

Coaxial

Voltage Controlled Oscillator

ZX95-4415+

Linear Tuning 4214 to 4415 MHz

Features

- linear tuning characteristics
- low phase noise
- low pushing
- low pulling
- protected by US patent 6,790,049

Applications

- r & d
- lab
- instrumentation
- wireless communications
- WiMAX



CASE STYLE: GB956

| Connectors | Model | Price | Qty. |
|------------|--------------|-------------|-------|
| SMA | ZX95-4415-S+ | \$40.95 ea. | (1-9) |

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

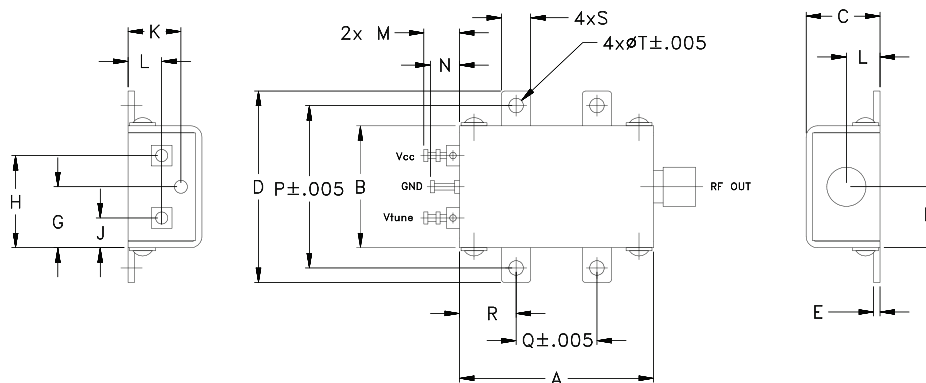
| MODEL NO. | FREQ. (MHz) | | POWER OUTPUT (dBm) | PHASE NOISE dBc/Hz SSB at offset frequencies, kHz | | | | TUNING | | | | | NON HARMONIC SPURIOUS (dBc) | HARMONICS (dBc) | | PULLING pk-pk @ 12 dB (MHz) | PUSHING (MHz/V) | DC OPERATING POWER | | | | |
|------------|-------------|------|--------------------|---|-----|------|------|--------|-------------------|---------------------|---------------|---------------------------------|-----------------------------|-----------------|------|-----------------------------|-----------------|--------------------|------|------|-------------|--------------|
| | Min. | Max. | | Typ. | 1 | 10 | 100 | 1000 | VOLTAGE RANGE (V) | SENSITIVITY (MHz/V) | PORT CAP (pF) | 3 dB MODULATION BANDWIDTH (MHz) | | Typ. | Typ. | | | Max. | Typ. | Typ. | Vcc (volts) | Current (mA) |
| | | | | | | | | | | | | | | | | | | | | | | |
| ZX95-4415+ | 4214 | 4415 | +5 | -71 | -95 | -116 | -136 | 1 | 10 | 36-45 | 10 | 150 | -90 | -27 | -15 | 2 | 4.5 | 5 | 40 | | | |

Maximum Ratings

| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 7V |
| Absolute Max. Tuning Voltage (Vtune) | 12V |
| All specifications | 50 ohm system |

Permanent damage may occur if any of these limits are exceeded.

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | wt. |
|-------|-------|-------|-------|------|------|------|-------|------|------|------|------|------|-------|-------|------|------|------|-------|
| 1.20 | .75 | .46 | 1.18 | .04 | .38 | .38 | .57 | .18 | .33 | .21 | .22 | .18 | 1.00 | .50 | .35 | .18 | .106 | grams |
| 30.48 | 19.05 | 11.68 | 29.97 | 1.02 | 9.65 | 9.65 | 14.48 | 4.57 | 8.38 | 5.33 | 5.59 | 4.57 | 25.40 | 12.70 | 8.89 | 4.57 | 2.69 | 35.0 |



For detailed performance specs & shopping online see web site

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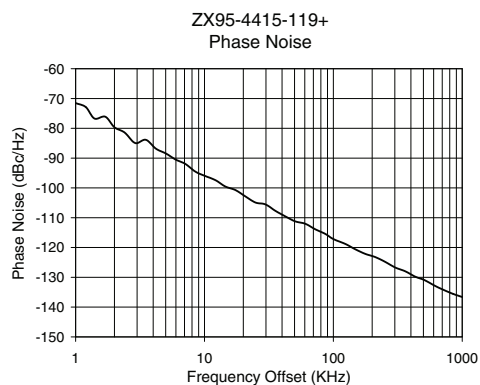
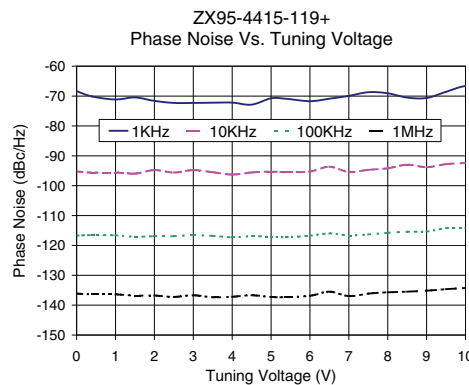
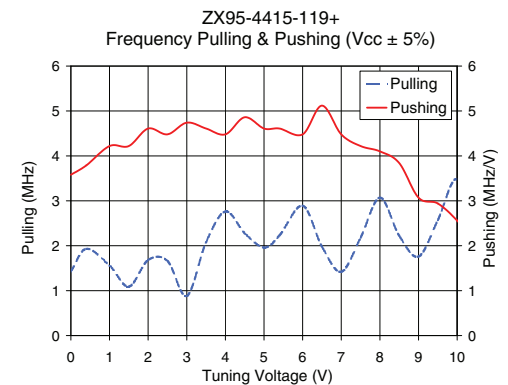
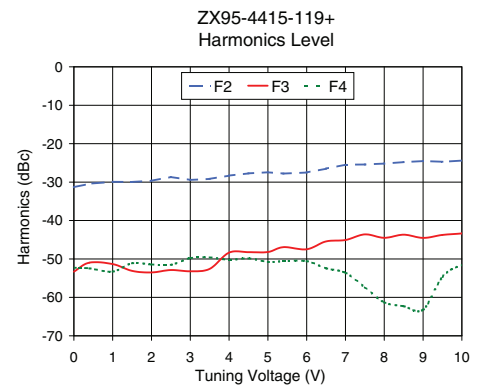
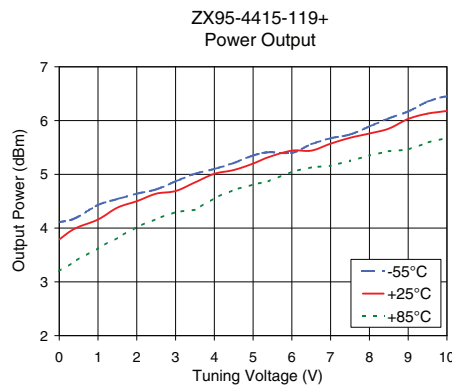
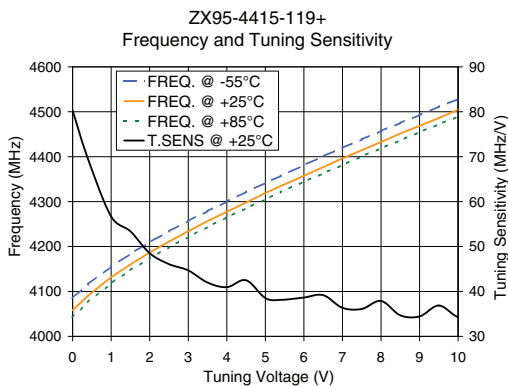
REV. OR
M114757
EDR-8632/2F2
ZX95-4415+
RAV
120906
Page 1 of 2

Performance Data & Curves*

ZX95-4415+

| V TUNE | TUNE SENS (MHz/V) | FREQUENCY (MHz) | | | POWER OUTPUT (dBm) | | | Icc (mA) | HARMONICS (dBc) | | | FREQ. PUSH (MHz/V) | FREQ. PULL (MHz) | PHASE NOISE (dBc/Hz) at offsets | | | | FREQ OFFSET (KHz) | PHASE NOISE at 4315 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|-------|--------|--------|-------------------|----------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 80.26 | 4085.2 | 4058.2 | 4042.4 | 4.11 | 3.79 | 3.20 | 31.45 | -31.3 | -53.3 | -52.3 | 3.58 | 1.43 | -68.4 | -95.2 | -116.7 | -136.1 | 1.0 | -71.53 |
| 1.00 | 56.70 | 4155.4 | 4131.8 | 4118.1 | 4.43 | 4.16 | 3.63 | 31.62 | -29.9 | -51.3 | -53.3 | 4.22 | 1.56 | -71.2 | -95.6 | -116.6 | -136.4 | 2.0 | -79.65 |
| 1.50 | 53.38 | 4183.7 | 4160.1 | 4147.6 | 4.54 | 4.38 | 3.82 | 31.70 | -30.0 | -53.1 | -51.1 | 4.22 | 1.09 | -70.5 | -96.0 | -117.1 | -136.8 | 3.5 | -83.84 |
| 2.00 | 48.51 | 4209.6 | 4186.8 | 4173.6 | 4.64 | 4.50 | 4.02 | 31.76 | -29.7 | -53.5 | -51.4 | 4.61 | 1.68 | -71.6 | -94.8 | -116.9 | -136.8 | 6.0 | -90.54 |
| 2.50 | 46.08 | 4233.7 | 4211.1 | 4198.6 | 4.72 | 4.64 | 4.17 | 31.84 | -28.7 | -52.9 | -51.5 | 4.48 | 1.66 | -72.3 | -95.6 | -116.9 | -137.2 | 8.5 | -94.54 |
| 3.00 | 44.67 | 4257.1 | 4234.1 | 4221.4 | 4.87 | 4.69 | 4.30 | 31.89 | -29.4 | -53.2 | -49.8 | 4.74 | 0.88 | -72.3 | -94.8 | -116.6 | -136.7 | 10.0 | -95.91 |
| 3.50 | 41.98 | 4278.9 | 4256.4 | 4243.6 | 5.01 | 4.85 | 4.34 | 31.97 | -29.2 | -52.6 | -49.6 | 4.61 | 2.08 | -72.2 | -95.5 | -116.8 | -137.4 | 20.8 | -102.87 |
| 4.00 | 40.96 | 4300.0 | 4277.4 | 4265.0 | 5.10 | 5.01 | 4.56 | 32.03 | -28.3 | -48.4 | -50.2 | 4.48 | 2.76 | -72.2 | -96.3 | -117.3 | -137.2 | 35.5 | -107.69 |
| 4.50 | 42.50 | 4321.6 | 4297.9 | 4285.2 | 5.21 | 5.08 | 4.71 | 32.06 | -27.7 | -48.2 | -49.8 | 4.86 | 2.28 | -72.9 | -95.6 | -116.9 | -136.7 | 60.7 | -112.04 |
| 5.00 | 38.53 | 4341.5 | 4319.2 | 4304.9 | 5.35 | 5.20 | 4.81 | 32.14 | -27.4 | -48.2 | -50.8 | 4.61 | 1.96 | -70.8 | -95.3 | -117.1 | -137.3 | 86.7 | -115.47 |
| 5.40 | 38.12 | 4357.2 | 4334.6 | 4321.5 | 5.41 | 5.32 | 4.87 | 32.19 | -27.8 | -46.9 | -50.6 | 4.61 | 2.23 | -70.9 | -95.5 | -117.3 | -137.3 | 100.0 | -117.16 |
| 6.00 | 38.66 | 4381.0 | 4357.4 | 4344.3 | 5.40 | 5.44 | 5.05 | 32.24 | -27.5 | -47.5 | -50.6 | 4.48 | 2.89 | -71.7 | -95.3 | -116.7 | -136.9 | 148.1 | -120.60 |
| 6.50 | 39.17 | 4400.8 | 4376.8 | 4362.8 | 5.56 | 5.44 | 5.13 | 32.25 | -26.5 | -45.4 | -52.4 | 5.12 | 1.98 | -70.9 | -93.6 | -116.0 | -135.5 | 177.0 | -122.15 |
| 7.00 | 36.35 | 4419.6 | 4396.4 | 4381.5 | 5.67 | 5.57 | 5.16 | 32.33 | -25.5 | -45.1 | -53.6 | 4.48 | 1.42 | -69.9 | -95.4 | -116.7 | -137.0 | 211.6 | -123.22 |
| 7.50 | 36.10 | 4438.2 | 4414.5 | 4400.9 | 5.74 | 5.68 | 5.25 | 32.38 | -25.4 | -43.6 | -57.4 | 4.22 | 2.18 | -68.7 | -94.7 | -116.3 | -136.1 | 302.4 | -126.72 |
| 8.00 | 37.89 | 4457.2 | 4432.6 | 4418.6 | 5.89 | 5.76 | 5.35 | 32.39 | -25.2 | -44.5 | -61.3 | 4.10 | 3.07 | -69.1 | -94.2 | -115.8 | -135.7 | 361.5 | -127.98 |
| 8.50 | 34.69 | 4475.0 | 4451.5 | 4436.3 | 6.04 | 5.85 | 5.43 | 32.42 | -24.8 | -43.7 | -62.3 | 3.84 | 2.22 | -70.5 | -93.0 | -115.4 | -135.5 | 507.5 | -130.90 |
| 9.00 | 34.43 | 4492.7 | 4468.9 | 4454.8 | 6.17 | 6.03 | 5.46 | 32.44 | -24.5 | -44.5 | -63.2 | 3.07 | 1.76 | -70.7 | -93.8 | -115.3 | -135.2 | 606.7 | -132.72 |
| 9.50 | 36.86 | 4511.4 | 4486.1 | 4472.1 | 6.35 | 6.13 | 5.59 | 32.42 | -24.7 | -43.8 | -54.7 | 2.94 | 2.57 | -68.6 | -92.8 | -114.2 | -134.6 | 851.6 | -135.58 |
| 10.00 | 34.30 | 4528.3 | 4504.5 | 4489.4 | 6.45 | 6.18 | 5.68 | 32.41 | -24.4 | -43.4 | -51.7 | 2.56 | 3.48 | -66.6 | -92.4 | -114.1 | -134.2 | 1000.0 | -136.61 |

*at 25°C unless mentioned otherwise



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