

# Frequency Mixer

LAVI-22VH+

Level 21 (LO Power +21dBm) 425 to 2200 MHz

## Maximum Ratings

Operating Temperature	-45°C to 85°C
Storage Temperature	-55°C to 100°C
LO Power	+24 dBm
RF Power	+21 dBm

## Pin Connections

LO	10
RF	2
IF	14
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

## Features

- RoHS compliant
- very high IP3, 31 dBm typ.
- wideband, 425 to 2200 MHz
- excellent L-R isolation, 50 dB typ. and L-I isolation, 45 dB typ.
- high 1 dB compression, 20 dBm typ.
- shielded metal cover
- U.S. patent 6,807,407

## Applications

- cellular/PCS base station
- wideband receiver

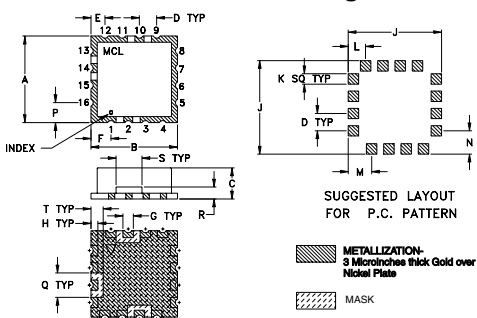


CASE STYLE: CK605  
PRICE: \$24.95 ea. QTY (1-9)  
\$17.95 ea. QTY. (100)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +suffix has been added in order to identify RoHS Compliance. There has been no change to the model's material, form, fit, or function. See our web site for RoHS Compliance methodologies and qualifications.

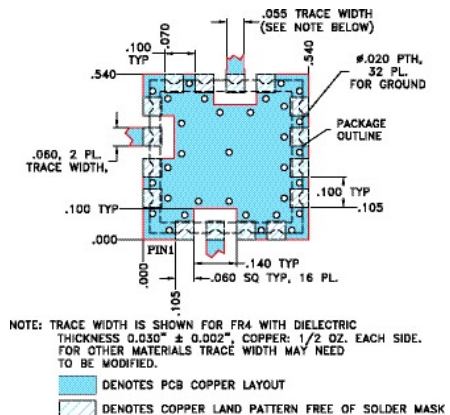
## Outline Drawing



## Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J	
.500	.500	.180	.100	.080	.115	.060	.040	.540	
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72	
K	L	M	N	P	Q	R	S	T	wt.
.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
1.52	1.50	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0

## Demo Board MCL P/N: TB-10 Suggested PCB Layout (PL-012)



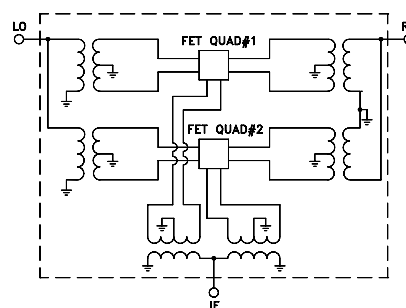
## Electrical Specifications (T<sub>AMB</sub>=25°C)

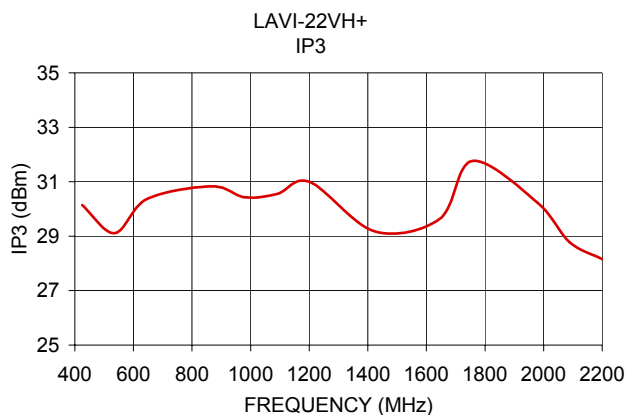
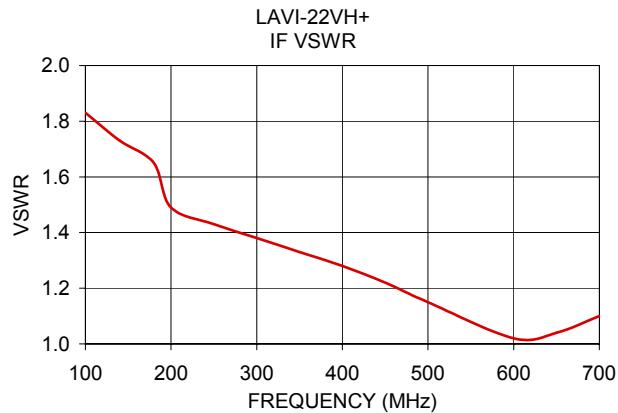
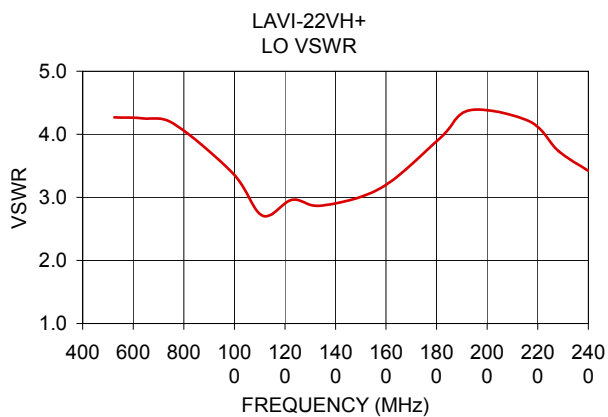
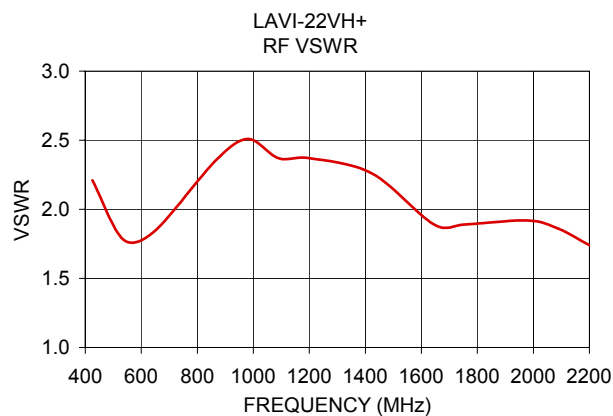
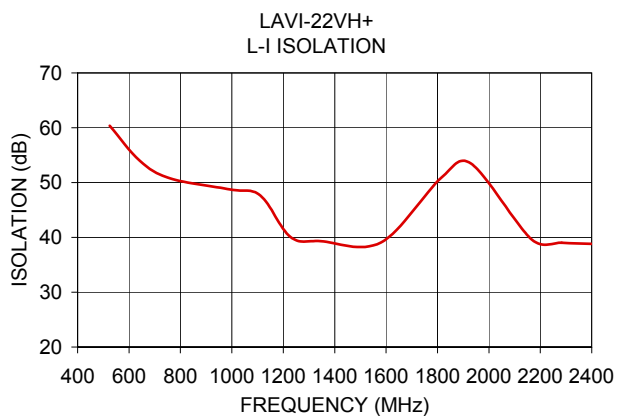
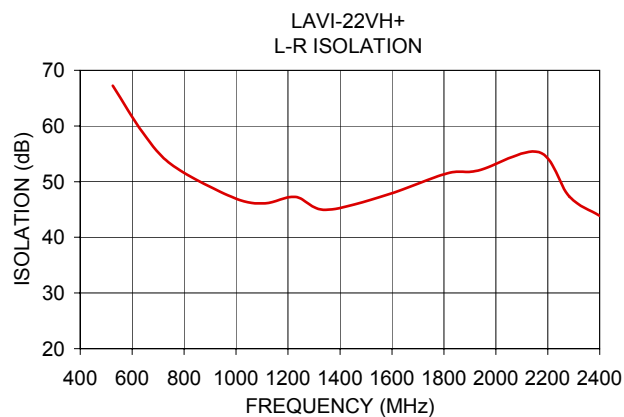
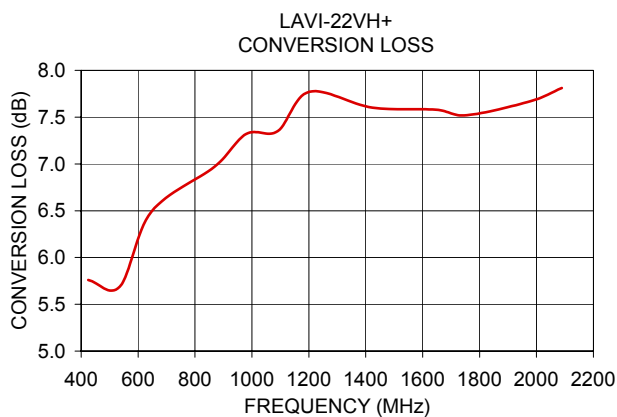
FREQUENCY (MHz)			CONVERSION LOSS (dB)			RF in at 1dB Compr (dBm)	IP3 (dBm)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF	Typ.	σ	Max.	Typ.	Typ.	Typ.	Min.	Typ.	Min
425-2200	525-2400	100-700	7.7	0.2	9.6	+20	31	50	36	45	28

## Typical Performance Data

Frequency		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF (:1)	VSWR LO (:1)	IP3 (dBm)	IF Freq. (MHz)	VSWR IF (:1)
RF MHz	LO MHz	LO +21dBm	LO +21dBm	LO +21dBm	LO +21dBm	LO +21 dBm	LO +21 dBm	LO +21 dBm	LO +21 dBm
425.10	525.10	6.17	67.24	60.36	2.21	4.27	30.14	100.00	1.83
536.00	642.30	5.76	58.74	54.00	1.78	4.25	29.11	140.00	1.73
647.00	759.50	5.69	52.80	50.79	1.84	4.17	30.37	180.00	1.65
868.90	993.90	6.49	47.06	48.75	2.36	3.38	30.83	200.00	1.49
979.80	1111.10	6.97	46.09	47.66	2.51	2.71	30.43	250.00	1.43
1090.70	1228.20	7.32	47.28	40.07	2.37	2.96	30.55	300.00	1.38
1201.70	1345.40	7.35	44.93	39.29	2.37	2.87	30.99	350.00	1.33
1423.50	1579.80	7.77	47.61	39.06	2.26	3.15	29.18	400.00	1.28
1645.40	1814.20	7.60	51.49	50.84	1.89	3.94	29.64	450.00	1.22
1756.40	1931.40	7.58	51.99	53.46	1.89	4.38	31.76	500.00	1.15
1978.20	2165.70	7.52	55.30	39.65	1.92	4.21	30.24	600.00	1.02
2089.20	2282.90	7.67	47.32	39.01	1.86	3.73	28.78	650.00	1.04
2200.10	2400.10	7.81	43.87	38.81	1.74	3.42	28.16	700.00	1.10

## electrical schematic





**Harmonic Table ( $T_{AMB} = 25^{\circ}\text{C}$ )**  
(Relative to desired IF output)

		RF CAL (-dBc)											
		0	1	2	3	4	5	6	7	8	9	10	
RF HARMONICS ORDER	0	-	-	16	16	23	25	40	39	44	55	47	105
	1	-	30	0	36	19	49	31	52	43	48	49	104
	2	97	68	63	51	72	62	77	65	81	79	78	76
	3	100	99	72	93	67	93	76	93	78	100	87	96
	4	101	101	105	105	95	100	99	104	99	105	104	103
	5	100	104	104	103	99	92	98	98	101	103	105	104
	6	97	105	105	105	105	103	102	101	102	106	107	103
	7	98	105	105	106	104	106	102	101	99	105	106	107
	8	99	104	106	105	105	106	102	103	102	101	105	107
	9	96	104	105	105	104	106	104	105	104	101	100	104
	10	96	104	103	105	104	105	107	109	104	103	101	102

**LO HARMONICS ORDER**

Test conditions: RF IN: 1312.50 MHz, 0 dBm.  
 LO IN: 1462.50 MHz, 21 dBm.  
 IF OUT: 150 MHz.  
 C. LOSS: 8.27 dB.