

Frequency Mixer

TUF-11A

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
750.1	780.1	11.09	10.45	10.11
830.3	860.3	9.41	8.92	8.64
910.6	940.6	8.11	7.69	7.57
990.8	1020.8	7.36	7.03	6.87
1071.1	1101.1	7.16	6.84	6.67
1151.3	1181.3	7.17	6.90	6.76
1231.5	1261.5	7.30	7.05	7.01
1311.8	1341.8	7.50	7.25	7.19
1392.0	1422.0	7.72	7.42	7.31
1472.3	1502.3	7.75	7.36	7.17
1552.5	1582.5	7.72	7.17	6.93
1632.7	1662.7	7.70	7.03	6.73
1713.0	1743.0	7.70	6.98	6.59
1793.2	1823.2	7.80	7.10	6.67
1873.5	1903.5	7.89	7.20	6.82
1953.7	1983.7	8.05	7.35	6.94
2033.9	2063.9	8.04	7.40	7.00
2114.2	2144.2	8.04	7.43	7.03
2194.4	2224.4	8.10	7.51	7.15
2294.7	2324.7	8.22	7.64	7.31
2375.0	2405.0	8.36	7.74	7.38
2475.2	2505.2	8.34	7.80	7.48
2555.5	2585.5	8.24	7.71	7.48
2655.8	2685.8	8.32	7.76	7.60
2736.0	2766.0	8.48	7.99	7.84
2836.3	2866.3	8.57	8.07	7.87
2916.6	2946.6	8.61	8.16	7.98
3016.9	3046.9	8.67	8.26	8.16
3097.1	3127.1	8.66	8.27	8.18
3197.4	3227.4	8.74	8.23	8.07
3277.6	3307.6	8.72	8.16	7.94
3377.9	3407.9	8.97	8.27	8.07
3458.2	3488.2	9.17	8.44	8.18
3558.5	3588.5	9.49	8.62	8.36
3638.7	3668.7	9.79	8.71	8.40
3739.0	3769.0	10.23	8.87	8.48
3819.3	3849.3	10.76	9.11	8.59
3919.6	3949.6	11.57	9.29	8.75
3999.8	4029.8	12.58	9.63	8.69
4100.1	4130.1	13.84	10.24	8.78

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
750.1	780.1	12.32	13.62	15.77
830.3	860.3	8.62	9.19	9.01
910.6	940.6	5.90	6.81	6.92
990.8	1020.8	5.38	6.72	7.71
1071.1	1101.1	6.45	8.80	10.99
1151.3	1181.3	7.79	10.79	12.99
1231.5	1261.5	10.70	13.45	15.53
1311.8	1341.8	17.57	21.53	21.48
1392.0	1422.0	20.89	20.37	17.76
1472.3	1502.3	16.00	20.89	19.43
1552.5	1582.5	14.93	14.07	13.55
1632.7	1662.7	11.02	10.49	10.91
1713.0	1743.0	8.83	8.95	9.75
1793.2	1823.2	7.87	9.69	9.90
1873.5	1903.5	7.42	9.07	10.38
1953.7	1983.7	7.49	8.63	10.17
2033.9	2063.9	7.39	8.33	8.99
2114.2	2144.2	7.32	8.65	9.91
2194.4	2224.4	7.13	8.26	9.24
2294.7	2324.7	7.53	8.39	9.40
2375.0	2405.0	7.49	8.71	9.95
2475.2	2505.2	7.95	8.96	10.64
2555.5	2585.5	8.64	9.88	11.50
2655.8	2685.8	10.35	12.59	12.47
2736.0	2766.0	10.99	12.87	13.65
2836.3	2866.3	10.43	14.31	15.34
2916.6	2946.6	11.24	13.96	14.24
3016.9	3046.9	10.62	13.96	15.66
3097.1	3127.1	11.38	12.82	14.87
3197.4	3227.4	11.76	12.51	12.68
3277.6	3307.6	10.68	13.35	14.12
3377.9	3407.9	11.10	13.44	15.88
3458.2	3488.2	11.50	14.72	15.96
3558.5	3588.5	11.20	12.94	15.48
3638.7	3668.7	12.52	13.15	15.63
3739.0	3769.0	13.20	12.64	15.70
3819.3	3849.3	13.83	14.41	15.19
3919.6	3949.6	10.25	13.05	15.74
3999.8	4029.8	6.21	10.42	16.75
4100.1	4130.1	4.40	9.64	13.49

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
750.1	780.1	0.20	0.27	0.32
830.3	860.3	0.86	0.78	0.76
910.6	940.6	1.26	1.05	0.90
990.8	1020.8	1.19	0.93	0.77
1071.1	1101.1	0.90	0.64	0.54
1151.3	1181.3	0.67	0.42	0.34
1231.5	1261.5	0.53	0.31	0.27
1311.8	1341.8	0.55	0.33	0.29
1392.0	1422.0	0.66	0.41	0.32
1472.3	1502.3	0.90	0.64	0.52
1552.5	1582.5	1.18	0.97	0.82
1632.7	1662.7	1.37	1.23	1.07
1713.0	1743.0	1.38	1.27	1.12
1793.2	1823.2	1.34	1.16	1.03
1873.5	1903.5	1.25	1.06	0.91
1953.7	1983.7	1.13	0.92	0.81
2033.9	2063.9	1.08	0.87	0.70
2114.2	2144.2	1.04	0.80	0.68
2194.4	2224.4	1.01	0.77	0.68
2294.7	2324.7	0.98	0.75	0.70
2375.0	2405.0	0.96	0.78	0.72
2475.2	2505.2	1.01	0.79	0.74
2555.5	2585.5	1.00	0.80	0.75
2655.8	2685.8	1.04	0.78	0.70
2736.0	2766.0	0.93	0.69	0.58
2836.3	2866.3	0.81	0.58	0.48
2916.6	2946.6	0.73	0.48	0.41
3016.9	3046.9	0.77	0.40	0.32
3097.1	3127.1	0.75	0.36	0.29
3197.4	3227.4	0.78	0.39	0.23
3277.6	3307.6	0.87	0.45	0.27
3377.9	3407.9	0.88	0.46	0.28
3458.2	3488.2	0.88	0.43	0.26
3558.5	3588.5	0.88	0.49	0.24
3638.7	3668.7	0.85	0.53	0.31
3739.0	3769.0	0.81	0.57	0.31
3819.3	3849.3	0.66	0.60	0.35
3919.6	3949.6	0.28	0.60	0.34
3999.8	4029.8	-0.24	0.51	0.29
4100.1	4130.1	-0.93	0.30	0.30



Frequency Mixer

TUF-11A

Typical Performance Data

IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1650.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1400.1MHz (dB)	IF (OUT) (MHz)	LO (MHz)	CONVERSION LOSS VS. IF FREQUENCY @RF(IN)=1900.1MHz (dB)
		@LO (dBm)			@LO (dBm)			@LO (dBm)
		+7			+7			+7
250.0	1400.1	7.13	10.0	1410.1	7.58	500.0	1400.1	6.78
237.4	1412.7	7.14	22.6	1422.7	7.45	487.4	1412.7	6.78
224.7	1425.4	7.09	35.1	1435.2	7.35	474.9	1425.2	6.78
212.1	1438.0	7.07	47.7	1447.8	7.30	462.3	1437.8	6.77
199.5	1450.6	7.06	60.3	1460.4	7.29	449.7	1450.4	6.75
186.8	1463.3	6.99	72.8	1472.9	7.26	437.2	1462.9	6.79
174.2	1475.9	6.98	85.4	1485.5	7.30	424.6	1475.5	6.80
161.6	1488.5	6.99	97.9	1498.0	7.33	412.1	1488.0	6.75
148.9	1501.2	6.93	110.5	1510.6	7.30	399.5	1500.6	6.72
136.3	1513.8	6.96	123.1	1523.2	7.31	386.9	1513.2	6.73
123.7	1526.4	6.95	135.6	1535.7	7.31	374.4	1525.7	6.70
111.1	1539.0	6.91	148.2	1548.3	7.30	361.8	1538.3	6.73
98.4	1551.7	6.96	160.8	1560.9	7.37	349.2	1550.9	6.72
85.8	1564.3	6.93	173.3	1573.4	7.36	336.7	1563.4	6.71
73.2	1576.9	6.93	185.9	1586.0	7.36	324.1	1576.0	6.75
60.5	1589.6	7.01	198.5	1598.6	7.40	311.5	1588.6	6.74
47.9	1602.2	7.01	211.0	1611.1	7.37	299.0	1601.1	6.76
35.3	1614.8	7.11	223.6	1623.7	7.38	286.4	1613.7	6.78
22.6	1627.5	7.26	236.2	1636.3	7.38	273.8	1626.3	6.73
10.0	1640.1	7.54	248.7	1648.8	7.32	261.3	1638.8	6.77
10.0	1660.1	7.31	261.3	1661.4	7.34	248.7	1651.4	6.80
22.6	1672.7	7.06	273.8	1673.9	7.31	236.2	1663.9	6.78
35.3	1685.4	7.03	286.4	1686.5	7.28	223.6	1676.5	6.84
47.9	1698.0	6.97	299.0	1699.1	7.31	211.0	1689.1	6.85
60.5	1710.6	6.91	311.5	1711.6	7.26	198.5	1701.6	6.84
73.2	1723.3	6.95	324.1	1724.2	7.24	185.9	1714.2	6.92
85.8	1735.9	6.89	336.7	1736.8	7.26	173.3	1726.8	6.89
98.4	1748.5	6.90	349.2	1749.3	7.23	160.8	1739.3	6.93
111.1	1761.2	6.93	361.8	1761.9	7.25	148.2	1751.9	6.99
123.7	1773.8	6.88	374.4	1774.5	7.25	135.6	1764.5	6.98
136.3	1786.4	6.91	386.9	1787.0	7.23	123.1	1777.0	7.06
148.9	1799.0	6.90	399.5	1799.6	7.23	110.5	1789.6	7.08
161.6	1811.7	6.83	412.1	1812.2	7.21	97.9	1802.2	7.06
174.2	1824.3	6.85	424.6	1824.7	7.19	85.4	1814.7	7.14
186.8	1836.9	6.81	437.2	1837.3	7.18	72.8	1827.3	7.13
199.5	1849.6	6.79	449.7	1849.8	7.12	60.3	1839.8	7.17
212.1	1862.2	6.81	462.3	1862.4	7.11	47.7	1852.4	7.27
224.7	1874.8	6.78	474.9	1875.0	7.11	35.1	1865.0	7.30
237.4	1887.5	6.82	487.4	1887.5	7.08	22.6	1877.5	7.47
250.0	1900.1	6.82	500.0	1900.1	7.07	10.0	1890.1	7.50

REV. X2
TUF-11A
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 11235-0006 (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-11A

Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
750.1	49.89	51.88	53.30	30.93	31.47	31.68
830.3	47.25	49.53	50.68	31.46	32.08	32.29
910.6	43.98	46.27	48.10	32.87	33.52	32.89
990.8	41.99	43.40	44.11	34.33	34.01	31.66
1071.1	41.47	41.69	41.42	34.93	32.03	29.12
1151.3	40.96	40.86	40.22	34.51	29.95	26.99
1231.5	40.16	40.24	39.77	31.71	27.50	24.84
1311.8	39.51	40.07	40.18	29.08	25.68	23.42
1392.0	39.60	40.98	41.84	26.38	23.73	21.86
1472.3	40.28	43.19	45.42	24.49	22.20	20.59
1552.5	40.73	45.02	49.25	22.92	20.99	19.58
1632.7	39.87	43.33	46.28	21.75	20.10	18.79
1713.0	37.93	39.91	41.03	21.00	19.53	18.38
1793.2	36.04	37.37	38.61	20.60	19.25	18.11
1873.5	34.70	35.31	35.89	20.37	19.20	18.21
1953.7	33.61	33.81	34.05	20.76	19.54	18.64
2033.9	32.62	32.57	32.75	21.50	20.39	19.48
2114.2	31.60	31.33	31.27	23.04	21.89	20.84
2194.4	30.49	30.17	30.16	25.41	24.31	23.28
2294.7	29.13	28.81	28.77	29.96	29.59	28.10
2375.0	28.11	27.90	27.95	30.63	32.01	32.04
2475.2	27.33	27.10	27.29	24.73	25.52	26.63
2555.5	26.71	26.81	27.21	20.97	21.57	22.58
2655.8	26.27	26.59	27.18	18.12	18.71	19.67
2736.0	26.13	26.61	27.23	16.68	17.40	18.36
2836.3	26.35	27.03	27.72	15.62	16.50	17.51
2916.6	26.76	27.60	28.48	15.26	16.18	17.25
3016.9	27.25	28.11	28.86	15.00	15.95	17.03
3097.1	27.69	28.54	29.39	15.12	16.02	17.02
3197.4	28.10	28.95	29.69	15.26	16.28	17.11
3277.6	28.51	29.18	29.93	15.52	16.44	17.19
3377.9	29.06	29.50	30.02	15.83	16.55	17.07
3458.2	29.54	29.89	30.19	16.19	16.65	16.87
3558.5	30.26	30.31	30.33	16.61	16.72	16.61
3638.7	30.95	30.76	30.68	16.78	16.57	16.23
3739.0	31.87	31.22	31.00	16.83	16.37	15.82
3819.3	32.57	31.37	31.15	16.53	15.92	15.43
3919.6	34.05	31.76	31.13	15.98	15.44	15.03
3999.8	35.15	32.37	31.41	15.30	15.02	14.67
4100.1	35.98	32.74	30.67	14.38	14.33	13.95

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
750.1	780.1	24.01	23.63	23.37
830.3	860.3	22.86	22.60	22.48
910.6	940.6	22.56	22.51	22.62
990.8	1020.8	22.86	23.24	23.60
1071.1	1101.1	23.33	24.08	24.68
1151.3	1181.3	23.20	23.93	24.41
1231.5	1261.5	22.53	23.07	23.42
1311.8	1341.8	21.95	22.33	22.58
1392.0	1422.0	21.47	21.71	21.99
1472.3	1502.3	21.22	21.50	21.79
1552.5	1582.5	21.52	21.79	22.13
1632.7	1662.7	22.40	22.80	23.07
1713.0	1743.0	23.72	24.22	24.85
1793.2	1823.2	25.06	25.46	26.05
1873.5	1903.5	26.47	26.90	27.34
1953.7	1983.7	27.42	27.78	28.15
2033.9	2063.9	27.77	28.15	28.45
2114.2	2144.2	27.85	28.08	28.18
2194.4	2224.4	27.34	27.60	27.56
2294.7	2324.7	26.47	26.52	26.28
2375.0	2405.0	25.86	25.74	25.24
2475.2	2505.2	24.95	24.45	23.55
2555.5	2585.5	24.46	23.69	22.62
2655.8	2685.8	24.03	23.17	22.24
2736.0	2766.0	23.60	22.79	22.05
2836.3	2866.3	23.61	23.00	22.30
2916.6	2946.6	23.83	23.41	22.86
3016.9	3046.9	24.29	23.93	23.60
3097.1	3127.1	24.67	24.36	24.06
3197.4	3227.4	24.95	24.69	24.32
3277.6	3307.6	24.99	24.82	24.42
3377.9	3407.9	24.92	24.70	24.39
3458.2	3488.2	24.95	24.64	24.23
3558.5	3588.5	24.59	24.28	23.89
3638.7	3668.7	24.07	23.79	23.38
3739.0	3769.0	23.13	23.09	22.72
3819.3	3849.3	22.26	22.44	22.04
3919.6	3949.6	20.86	21.28	20.94
3999.8	4029.8	19.83	20.21	19.93
4100.1	4130.1	18.91	19.36	19.32



Frequency Mixer

TUF-11A

Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)		
		@LO (dBm)		
		+4	+7	+10
750.1	780.1	8.27	7.83	7.53
830.3	860.3	5.56	5.23	5.04
910.6	940.6	3.67	3.44	3.32
990.8	1020.8	2.67	2.52	2.44
1071.1	1101.1	2.26	2.22	2.25
1151.3	1181.3	2.15	2.25	2.37
1231.5	1261.5	2.09	2.27	2.45
1311.8	1341.8	1.96	2.15	2.32
1392.0	1422.0	1.76	1.91	2.03
1472.3	1502.3	1.48	1.60	1.70
1552.5	1582.5	1.19	1.31	1.40
1632.7	1662.7	1.16	1.24	1.32
1713.0	1743.0	1.45	1.45	1.52
1793.2	1823.2	1.73	1.70	1.73
1873.5	1903.5	2.01	1.97	1.96
1953.7	1983.7	2.33	2.28	2.26
2033.9	2063.9	2.63	2.58	2.56
2114.2	2144.2	2.84	2.78	2.73
2194.4	2224.4	2.93	2.88	2.81
2294.7	2324.7	3.03	2.99	2.94
2375.0	2405.0	3.23	3.19	3.12
2475.2	2505.2	3.41	3.40	3.34
2555.5	2585.5	3.32	3.31	3.27
2655.8	2685.8	3.20	3.18	3.17
2736.0	2766.0	3.23	3.23	3.24
2836.3	2866.3	3.40	3.42	3.42
2916.6	2946.6	3.43	3.45	3.45
3016.9	3046.9	3.23	3.28	3.29
3097.1	3127.1	3.15	3.19	3.25
3197.4	3227.4	3.33	3.30	3.37
3277.6	3307.6	3.50	3.44	3.48
3377.9	3407.9	3.54	3.43	3.40
3458.2	3488.2	3.45	3.33	3.30
3558.5	3588.5	3.50	3.35	3.34
3638.7	3668.7	3.75	3.52	3.50
3739.0	3769.0	4.04	3.67	3.60
3819.3	3849.3	4.10	3.62	3.54
3919.6	3949.6	4.18	3.56	3.40
3999.8	4029.8	4.46	3.65	3.40
4100.1	4130.1	5.10	4.05	3.63

LO (MHz)	LO VSWR (:1)		
	@LO (dBm)		
	+4	+7	+10
750.1	1.68	2.12	2.79
830.3	1.67	2.07	2.70
910.6	1.66	2.01	2.61
990.8	1.66	1.96	2.52
1071.1	1.63	1.89	2.42
1151.3	1.62	1.84	2.34
1231.5	1.61	1.79	2.26
1311.8	1.60	1.75	2.20
1392.0	1.58	1.72	2.16
1472.3	1.57	1.71	2.14
1552.5	1.57	1.71	2.15
1632.7	1.57	1.72	2.14
1713.0	1.57	1.73	2.13
1793.2	1.58	1.75	2.16
1873.5	1.60	1.77	2.17
1953.7	1.61	1.78	2.18
2033.9	1.62	1.77	2.16
2114.2	1.63	1.74	2.11
2194.4	1.63	1.69	2.01
2294.7	1.62	1.62	1.89
2375.0	1.61	1.56	1.77
2475.2	1.58	1.48	1.65
2555.5	1.55	1.42	1.56
2655.8	1.53	1.37	1.46
2736.0	1.49	1.31	1.39
2836.3	1.44	1.25	1.30
2916.6	1.39	1.19	1.24
3016.9	1.31	1.13	1.21
3097.1	1.25	1.08	1.21
3197.4	1.15	1.09	1.26
3277.6	1.07	1.15	1.33
3377.9	1.08	1.26	1.46
3458.2	1.18	1.36	1.57
3558.5	1.34	1.52	1.73
3638.7	1.48	1.65	1.86
3739.0	1.68	1.83	2.04
3819.3	1.86	1.98	2.18
3919.6	2.13	2.18	2.36
3999.8	2.36	2.34	2.47
4100.1	2.66	2.61	2.69

IF (OUT) (MHz)	IF VSWR @LO=1900.1MHz (:1)		
	@LO (dBm)		
	+4	+7	+10
10.0	1.89	1.77	1.86
22.6	1.32	1.23	1.21
35.1	1.29	1.16	1.11
47.7	1.29	1.14	1.04
60.3	1.31	1.16	1.05
72.8	1.32	1.17	1.06
85.4	1.32	1.17	1.07
97.9	1.31	1.16	1.05
110.5	1.28	1.14	1.02
123.1	1.27	1.12	1.04
135.6	1.27	1.12	1.05
148.2	1.30	1.15	1.05
160.8	1.32	1.17	1.06
173.3	1.32	1.17	1.07
185.9	1.30	1.15	1.06
198.5	1.26	1.12	1.05
211.0	1.25	1.10	1.05
223.6	1.25	1.12	1.05
236.2	1.27	1.14	1.08
248.7	1.28	1.15	1.10
261.3	1.26	1.14	1.11
273.8	1.25	1.12	1.09
286.4	1.24	1.11	1.08
299.0	1.25	1.12	1.09
311.5	1.25	1.14	1.12
324.1	1.24	1.15	1.16
336.7	1.24	1.15	1.17
349.2	1.24	1.15	1.16
361.8	1.26	1.16	1.16
374.4	1.27	1.18	1.18
386.9	1.28	1.20	1.20
399.5	1.26	1.19	1.22
412.1	1.25	1.19	1.22
424.6	1.24	1.18	1.22
437.2	1.25	1.20	1.23
449.7	1.26	1.22	1.27
462.3	1.27	1.25	1.31
474.9	1.26	1.25	1.32
487.4	1.25	1.24	1.31
500.0	1.26	1.25	1.31

Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	+8	12	6	30	17	28	21	30	36	39
1	-	16	+0	32	15	50	44	44	51	45	39	52
2	>100	57	57	58	52	60	51	64	54	61	55	59
3	>100	77	66	73	59	>79	77	>79	73	>79	76	77
4	>100	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
5	>100	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
6	>100	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
7	>100	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
8	>100	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
9	>100	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
10	>100	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79	>79
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1650.1 MHz; -14.00 dBm.
 LO IN: 1690.01 MHz; +7.00 dBm
 IF OUT: 39.91 MHz; -21.03 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	2	23	16	42	29	43	35	45	54	55
1	-	16	+0	33	15	50	45	48	56	51	48	67
2	84	46	47	46	40	52	42	58	49	58	50	57
3	>100	57	46	49	39	61	49	73	58	64	63	63
4	>100	84	76	63	66	56	66	64	64	69	64	66
5	>100	74	82	74	57	77	53	82	63	81	70	84
6	>100	74	84	85	82	66	66	85	78	75	80	85
7	>100	>89	79	>89	>89	>89	75	82	71	>89	77	89
8	>100	>89	>89	>89	>89	>89	>89	86	88	79	>89	>89
9	>100	>89	>89	>89	>89	>89	>89	>89	87	>89	85	>89
10	>100	>89	>89	>89	>89	>89	>89	>89	>89	>89	>89	>89
	RF CAL	0	1	2	3	4	5	6	7	8	9	10

LO HARMONICS ORDER

Test conditions: RF IN: 1650.1 MHz; -4.00 dBm.
 LO IN: 1690.01 MHz; +7.00 dBm
 IF OUT: 39.91 MHz; -11.06 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-11A
 100818
 Page 5 of 5



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED • RoHS compliant
 P.O. Box 350166, Brooklyn, New York 11235-0006 (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 minicircuits.com