

Non-Catalog Model

Frequency Mixer

TSM-1

Level 7 (LO Power +7 dBm)

Important Note

This is a non-catalog model and can be manufactured on specific request.
Pricing and delivery information can be supplied upon request.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : A11

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	1		600	MHz
	RF (fL to fU)	1		600	MHz
	IF	0		600	MHz
Conversion Loss	mid band		5.7	7.5	dB
	Total Range			8.5	dB
LO-RF Isolation	Low Range	45	60		dB
	Mid Range	35	45		dB
	Upper Range	25	35		dB
LO-IF Isolation	Low Range	45	55		dB
	Mid Range	30	40		dB
	Upper Range	25	35		dB
1 dB Comp. Input Power			+1		dBm

Notes: Low Range = [fL to 10fL]
mid band = [2fL to fU/2]

Mid Range = [10fL to fU/2]

Upper Range = [fU/2 to fU]

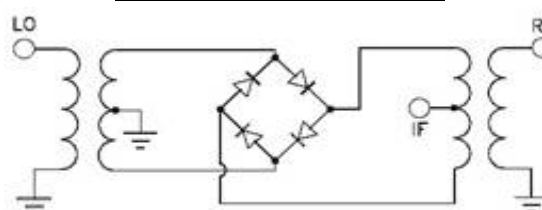
Hermetically sealed

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

PIN CONNECTIONS	
LO	8
RF	1
IF	3, 4 ^
GROUND	2, 5, 6, 7

^ - pins must be connected together externally

Electrical Schematics



Frequency Mixer

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Typical Performance Data

RF (IN) (MHz)	LO (MHz)	CONVERSION LOSS IF FIXED @IF(OUT)=30MHz (dB)		
		@LO (dBm)		
		+4	+7	+10
1.0	31.0	7.31	7.00	6.81
5.0	35.0	6.05	5.81	5.66
10.1	40.1	6.10	5.81	5.66
50.4	80.4	6.11	5.79	5.67
90.7	120.7	6.12	5.84	5.71
131.0	161.0	6.13	5.87	5.74
171.3	201.3	6.14	5.89	5.77
211.5	241.5	6.15	5.91	5.79
251.8	281.8	6.19	5.96	5.83
292.1	322.1	6.21	5.98	5.86
332.4	362.4	6.29	6.06	5.92
372.7	402.7	6.37	6.14	5.98
413.0	443.0	6.42	6.18	6.02
453.3	483.3	6.50	6.24	6.09
493.6	523.6	6.63	6.37	6.19
533.9	563.9	6.80	6.53	6.36
574.2	604.2	6.95	6.70	6.52
654.7	684.7	7.19	6.80	6.55
695.0	725.0	7.38	6.86	6.57
735.3	765.3	7.60	6.98	6.63
775.6	805.6	7.76	7.06	6.65
815.9	845.9	8.02	7.22	6.72
856.2	886.2	8.24	7.40	6.82
896.5	926.5	8.47	7.67	7.01
916.6	946.6	8.55	7.80	7.14
956.9	986.9	8.66	8.00	7.43
977.1	1007.1	8.67	8.03	7.51
1037.5	1067.5	8.69	8.11	7.70
1077.8	1107.8	8.73	8.18	7.80
1097.9	1127.9	8.75	8.26	7.89
1138.2	1168.2	8.88	8.46	8.13
1158.4	1188.4	8.96	8.57	8.27
1198.7	1228.7	9.20	8.87	8.62
1218.8	1248.8	9.29	9.00	8.77
1259.1	1289.1	9.50	9.24	9.06
1279.2	1309.2	9.61	9.35	9.17
1319.5	1349.5	9.85	9.58	9.42
1339.7	1369.7	9.97	9.68	9.51
1380.0	1410.0	10.31	10.00	9.82
1400.1	1430.1	10.47	10.15	9.97

RF (IN) (MHz)	LO (MHz)	IP3 INPUT (dBm)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	21.40	17.13	24.37
50.4	80.4	17.43	19.28	26.17
90.7	120.7	18.84	26.08	21.51
131.0	161.0	25.37	22.89	25.46
171.3	201.3	21.04	21.99	22.99
211.5	241.5	20.86	24.64	23.30
251.8	281.8	25.91	26.02	20.58
292.1	322.1	14.91	15.60	19.80
332.4	362.4	13.82	18.09	19.87
372.7	402.7	15.37	15.76	20.64
413.0	443.0	24.89	17.39	21.14
453.3	483.3	21.73	25.43	20.53
493.6	523.6	12.99	15.53	25.90
533.9	563.9	9.66	10.68	13.12
574.2	604.2	8.63	9.62	11.25
614.4	644.4	9.21	10.87	12.80
654.7	684.7	10.73	14.75	20.62
695.0	725.0	11.63	20.72	17.94
735.3	765.3	11.00	20.71	16.03
775.6	805.6	10.12	17.96	13.39
815.9	845.9	9.61	14.18	11.41
856.2	886.2	8.80	12.13	8.78
896.5	926.5	8.06	10.57	7.57
916.6	946.6	8.34	11.47	8.55
956.9	986.9	9.07	13.25	17.78
977.1	1007.1	11.27	12.17	11.83
1017.3	1047.3	14.57	10.95	10.91
1037.5	1067.5	14.18	11.81	11.20
1077.8	1107.8	13.57	13.88	13.85
1097.9	1127.9	13.13	14.30	14.39
1138.2	1168.2	13.03	15.12	16.33
1158.4	1188.4	13.68	14.94	15.05
1198.7	1228.7	15.42	17.17	15.84
1218.8	1248.8	14.97	15.70	22.53
1259.1	1289.1	15.47	17.92	24.47
1279.2	1309.2	16.09	16.37	21.54
1319.5	1349.5	15.01	15.00	17.83
1339.7	1369.7	13.32	15.76	17.01
1380.0	1410.0	14.00	14.94	17.95
1400.1	1430.1	14.15	15.93	18.61

RF (IN) (MHz)	LO (MHz)	COMPRESSION @RF IN=+1dBm (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	0.95	0.72	0.52
50.4	80.4	0.93	0.68	0.52
90.7	120.7	0.89	0.65	0.47
131.0	161.0	0.88	0.60	0.44
171.3	201.3	0.85	0.57	0.41
211.5	241.5	0.81	0.57	0.41
251.8	281.8	0.78	0.54	0.40
292.1	322.1	0.74	0.54	0.42
332.4	362.4	0.71	0.51	0.41
372.7	402.7	0.70	0.52	0.42
413.0	443.0	0.78	0.57	0.46
453.3	483.3	0.84	0.65	0.51
493.6	523.6	0.98	0.76	0.61
533.9	563.9	1.13	0.87	0.72
574.2	604.2	1.23	0.99	0.82
614.4	644.4	1.38	1.12	0.94
654.7	684.7	1.54	1.28	1.11
695.0	725.0	1.71	1.45	1.28
735.3	765.3	1.73	1.54	1.36
775.6	805.6	1.74	1.62	1.42
815.9	845.9	1.66	1.64	1.48
856.2	886.2	1.54	1.56	1.47
896.5	926.5	1.48	1.48	1.44
916.6	946.6	1.43	1.39	1.35
956.9	986.9	1.36	1.28	1.20
977.1	1007.1	1.40	1.26	1.12
1017.3	1047.3	1.44	1.23	1.03
1037.5	1067.5	1.43	1.23	1.00
1077.8	1107.8	1.46	1.18	0.97
1097.9	1127.9	1.44	1.15	0.96
1138.2	1168.2	1.29	1.00	0.84
1158.4	1188.4	1.21	0.92	0.78
1198.7	1228.7	1.01	0.74	0.60
1218.8	1248.8	0.91	0.63	0.53
1259.1	1289.1	0.80	0.51	0.38
1279.2	1309.2	0.77	0.47	0.34
1319.5	1349.5	0.69	0.38	0.28
1339.7	1369.7	0.66	0.36	0.25
1380.0	1410.0	0.67	0.35	0.21
1400.1	1430.1	0.64	0.33	0.21

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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	6.13	10.0	20.1	5.78	590.0	10.1	6.65
282.8	17.3	6.11	24.9	35.0	5.78	575.1	25.0	6.58
275.6	24.5	6.08	39.7	49.8	5.79	560.3	39.8	6.53
268.5	31.6	6.07	54.6	64.7	5.80	545.4	54.7	6.51
261.3	38.8	6.04	69.5	79.6	5.85	530.5	69.6	6.45
254.1	46.0	6.04	84.4	94.5	5.84	515.6	84.5	6.43
246.9	53.2	6.07	99.2	109.3	5.84	500.8	99.3	6.40
239.7	60.4	6.00	114.1	124.2	5.85	485.9	114.2	6.38
232.6	67.5	5.98	129.0	139.1	5.85	471.0	129.1	6.37
225.4	74.7	5.96	143.8	153.9	5.88	456.2	143.9	6.39
218.2	81.9	5.96	158.7	168.8	5.90	441.3	158.8	6.43
211.0	89.1	5.95	173.6	183.7	5.92	426.4	173.7	6.43
203.8	96.3	5.94	188.5	198.6	5.92	411.5	188.6	6.40
196.7	103.4	5.94	203.3	213.4	5.93	396.7	203.4	6.40
189.5	110.6	5.93	218.2	228.3	5.92	381.8	218.3	6.43
182.3	117.8	5.92	233.1	243.2	5.95	366.9	233.2	6.44
175.1	125.0	5.91	247.9	258.0	5.97	352.1	248.0	6.45
167.9	132.2	5.90	262.8	272.9	6.00	337.2	262.9	6.46
160.8	139.3	5.91	277.7	287.8	6.01	322.3	277.8	6.49
153.6	146.5	5.88	292.6	302.7	6.02	307.4	292.7	6.47
146.4	153.7	5.91	307.4	317.5	6.03	292.6	307.5	6.48
139.2	160.9	5.92	322.3	332.4	6.06	277.7	322.4	6.50
132.1	168.0	5.94	337.2	347.3	6.05	262.8	337.3	6.51
124.9	175.2	5.93	352.1	362.2	6.05	247.9	352.2	6.53
117.7	182.4	5.94	366.9	377.0	6.11	233.1	367.0	6.51
110.5	189.6	5.93	381.8	391.9	6.11	218.2	381.9	6.52
103.3	196.8	5.93	396.7	406.8	6.12	203.3	396.8	6.53
96.2	203.9	5.93	411.5	421.6	6.10	188.5	411.6	6.54
89.0	211.1	5.93	426.4	436.5	6.16	173.6	426.5	6.54
81.8	218.3	5.93	441.3	451.4	6.23	158.7	441.4	6.57
74.6	225.5	5.94	456.2	466.3	6.24	143.8	456.3	6.59
67.4	232.7	5.94	471.0	481.1	6.26	129.0	471.1	6.59
60.3	239.8	5.93	485.9	496.0	6.30	114.1	486.0	6.60
53.1	247.0	5.94	500.8	510.9	6.38	99.2	500.9	6.60
45.9	254.2	5.94	515.6	525.7	6.42	84.4	515.7	6.63
38.7	261.4	5.95	530.5	540.6	6.47	69.5	530.6	6.66
31.5	268.6	5.96	545.4	555.5	6.51	54.6	545.5	6.69
24.4	275.7	5.97	560.3	570.4	6.54	39.7	560.4	6.72
17.2	282.9	5.97	575.1	585.2	6.52	24.9	575.2	6.75
10.0	290.1	5.92	590.0	600.1	6.47	10.0	590.1	6.74

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Typical Performance Data

LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
	@LO (dBm)			@LO (dBm)		
	+4	+7	+10	+4	+7	+10
1.0	64.00	67.00	70.00	64.00	67.00	67.13
5.0	64.00	67.00	70.00	64.00	67.00	66.56
10.1	72.16	71.08	72.42	65.50	64.02	61.42
50.4	57.50	58.79	59.27	49.80	48.49	47.54
90.7	52.14	53.10	54.03	44.86	43.40	42.96
131.0	49.22	50.39	51.27	41.22	40.52	40.14
171.3	46.94	48.13	49.02	39.30	38.53	38.20
211.5	45.52	46.71	47.66	37.71	37.08	36.65
251.8	43.94	45.17	46.20	36.59	35.96	35.48
292.1	42.97	44.27	45.29	35.81	35.15	34.56
332.4	42.07	43.37	44.47	35.04	34.28	33.70
372.7	41.20	42.66	43.91	34.31	33.36	32.53
413.0	40.52	42.00	43.40	33.48	32.73	32.12
453.3	39.87	41.29	42.71	32.40	31.72	31.17
493.6	39.77	41.58	43.15	31.54	30.45	29.80
533.9	39.62	41.65	43.46	31.27	30.07	29.12
574.2	39.10	40.96	42.69	30.63	29.81	28.99
654.7	38.27	39.99	41.66	28.00	27.30	26.89
695.0	38.02	39.87	41.33	26.65	25.74	25.31
735.3	37.58	39.44	40.84	25.88	24.53	23.99
775.6	37.36	39.54	41.07	25.80	24.12	23.26
815.9	37.03	39.60	41.44	25.59	23.88	22.65
856.2	36.81	39.61	41.72	25.16	23.73	22.34
896.5	36.96	40.03	42.55	24.73	23.68	22.37
916.6	36.80	39.63	41.86	24.35	23.59	22.35
956.9	37.15	39.95	41.99	23.63	23.23	22.37
977.1	37.64	40.59	42.47	23.24	22.88	22.04
1037.5	39.29	40.64	39.68	21.89	21.37	20.44
1077.8	40.64	39.76	37.87	21.18	20.41	19.31
1097.9	40.98	38.76	36.80	20.68	19.81	18.75
1138.2	41.58	37.19	35.36	19.85	18.82	17.90
1158.4	41.86	36.80	34.82	19.48	18.51	17.54
1198.7	41.67	35.72	33.76	18.78	17.89	17.02
1218.8	40.60	34.92	33.13	18.51	17.64	16.84
1259.1	38.53	33.65	32.02	18.08	17.26	16.52
1279.2	37.72	33.25	31.50	17.94	17.16	16.28
1319.5	35.98	32.21	30.58	17.64	16.94	16.08
1339.7	35.07	31.70	30.16	17.48	16.78	15.94
1380.0	33.91	31.07	29.65	17.33	16.74	15.88
1400.1	33.17	30.57	29.17	17.17	16.61	15.76

RF (IN) (MHz)	LO (MHz)	RF-IF ISOLATION (dB)		
		@LO (dBm)		
		+4	+7	+10
10.1	40.1	45.50	45.22	47.89
50.4	80.4	41.53	41.65	40.95
90.7	120.7	36.54	37.50	37.08
131.0	161.0	34.56	34.67	34.73
171.3	201.3	32.95	33.38	33.42
211.5	241.5	32.21	32.51	32.88
251.8	281.8	31.84	32.33	32.55
292.1	322.1	31.54	32.43	32.68
332.4	362.4	31.22	31.87	32.15
372.7	402.7	30.45	31.12	31.05
413.0	443.0	29.87	30.72	30.93
453.3	483.3	29.13	30.21	30.43
493.6	523.6	28.14	28.64	28.44
533.9	563.9	26.62	26.87	26.41
574.2	604.2	25.10	25.16	24.87
614.4	644.4	23.64	23.55	23.18
654.7	684.7	22.53	22.43	21.98
695.0	725.0	22.16	21.96	21.55
735.3	765.3	22.29	22.16	21.65
775.6	805.6	22.86	22.77	22.23
815.9	845.9	23.43	23.31	22.56
856.2	886.2	23.64	23.13	22.00
896.5	926.5	23.76	22.85	21.23
916.6	946.6	23.75	22.80	20.94
956.9	986.9	23.38	22.45	20.46
977.1	1007.1	22.94	21.96	20.05
1017.3	1047.3	21.51	20.61	19.05
1037.5	1067.5	20.63	19.79	18.42
1077.8	1107.8	19.01	18.24	17.16
1097.9	1127.9	18.17	17.45	16.55
1138.2	1168.2	16.77	16.15	15.39
1158.4	1188.4	16.18	15.54	14.87
1198.7	1228.7	15.07	14.44	13.88
1218.8	1248.8	14.52	13.93	13.38
1259.1	1289.1	13.62	13.02	12.52
1279.2	1309.2	13.25	12.61	12.11
1319.5	1349.5	12.53	11.91	11.42
1339.7	1369.7	12.22	11.64	11.15
1380.0	1410.0	11.64	11.03	10.53
1400.1	1430.1	11.29	10.69	10.25

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Typical Performance Data

RF (IN) (MHz)	LO (MHz)	RF VSWR (:1)			LO (MHz)	LO VSWR (:1)			IF (OUT) (MHz)	IF VSWR @LO=600.1MHz (:1)		
		@LO (dBm)				@LO (dBm)				@LO (dBm)		
		+4	+7	+10		+4	+7	+10		+4	+7	+10
5.0	35.0	1.24	1.34	1.30	5.0	1.91	2.92	4.23	5.0	1.37	1.22	1.13
10.0	40.0	1.11	1.23	1.19	10.0	1.85	2.84	4.07	10.0	1.37	1.22	1.13
50.4	80.4	1.01	1.07	1.13	50.4	1.82	2.63	3.65	25.1	1.78	1.61	1.37
90.7	120.7	1.02	1.09	1.15	90.7	1.75	2.49	3.42	40.3	1.75	1.55	1.40
131.0	161.0	1.04	1.12	1.17	131.0	1.79	2.57	3.52	55.4	1.76	1.55	1.39
171.3	201.3	1.07	1.14	1.19	171.3	1.75	2.48	3.36	70.5	1.79	1.57	1.42
211.5	241.5	1.10	1.17	1.22	211.5	1.80	2.54	3.43	85.6	1.77	1.57	1.40
251.8	281.8	1.12	1.20	1.24	251.8	1.81	2.53	3.40	100.8	1.78	1.57	1.41
292.1	322.1	1.15	1.23	1.27	292.1	1.82	2.53	3.38	115.9	1.77	1.58	1.41
332.4	362.4	1.16	1.24	1.29	332.4	1.87	2.61	3.47	131.0	1.81	1.59	1.43
372.7	402.7	1.17	1.24	1.30	372.7	1.88	2.58	3.42	146.2	1.81	1.60	1.44
413.0	443.0	1.19	1.27	1.32	413.0	1.94	2.66	3.50	161.3	1.81	1.60	1.44
453.3	483.3	1.22	1.31	1.37	453.3	1.95	2.66	3.47	176.4	1.81	1.60	1.44
493.6	523.6	1.23	1.32	1.39	493.6	1.99	2.69	3.49	191.5	1.82	1.61	1.45
533.9	563.9	1.24	1.32	1.38	533.9	2.04	2.74	3.53	206.7	1.83	1.63	1.47
574.2	604.2	1.25	1.31	1.36	574.2	2.06	2.75	3.52	221.8	1.84	1.64	1.48
614.4	644.4	1.22	1.28	1.33	614.4	2.11	2.78	3.56	236.9	1.84	1.64	1.49
654.7	684.7	1.18	1.23	1.28	654.7	2.12	2.78	3.54	252.1	1.85	1.64	1.48
695.0	725.0	1.10	1.16	1.22	695.0	2.18	2.83	3.56	267.2	1.85	1.65	1.49
735.3	765.3	1.06	1.12	1.19	735.3	2.24	2.88	3.60	282.3	1.85	1.66	1.50
775.6	805.6	1.13	1.15	1.20	775.6	2.31	2.93	3.63	297.4	1.86	1.66	1.51
815.9	845.9	1.23	1.23	1.26	815.9	2.36	2.98	3.67	312.6	1.87	1.68	1.52
856.2	886.2	1.34	1.33	1.34	856.2	2.41	3.04	3.71	327.7	1.89	1.69	1.54
896.5	926.5	1.45	1.43	1.43	896.5	2.46	3.08	3.74	342.8	1.92	1.73	1.57
916.6	946.6	1.51	1.50	1.50	916.6	2.47	3.09	3.74	357.9	1.93	1.74	1.58
956.9	986.9	1.64	1.63	1.63	956.9	2.50	3.11	3.76	373.1	1.93	1.73	1.57
977.1	1007.1	1.72	1.71	1.71	977.1	2.52	3.13	3.78	388.2	1.92	1.73	1.57
1017.3	1047.3	1.87	1.87	1.87	1017.3	2.53	3.11	3.75	403.3	1.92	1.73	1.58
1037.5	1067.5	1.94	1.96	1.95	1037.5	2.53	3.10	3.72	418.5	1.95	1.76	1.60
1077.8	1107.8	2.10	2.12	2.11	1077.8	2.53	3.08	3.67	433.6	1.97	1.78	1.62
1097.9	1127.9	2.18	2.19	2.19	1097.9	2.53	3.06	3.65	448.7	1.98	1.78	1.63
1138.2	1168.2	2.32	2.33	2.34	1138.2	2.54	3.05	3.62	463.8	1.99	1.79	1.64
1158.4	1188.4	2.37	2.40	2.38	1158.4	2.56	3.06	3.62	479.0	1.99	1.80	1.65
1198.7	1228.7	2.47	2.49	2.49	1198.7	2.59	3.07	3.62	494.1	1.99	1.81	1.65
1218.8	1248.8	2.51	2.54	2.54	1218.8	2.62	3.09	3.62	509.2	2.00	1.81	1.65
1259.1	1289.1	2.55	2.59	2.59	1259.1	2.70	3.14	3.65	524.4	2.02	1.82	1.67
1279.2	1309.2	2.57	2.61	2.62	1279.2	2.74	3.16	3.66	539.5	2.05	1.86	1.70
1319.5	1349.5	2.63	2.68	2.69	1319.5	2.81	3.20	3.67	554.6	2.09	1.90	1.73
1339.7	1369.7	2.66	2.70	2.72	1339.7	2.86	3.24	3.70	569.7	2.12	1.92	1.75
1380.0	1410.0	2.74	2.78	2.79	1380.0	2.96	3.30	3.73	584.9	2.12	1.92	1.76
1400.1	1430.1	2.78	2.81	2.82	1400.1	3.00	3.33	3.75	600.0	1.79	1.71	1.66

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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	7	25	19	31	25	42	24	35	27	49
1	-	27	+0	35	12	43	17	32	40	48	39	44
2	>100	75	48	71	48	73	49	64	56	75	55	65
3	>100	75	63	74	63	79	59	79	61	70	>80	>80
4	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
5	>100	>80	>80	>80	>80	>80	>80	>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	>80	>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; -20.22 dBm

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
0	-	-	16	37	33	45	35	50	39	54	40	58
1	-	27	+0	36	12	47	18	38	36	53	51	51
2	95	63	41	62	42	65	44	60	51	69	54	67
3	>100	53	44	56	45	61	44	59	43	53	60	63
4	>100	77	67	76	60	78	59	80	57	71	63	81
5	>100	74	67	81	60	78	59	78	58	76	62	78
6	>100	>90	78	>90	82	>90	81	>90	79	>90	74	88
7	>100	>90	84	>90	>90	>90	78	86	76	>90	74	86
8	>100	>90	>90	>90	>90	>90	>90	>90	85	88	87	>90
9	>100	>90	>90	>90	>90	>90	>90	>90	>90	86	>90	>90
10	>100	>90	>90	>90	>90	>90	>90	>90	>90	86	80	87
	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; -10.42 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.

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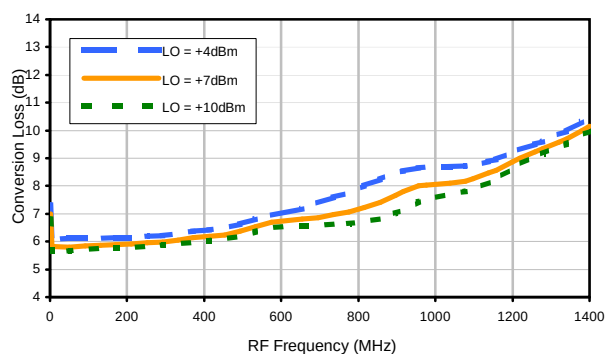


Frequency Mixer

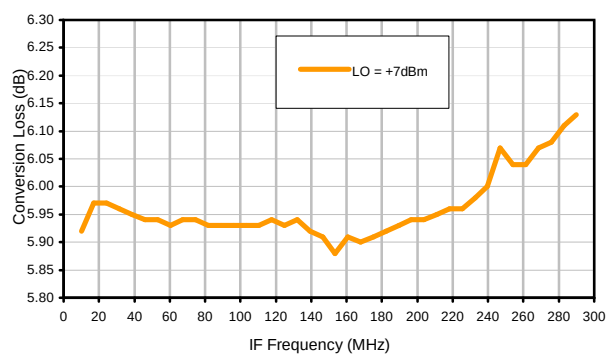
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Typical Performance Curves

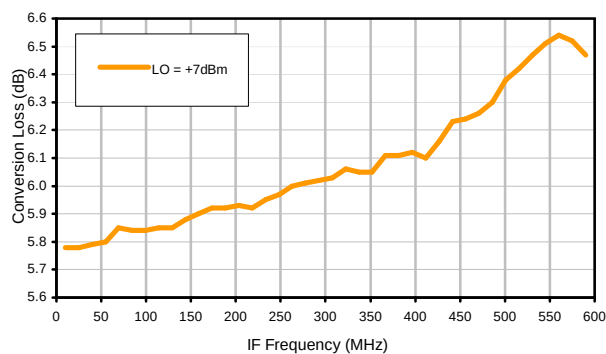
Conversion Loss @ IF=30MHz



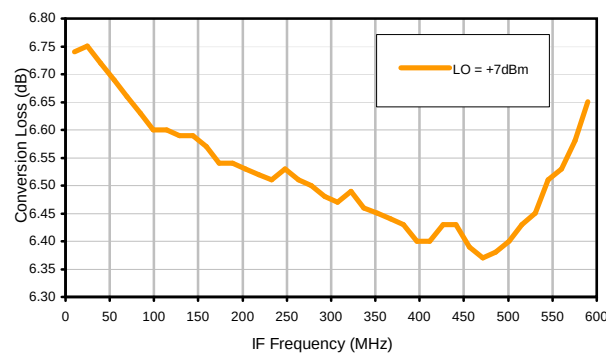
Conversion Loss vs. IF @ RF=300.1MHz



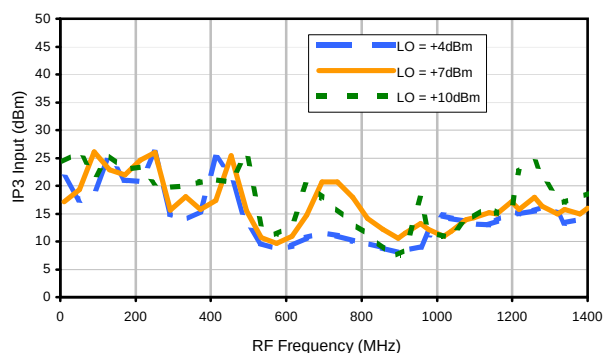
Conversion Loss vs. IF @ RF=10.1MHz



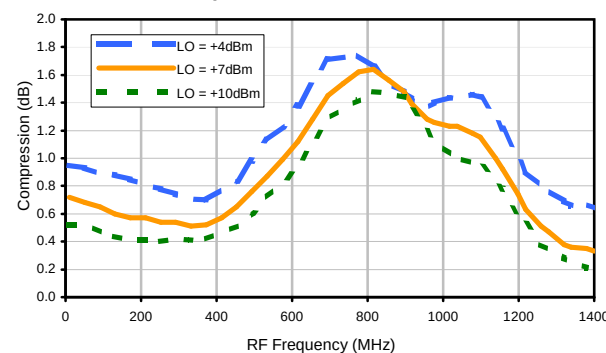
Conversion Loss vs. IF @ RF=600.1MHz



IP3 Input



Compression @ RF IN=+1dBm



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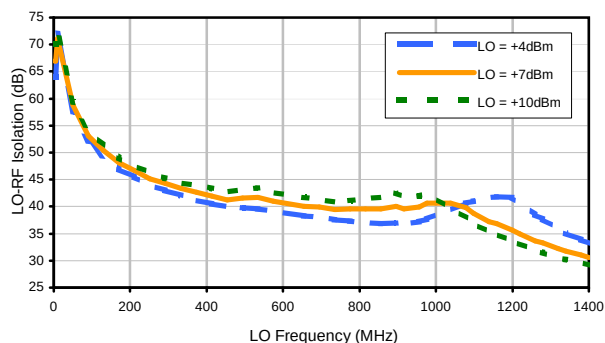


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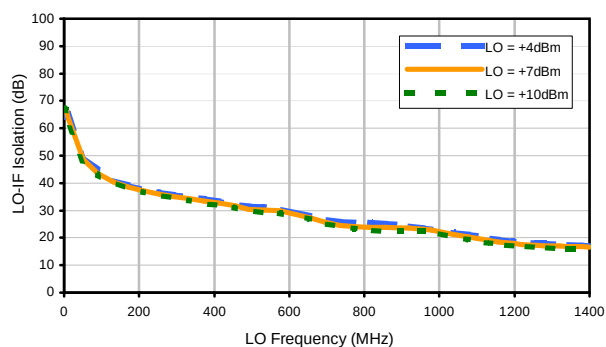


Typical Performance Curves

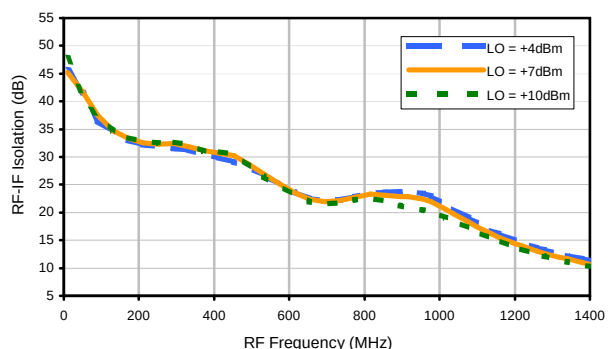
LO-RF Isolation



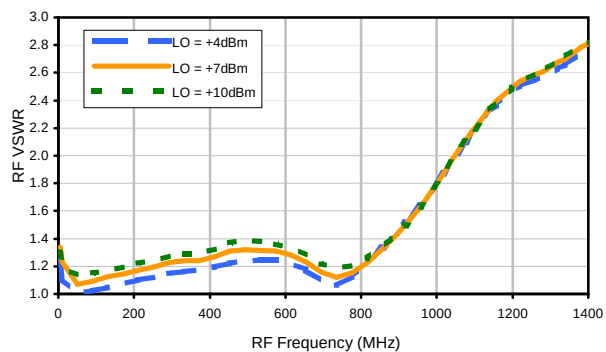
LO-IF Isolation



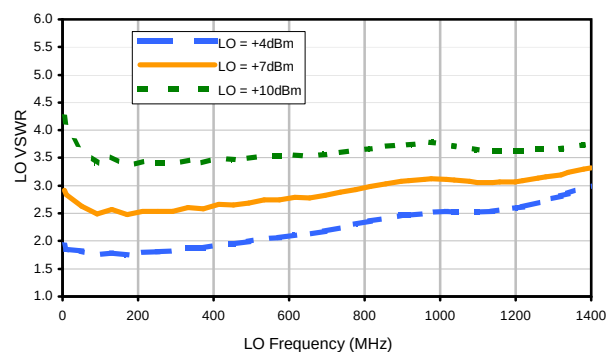
RF-IF Isolation



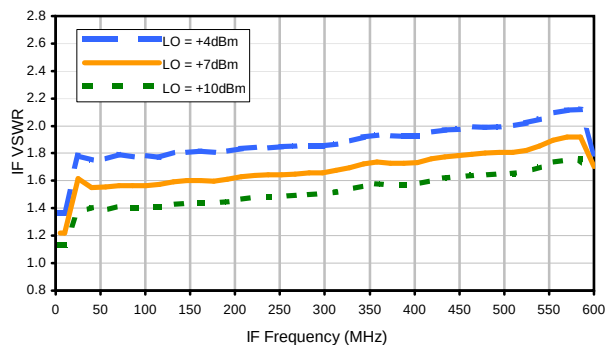
RF VSWR



LO VSWR



IF VSWR



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Harmonics Tables

RF HARMONICS ORDER

	(-dBm)	(-dBc)										
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3	>100	75	63	74	63	79	59	79	61	70	>80	>80
4	>100	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80	>80
5	>100	>80	>80	>80	>80	>80	>80	>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	>80	>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; -20.22 dBm

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3	>100	53	44	56	45	61	44	59	43	53	60	63
4	>100	77	67	76	60	78	59	80	57	71	63	81
5	>100	74	67	81	60	78	59	78	58	76	62	78
6	>100	>90	78	>90	82	>90	81	>90	79	>90	74	88
7	>100	>90	84	>90	>90	>90	78	86	76	>90	74	86
8	>100	>90	>90	>90	>90	>90	>90	>90	85	88	87	>90
9	>100	>90	>90	>90	>90	>90	>90	>90	>90	86	>90	>90
10	>100	>90	>90	>90	>90	>90	>90	>90	>90	86	80	87
	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.
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