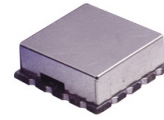


Surface Mount

Frequency Mixer

LAVI-22VH+

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



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

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

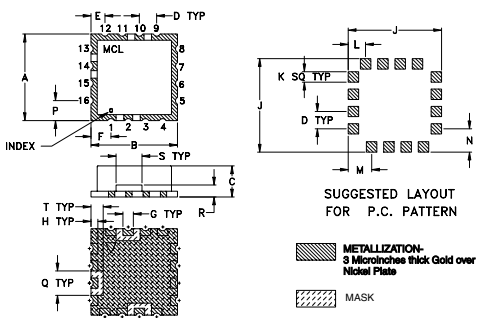
Applications

- cellular/PCS base station
- wideband receiver

+ 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.

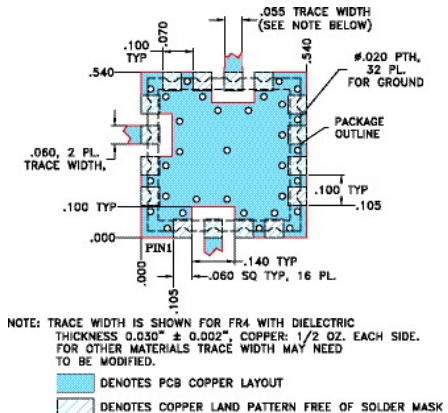
Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | | | | |
|-------|-------|------|------|------|------|------|------|-------|-------|
| 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)



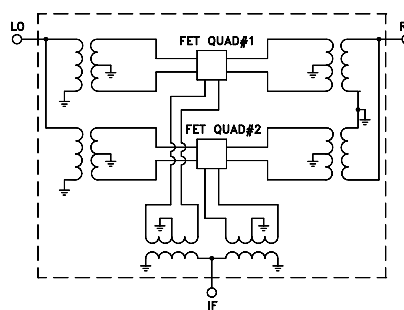
Electrical Specifications (T_{AMB}=25°C)

| 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



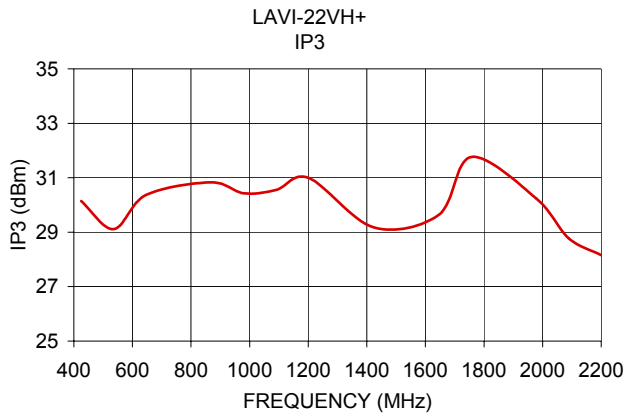
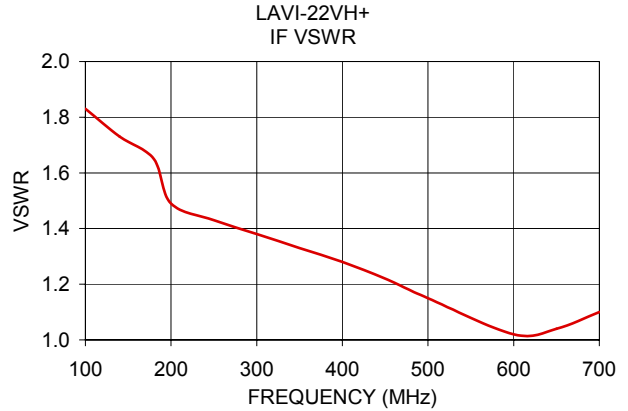
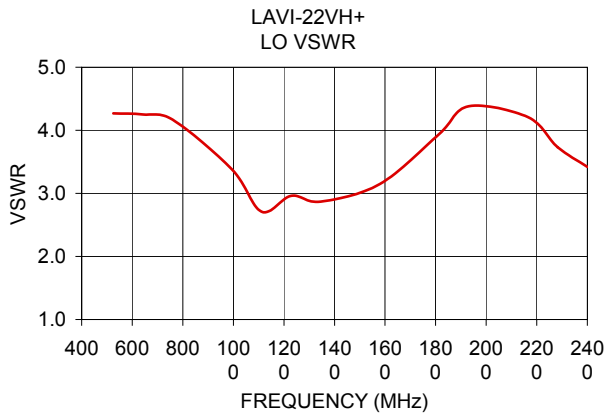
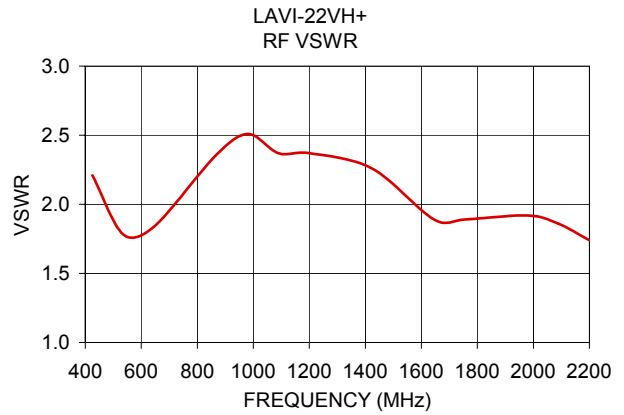
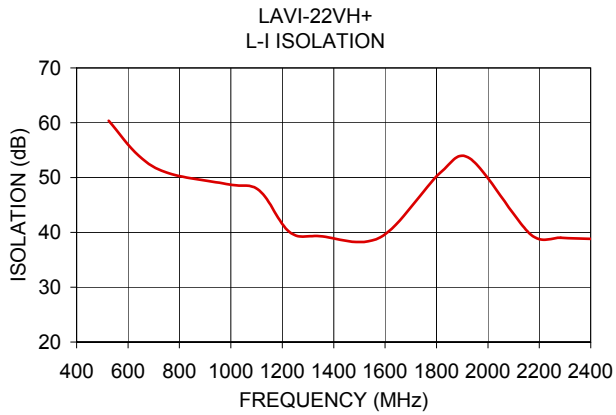
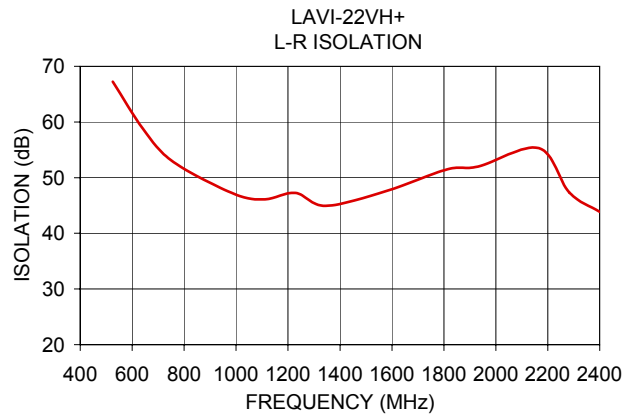
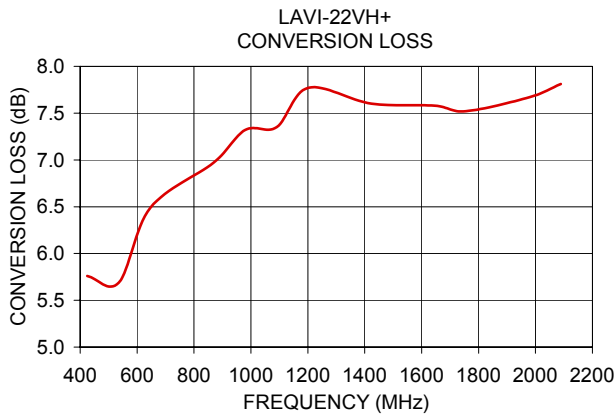
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 060221
 Page 1 of 3



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

| RF HARMONICS ORDER | RF CAL (-dBc) | | | | | | | | | | | |
|--------------------|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| 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.