

# Frequency Mixers Models

T-74-09-01

LEVEL 7 (+7dBm LO, up to +1dBm RF)

RMS-2  
 LRMS-2R  
 LRMS-2



computer-automated performance data  
 typical production unit / for data of other models consult factory

## mixer conversion loss and isolation

RF MHz	LO MHz	Conversion Loss (dB)			freq. (MHz)	Isolation L-R (dB)			Isolation L-I (dB)		
		+4dBm	+7dBm	+10dBm		+4dBm	+7dBm	+10dBm	+4dBm	+7dBm	+10dBm
5.000	35.000	7.36	6.93	6.73	5.000	63.51	67.42	71.51	54.09	57.23	60.91
10.000	40.000	7.46	7.00	6.77	10.000	62.56	66.49	69.85	53.93	56.87	60.05
20.000	50.000	7.48	6.97	6.74	20.000	62.58	65.94	67.41	54.31	56.78	58.53
35.151	65.151	7.44	6.92	6.69	35.151	61.45	62.92	63.63	54.38	55.59	55.96
50.000	80.000	7.34	6.86	6.64	50.000	59.46	60.51	60.50	53.62	53.87	53.50
65.303	95.303	7.34	6.89	6.83	65.303	58.47	58.52	58.32	52.68	52.15	51.36
100.000	70.000	7.28	6.84	6.63	100.000	55.37	55.07	54.79	50.33	48.85	47.88
155.758	125.758	7.13	6.72	6.69	155.758	52.32	52.10	52.01	47.76	46.19	45.23
200.000	170.000	7.05	6.70	6.57	200.000	50.02	49.75	49.52	46.56	44.71	43.39
246.212	216.212	7.10	6.75	6.62	246.212	48.29	48.10	47.91	45.70	43.71	42.09
306.515	276.515	7.36	6.96	6.76	306.515	45.94	45.81	45.93	44.23	41.99	40.44
366.818	336.818	7.32	6.97	6.74	366.818	44.47	44.49	44.55	41.86	39.66	38.17
427.121	397.121	7.33	6.99	6.72	427.121	41.97	42.09	41.90	39.61	37.81	36.16
500.000	470.000	7.39	7.03	6.79	500.000	39.79	39.89	40.06	36.42	35.06	33.99
577.879	547.879	7.76	7.29	6.96	577.879	38.54	38.51	38.57	33.96	32.59	31.15
668.333	638.333	8.01	7.63	7.29	668.333	36.95	36.87	36.82	30.50	29.46	28.24
758.788	728.788	8.26	7.68	7.26	758.788	35.07	34.71	34.32	27.57	26.72	25.82
849.242	819.242	8.75	7.98	7.47	849.242	33.45	33.07	32.91	24.48	23.71	23.08
909.545	879.545	9.29	8.51	7.90	909.545	32.65	32.47	32.32	22.84	22.35	21.55
1000.000	970.000	9.54	8.90	8.34	1000.000	32.22	32.02	31.76	20.37	20.21	19.62

## mixer VSWR

## ϕ detection

freq. MHz	VSWR, RF port			VSWR, LO port			VSWR, IF port			freq. (MHz)	max. DC output mV	DC offset mV	
	+4dBm	+7dBm	+10dBm	+4dBm	+7dBm	+10dBm	+4dBm	+7dBm	+10dBm				
5.000	1.30	1.35	1.38	1.72	2.44	3.27	5.000	1.40	1.22	1.11	10.000	+230.39	-33
10.000	1.19	1.25	1.29	1.68	2.37	3.24	10.000	1.41	1.22	1.11	20.000	+229.73	-33
20.000	1.15	1.22	1.27	1.80	2.52	3.36	20.000	1.42	1.23	1.12	39.118	+228.12	-33
35.151	1.15	1.22	1.28	1.79	2.57	3.40	35.151	1.43	1.23	1.11	50.000	+228.00	-30
50.000	1.15	1.23	1.29	1.77	2.54	3.37	50.000	1.45	1.24	1.12	68.235	+225.82	-27
65.303	1.15	1.23	1.29	1.75	2.49	3.29	65.303	1.45	1.24	1.12	97.353	+226.77	-27
100.000	1.15	1.22	1.28	1.70	2.44	3.24	100.000	1.45	1.25	1.13	126.471	+227.26	-01
155.758	1.14	1.22	1.27	1.72	2.43	3.29	155.758	1.45	1.25	1.14	184.706	+231.16	-21
200.000	1.15	1.23	1.28	1.68	2.36	3.19	200.000	1.46	1.27	1.16	213.824	+228.88	-14
246.212	1.16	1.23	1.28	1.69	2.37	3.14	246.212	1.47	1.28	1.17	272.059	+231.97	-06
306.515	1.18	1.25	1.30	1.71	2.40	3.16	306.515	1.51	1.31	1.20	330.294	+243.02	+13
366.818	1.21	1.27	1.32	1.75	2.39	3.15	366.818	1.54	1.34	1.23	388.529	+241.59	+44
427.121	1.24	1.30	1.35	1.81	2.44	3.24	427.121	1.56	1.37	1.26	446.765	+221.41	+1.08
500.000	1.30	1.36	1.41	1.91	2.58	3.36	500.000	1.55	1.35	1.25	505.000	+210.09	+90
577.879	1.39	1.44	1.49	2.07	2.74	3.57	577.879	1.61	1.43	1.33	592.353	+198.96	+85
668.333	1.52	1.56	1.61	2.26	2.95	3.85	668.333	1.63	1.46	1.36	679.706	+195.18	+1.19
758.788	1.68	1.72	1.77	2.50	3.17	4.04	758.788	1.62	1.46	1.37	767.059	+196.67	+2.99
849.242	1.91	1.95	1.99	2.81	3.58	4.39	849.242	1.59	1.44	1.37	854.412	+185.41	+3.77
909.545	2.09	2.13	2.17	2.96	3.70	4.51	909.545	1.56	1.43	1.37	912.647	+176.74	+4.58
1000.000	2.44	2.45	2.48	3.15	3.80	4.52	1000.000	1.49	1.38	1.33	1000.000	+174.33	+5.34

5 to 1000 MHz



**ULTRA-REL™ MIXERS**  
5-YR. GUARANTEE\*

T-74-09-01

**mixer harmonic intermodulation**  
(relative to desired IF output)

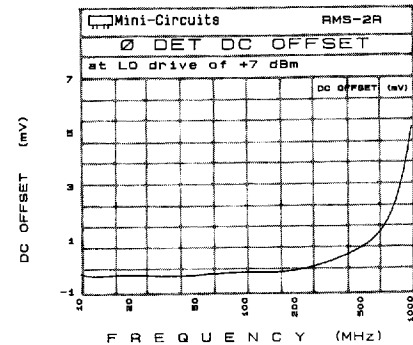
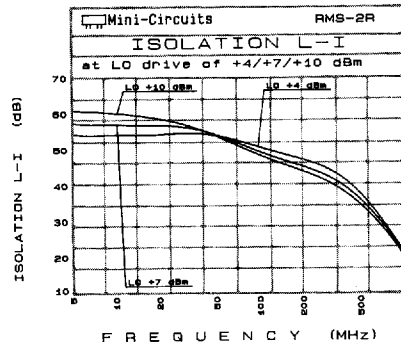
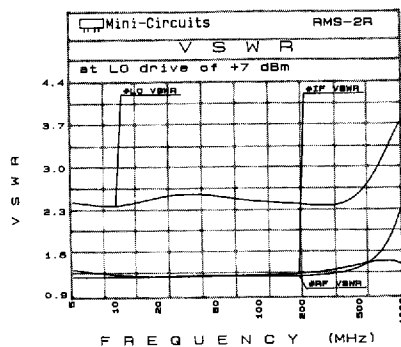
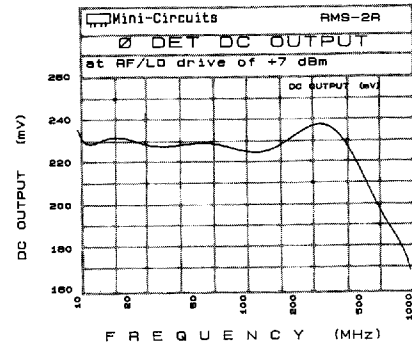
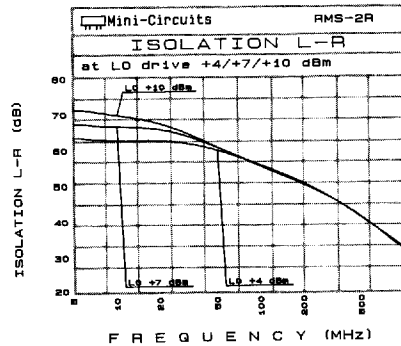
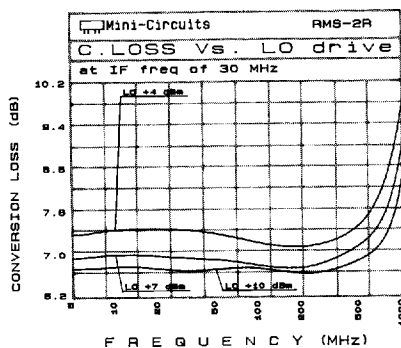
RF ORDER HARMONIC	RF CAL	0	1	2	3	4	5	6	7	8	9	10
0	-	-	11	21	11	52	27	46	34	53	57	49
1	-	21	+0	28	13	46	28	44	38	43	46	46
2	91	65	44	62	43	63	42	59	57	65	56	69
3	>96	62	64	62	57	60	52	65	62	71	58	66
4	>96	78	>79	>79	76	>79	>79	>80	>78	>78	>78	>78
5	>97	>78	>79	>78	78	>79	76	>79	78	>80	76	>78
6	>95	>78	>79	>78	>79	>79	78	>78	>79	>79	>79	>79
7	>96	>80	>79	>77	>78	>79	76	>79	75	78	>79	>80
8	>97	>79	>79	>79	77	>78	78	>79	79	>79	>78	78
9	>96	>78	>79	>79	>79	>78	>78	78	>80	>79	79	>78
10	96	>79	>79	>79	78	>79	>79	77	>80	>79	79	>80

RF ORDER HARMONIC	RF CAL	0	1	2	3	4	5	6	7	8	9	10
0	-	-	20	33	23	57	39	58	64	70	57	65
1	-	21	+0	28	13	50	31	51	45	51	56	62
2	72	47	37	48	37	62	41	57	56	78	58	88
3	88	41	40	48	37	54	40	68	51	58	54	54
4	95	65	58	56	56	58	50	62	49	63	64	69
5	94	60	64	57	45	62	46	54	48	60	62	70
6	>95	77	77	75	69	71	67	64	84	66	65	70
7	>96	73	72	77	72	67	56	63	54	62	55	67
8	>97	84	85	85	86	84	82	69	67	77	67	75
9	>96	76	88	84	79	81	79	84	67	81	72	74
10	>97	87	86	>88	>89	>88	>87	87	83	74	76	74

test conditions: RF IN: 500.10 MHz; -9.94 DBM  
LO IN: 470.01 MHz; +6.95 DBM  
F OUT: 30.09 MHz; -16.94 DBM

test conditions: RF IN: 500.10 MHz; +.08 DBM  
LO IN: 470.01 MHz; +6.95 DBM  
F OUT: 30.09 MHz; -7.19 DBM

**typical performance curves**  
(production unit)



**In Stock...Immediate Delivery**