296.8	326.8	25.50	25.66	25.67
337.7	367.7	25.41	25.80	25.96
378.7	408.7	25.61	25.87	26.09
419.6	449.6	26.07	26.11	26.09
440.1	470.1	26.59	26.57	26.54
481.1	511.1	26.56	26.77	26.90
501.5	531.5	26.12	26.67	27.05
542.5	572.5	24.04	24.66	25.30
563.0	593.0	22.82	23.33	23.81
603.9	633.9	20.78	21.01	21.25
624.4	654.4	19.82	19.98	20.11
665.3	695.3	18.49	18.45	18.48
685.8	715.8	17.88	17.79	17.77
726.8	756.8	16.96	16.74	16.69
747.2	777.2	16.45	16.27	16.15
788.2	818.2	15.82	15.56	15.49
808.7	838.7	15.56	15.37	15.28
849.6	879.6	15.09	14.94	14.84
870.1	900.1	14.89	14.61	14.54
911.1	941.1	14.46	14.36	14.30
931.5	961.5	14.20	14.22	14.19
972.5	1002.5	14.00	14.08	14.10
993.0	1023.0	13.91	14.02	14.11
1033.9	1063.9	13.88	14.00	14.13
1054.4	1084.4	13.86	13.99	14.13
1095.3	1125.3	13.60	13.87	13.98
1115.8	1145.8	13.55	13.84	13.98
1156.8	1186.8	13.49	13.72	13.95
1177.2	1207.2	13.38	13.75	13.94
1218.2	1248.2	13.22	13.56	13.71
1238.7	1268.7	13.13	13.45	13.60
1279.6	1309.6	12.89	13.15	13.22
1300.1	1330.1	12.75	12.95	12.98

REV. X2

TUF-1+

100818

Page 3 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (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

TUF-1+

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)		
		@LO (dBm)		
		+4	+7	+10
2.0	32.0	1.53	1.56	1.58
4.0	34.0	1.28	1.31	1.34
5.0	35.0	1.22	1.25	1.29
10.0	40.0	1.10	1.15	1.20
51.1	81.1	1.09	1.04	1.09
92.0	122.0	1.07	1.06	1.11
133.0	163.0	1.08	1.09	1.14
173.9	203.9	1.09	1.10	1.15
214.9	244.9	1.10	1.13	1.18
255.8	285.8	1.13	1.16	1.20
296.8	326.8	1.16	1.19	1.23
337.7	367.7	1.18	1.21	1.25
378.7	408.7	1.20	1.23	1.27
419.6	449.6	1.22	1.25	1.28
440.1	470.1	1.25	1.28	1.31
481.1	511.1	1.27	1.31	1.35
501.5	531.5	1.30	1.34	1.38
542.5	572.5	1.31	1.36	1.41
563.0	593.0	1.32	1.37	1.42
603.9	633.9	1.33	1.38	1.42
624.4	654.4	1.33	1.38	1.42
665.3	695.3	1.33	1.38	1.42
685.8	715.8	1.34	1.38	1.42
726.8	756.8	1.33	1.36	1.40
747.2	777.2	1.33	1.36	1.39
788.2	818.2	1.36	1.37	1.39
808.7	838.7	1.38	1.39	1.40
849.6	879.6	1.48	1.47	1.47
870.1	900.1	1.55	1.52	1.52
911.1	941.1	1.72	1.67	1.65
931.5	961.5	1.82	1.76	1.73
972.5	1002.5	2.03	1.96	1.91
993.0	1023.0	2.13	2.06	2.01
1033.9	1063.9	2.34	2.27	2.21
1054.4	1084.4	2.42	2.35	2.30
1095.3	1125.3	2.60	2.53	2.48
1115.8	1145.8	2.67	2.60	2.55
1156.8	1186.8	2.78	2.72	2.67
1177.2	1207.2	2.82	2.77	2.72
1218.2	1248.2	2.89	2.84	2.79
1238.7	1268.7	2.92	2.88	2.83
1279.6	1309.6	2.97	2.95	2.92
1300.1	1330.1	3.00	2.98	2.95

LO (MHz)	LO VSWR (:1)		
	@LO (dBm)		
	+4	+7	+10
2.0	1.90	2.71	3.80
4.0	1.82	2.64	3.73
5.0	1.81	2.62	3.70
10.0	1.67	2.47	3.54
51.1	1.75	2.61	3.72
92.0	1.65	2.38	3.30
133.0	1.71	2.54	3.58
173.9	1.64	2.37	3.29
214.9	1.69	2.44	3.42
255.8	1.68	2.43	3.37
296.8	1.66	2.38	3.29
337.7	1.72	2.47	3.41
378.7	1.68	2.38	3.26
419.6	1.73	2.46	3.37
440.1	1.74	2.46	3.35
481.1	1.72	2.40	3.25
501.5	1.74	2.43	3.29
542.5	1.78	2.46	3.31
563.0	1.78	2.44	3.27
603.9	1.80	2.47	3.32
624.4	1.83	2.49	3.34
665.3	1.82	2.45	3.25
685.8	1.83	2.45	3.25
726.8	1.87	2.48	3.27
747.2	1.88	2.47	3.25
788.2	1.92	2.50	3.27
808.7	1.96	2.55	3.31
849.6	1.99	2.57	3.30
870.1	2.01	2.59	3.33
911.1	2.05	2.64	3.38
931.5	2.06	2.65	3.38
972.5	2.07	2.66	3.40
993.0	2.08	2.68	3.42
1033.9	2.08	2.66	3.39
1054.4	2.08	2.66	3.38
1095.3	2.09	2.65	3.37
1115.8	2.08	2.63	3.34
1156.8	2.07	2.60	3.30
1177.2	2.07	2.60	3.30
1218.2	2.06	2.57	3.25
1238.7	2.06	2.57	3.25
1279.6	2.09	2.60	3.29
1300.1	2.11	2.60	3.28

IF (OUT) (MHz)	IF VSWR @LO=600.1MHz (:1)		
	@LO (dBm)		
	+4	+7	+10
2.0	1.34	1.19	1.09
4.0	1.34	1.19	1.10
5.0	1.34	1.19	1.09
10.0	1.35	1.19	1.10
25.1	1.68	1.50	1.35
40.3	1.71	1.51	1.36
55.4	1.76	1.54	1.39
70.5	1.79	1.57	1.42
85.6	1.76	1.56	1.41
100.8	1.73	1.54	1.38
115.9	1.73	1.54	1.39
131.0	1.76	1.57	1.42
146.2	1.80	1.61	1.46
161.3	1.80	1.60	1.46
176.4	1.78	1.58	1.44
191.5	1.77	1.58	1.43
206.7	1.77	1.59	1.44
221.8	1.77	1.59	1.45
236.9	1.77	1.59	1.45
252.1	1.78	1.60	1.47
267.2	1.81	1.63	1.49
282.3	1.82	1.65	1.51
297.4	1.81	1.64	1.51
312.6	1.81	1.64	1.51
327.7	1.83	1.67	1.53
342.8	1.87	1.70	1.57
357.9	1.89	1.73	1.60
373.1	1.90	1.73	1.61
388.2	1.89	1.73	1.61
403.3	1.90	1.74	1.61
418.5	1.91	1.76	1.63
433.6	1.91	1.76	1.64
448.7	1.91	1.76	1.64
463.8	1.92	1.77	1.66
479.0	1.94	1.79	1.69
494.1	1.96	1.81	1.71
509.2	1.96	1.82	1.71
524.4	1.95	1.81	1.70
539.5	1.94	1.80	1.70
554.6	1.94	1.81	1.71
569.7	1.97	1.84	1.75
584.9	2.01	1.88	1.79
600.0	2.17	2.20	2.23

REV. X2

TUF-1+

100818

Page 4 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant

P.O. Box 350166, Brooklyn, New York 11235-0003 (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



Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	20	26	27	52	23	39	27	53	28	50
1	-	20	+0	29	12	32	17	34	31	50	50	49
2	>100	70	61	71	62	70	61	72	67	73	62	>80
3	>100	>80	73	>80	76	>80	65	>80	70	>80	72	>80
4	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
5	>100	>80	>80	>80	>80	>80	79	>80	>80	>80	>80	>80
6	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
7	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
8	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
9	>100	>80	>80	>80	>80	>80	>80	>80	>80	76	>80	>80
10	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:

RF IN: 300.1 MHz; -14.00 dBm.

LO IN: 330.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -19.96 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	29	36	39	57	33	52	40	64	44	71
1	-	20	+0	29	12	33	18	36	32	56	53	55
2	>100	61	53	66	54	64	55	67	57	66	55	76
3	>100	53	50	58	52	60	46	58	46	60	56	67
4	>100	81	>90	78	77	76	77	73	69	78	83	>90
5	>100	81	65	65	60	68	58	67	57	77	57	73
6	>100	>90	87	90	87	>90	87	>90	87	>90	90	>90
7	>100	>90	79	84	75	>90	80	88	89	85	83	86
8	>100	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90
9	>100	>90	>90	>90	88	>90	88	>90	>90	>90	>90	>90
10	>100	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90	>90
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions:

RF IN: 300.1 MHz; -4.00 dBm.

LO IN: 330.01 MHz; +7.00 dBm

IF OUT: 29.91 MHz; -10.01 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.

REV. X2

TUF-1+

100818

Page 5 of 5



Mini-Circuits®

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

P.O. Box 350166, Brooklyn, New York 11235-0003 (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

