

Frequency Mixers

(-4dBm LO, up to +1dBm RF)

Model
UNCL-L1

0



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)		
		LO -7 dBm	LO -4 dBm	LO -1 dBm		LO -7 dBm	LO -4 dBm	LO -1 dBm	LO -7 dBm	LO -4 dBm	LO -1 dBm
10.000	40.000	5.94	5.70	5.59	10.000	61.95	62.39	61.41	45.95	50.19	54.81
20.000	50.000	5.95	5.67	5.57	20.000	56.83	57.15	55.87	40.27	44.63	49.97
50.000	80.000	5.95	5.70	5.58	50.000	49.01	49.25	48.20	32.14	36.60	42.63
53.240	83.235	5.96	5.70	5.58	53.240	48.39	48.94	47.64	31.61	36.12	42.31
96.470	66.471	5.94	5.69	5.57	96.470	43.97	44.45	43.14	27.01	31.86	37.72
100.000	70.000	5.96	5.69	5.58	100.000	43.73	44.16	42.80	26.80	31.79	37.33
139.710	109.706	5.94	5.68	5.58	139.710	41.86	42.08	39.99	24.47	29.24	34.58
182.940	152.941	5.91	5.68	5.59	182.940	40.21	39.66	37.14	22.54	26.97	32.12
200.000	170.000	5.93	5.70	5.61	200.000	39.78	38.64	35.16	21.86	26.20	31.27
226.180	196.177	5.91	5.69	5.60	226.180	38.86	37.39	33.65	20.81	25.18	30.06
240.590	210.588	5.92	5.70	5.62	240.590	39.24	37.10	32.26	20.37	24.79	29.78
250.000	220.000	5.91	5.70	5.60	250.000	38.52	36.64	31.91	20.01	24.38	29.26
269.410	239.412	5.90	5.69	5.60	269.410	37.74	35.64	31.10	19.52	23.95	28.83
312.650	282.647	5.92	5.71	5.61	312.650	36.62	34.48	29.56	18.54	23.15	27.91
355.880	325.882	5.92	5.70	5.59	355.880	34.96	33.01	28.51	17.84	22.80	27.34
399.120	369.118	5.96	5.74	5.62	399.120	35.84	32.87	28.18	17.65	23.17	27.44
442.350	412.353	5.96	5.72	5.60	442.350	34.82	32.64	28.53	17.76	23.55	27.86
471.180	441.177	6.01	5.77	5.65	471.180	32.45	30.96	27.56	18.50	25.05	27.73
485.590	455.588	6.00	5.77	5.64	485.590	31.49	30.40	27.51	18.39	25.57	27.28
500.000	470.000	6.01	5.77	5.65	500.000	30.14	29.18	26.15	18.87	26.74	26.51

mixer VSWR

FREQ. (MHz)	VSWR RF port			VSWR LO port			FREQ. (MHz)	VSWR IF port		
	LO -7 dBm	LO -4 dBm	LO -1 dBm	LO -7 dBm	LO -4 dBm	LO -1 dBm		LO -7 dBm	LO -4 dBm	LO -1 dBm
10.000	1.09	1.11	1.13	1.04	1.43	1.61	10.000	1.32	1.20	1.11
20.000	1.04	1.07	1.10	1.03	1.34	1.54	20.000	1.33	1.20	1.12
50.000	1.01	1.06	1.10	1.03	1.39	1.58	50.000	1.32	1.19	1.11
53.240	1.01	1.06	1.09	1.03	1.39	1.58	53.240	1.32	1.19	1.11
96.470	1.02	1.05	1.09	1.04	1.49	1.69	96.470	1.31	1.19	1.11
100.000	1.02	1.06	1.09	1.04	1.50	1.70	100.000	1.31	1.19	1.11
139.710	1.04	1.07	1.10	1.05	1.62	1.85	139.710	1.31	1.19	1.12
182.940	1.07	1.09	1.12	1.53	1.81	2.03	182.940	1.31	1.19	1.13
200.000	1.08	1.10	1.13	1.57	1.87	2.12	200.000	1.31	1.19	1.12
226.180	1.10	1.11	1.14	1.63	1.97	2.23	226.180	1.32	1.20	1.13
240.590	1.10	1.13	1.15	1.67	2.03	2.30	240.590	1.32	1.20	1.14
250.000	1.11	1.13	1.15	1.69	2.06	2.33	250.000	1.32	1.20	1.14
269.410	1.12	1.14	1.16	1.75	2.15	2.42	269.410	1.30	1.18	1.12
312.650	1.16	1.17	1.19	1.85	2.26	2.60	312.650	1.32	1.21	1.15
355.880	1.19	1.21	1.22	1.94	2.36	2.74	355.880	1.33	1.22	1.17
399.120	1.24	1.25	1.27	2.03	2.43	2.82	399.120	1.35	1.24	1.19
442.350	1.29	1.30	1.31	2.10	2.46	2.83	442.350	1.37	1.26	1.22
471.180	1.33	1.34	1.35	2.13	2.48	2.78	471.180	1.38	1.28	1.23
485.590	1.35	1.36	1.36	2.14	2.48	2.79	485.590	1.39	1.29	1.24
500.000	1.36	1.38	1.39	2.17	2.48	2.78	500.000	1.39	1.29	1.25



Mini-Circuits™

10-500 MHz

Mini-Circuits

ULTRA-REL™ MIXERS
5-YR. GUARANTEE *

mixer harmonic intermodulation

(relative to desired IF output)

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RF CAL												
0	-	-	10	18	13	26	19	36	21	31	22	28
1	-	29	+0	44	12	45	16	39	24	32	27	33
2	> 97	74	62	72	59	74	58	71	59	70	55	66
3	> 97	73	74	> 76	71	> 75	69	> 75	65	> 76	64	> 75
4	96	74	75	> 76	> 76	> 76	> 76	74	> 76	> 76	> 75	> 76
5	96	> 76	> 76	> 75	> 76	> 75	> 76	74	> 76	> 76	> 76	> 76
6	> 97	75	75	> 75	> 76	74	74	> 76	75	75	> 76	> 76
7	> 97	> 75	> 75	> 75	> 76	> 75	> 76	> 76	> 77	> 76	> 76	> 76
8	> 96	> 75	> 75	75	> 76	> 76	> 76	> 75	> 76	> 77	> 75	> 77
9	> 95	> 75	> 75	> 75	> 76	> 76	> 75	74	75	74	> 77	> 76
10	> 96	74	> 74	> 76	> 75	> 76	> 75	> 76	> 76	> 76	74	> 75
	0	1	2	3	4	5	6	7	8	9	10	
Harmonic LO Order												

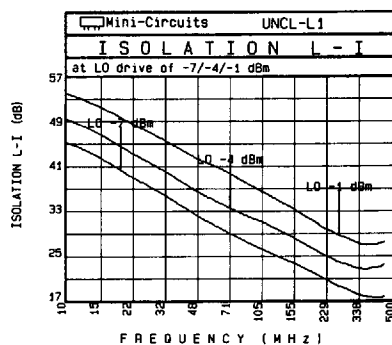
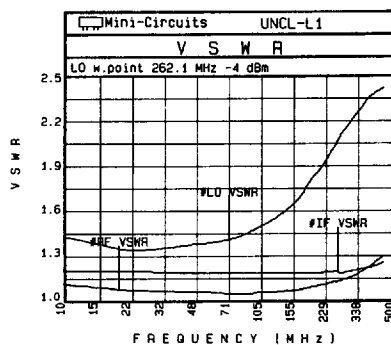
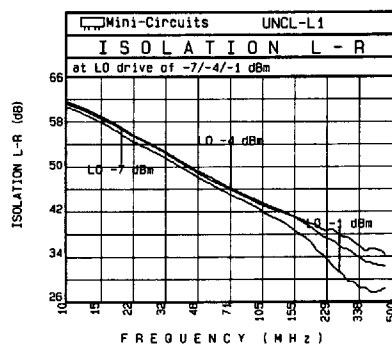
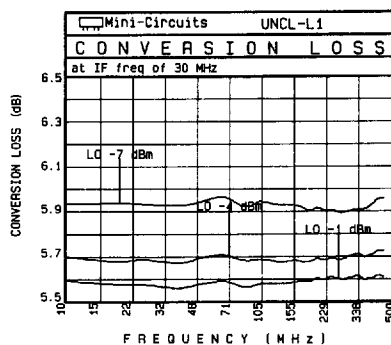
RF CAL												
0	-	-	20	28	24	36	30	48	33	43	35	41
1	-	28	+0	44	12	43	17	39	23	33	27	34
2	83	63	55	65	51	65	49	71	51	69	49	64
3	94	56	53	61	60	64	59	68	50	72	53	56
4	> 96	> 86	80	77	80	81	78	75	74	71	71	73
5	> 98	76	74	80	66	74	64	71	60	71	59	70
6	> 97	84	81	84	84	> 87	85	> 87	> 86	84	84	83
7	> 96	83	81	85	80	> 86	79	> 86	80	> 86	81	> 86
8	> 96	> 86	> 86	> 85	> 86	> 86	> 86	> 87	> 86	> 86	85	> 86
9	> 95	> 86	> 85	> 85	84	84	> 86	85	> 87	> 86	84	> 86
10	95	> 85	> 86	85	> 85	> 85	> 85	> 86	> 86	> 85	85	> 86
	0	1	2	3	4	5	6	7	8	9	10	
Harmonic LO Order												

test condition: RF IN: 185.10 MHz; -14.94 DBM
LO IN: 155.01 MHz; -3.99 DBM
IF OUT: 30.09 MHz; -20.75 DBM

test condition: RF IN: 185.10 MHz; -5.07 DBM
LO IN: 155.01 MHz; -3.99 DBM
IF OUT: 30.09 MHz; -10.78 DBM

typical performance curves

(production unit)



In Stock...Immediate Delivery