

### Voltage Controlled Oscillator, 620 MHz to 660 MHz, Pout 0 dBm, Phase Noise of -110 dBc/Hz, 0.5V to 4.5V Tuning Range, SMA

The FMVC31017 is highly reliable low noise Voltage Controlled Oscillator (VCO) that operates across 620 MHz to 660 MHz with a tuning voltage range from 0.5V to 4.5V. Impressive typical performance includes generated output power of 0 dBm, 2nd Harmonic Suppression of -13 dBc, phase noise of -110 dBc/Hz @ 10 KHz offset, and tuning sensitivity of 19 MHz/V. The design incorporates internal voltage regulation and reverse DC protection, with a bias voltage range from +9V to +15V. The rugged and compact coaxial package assembly supports SMA female connectors, RFI and ground pins. The VCO has an operational temperature range of -40°C to +85°C and is designed to meet a variety of MIL-STD-202 test conditions including shock, vibration, altitude, and humidity.



#### Electrical Specifications

| Description               | Min | Typ  | Max | Units  |
|---------------------------|-----|------|-----|--------|
| Frequency Range           | 620 |      | 660 | MHz    |
| Tuning Voltage            | 0.5 |      | 4.5 | Vdc    |
| Supply Voltage (DC)       | 9   | 12   | 15  | Vdc    |
| Supply Current (DC)       |     | 17   |     | mA     |
| Phase Noise @10kHz Offset |     | -110 |     | dBc/Hz |
| Output Power              | -3  | +0   | +3  | dBm    |
| Tuning Sensitivity (Kvco) |     | 19   |     | MHz/V  |
| Pulling (pk-pk)           |     |      | 2   | MHz    |
| Tuning Port Capacitance   |     | 100  |     | pF     |
| Load Impedance            |     | 50   |     | Ohms   |
| 2nd Harmonics             |     | -13  |     | dBc    |

#### Mechanical Specifications

| Size             |                    |
|------------------|--------------------|
| Length           | 1.25 in [31.75 mm] |
| Width            | 1.25 in [31.75 mm] |
| Height           | 0.563 in [14.3 mm] |
| Weight           | 0.4 lbs [181.44 g] |
| Design           | Commercial         |
| Connector Option | Standard           |
| Output Connector | SMA Female         |

#### Environmental Specifications

| Temperature     |  |
|-----------------|--|
| Operating Range | -40 to +85 deg C                       |
| Storage Range   | -55 to +100 deg C                      |
| Humidity        | MIL-STD-202, Method 103B, Condition B  |
| Shock           | MIL-STD-202F, Method 213B, Condition B |
| Vibration       | MIL-STD-202F, Method 204D, Condition B |
| Altitude        | MIL-STD-202F, Method 105C, Condition B |

#### Features:

- Voltage Controlled Oscillator
- 620 MHz to 660 MHz
- 0.5V to 4.5V Tuning Voltage
- Pout: 0 dBm
- Phase Noise: -110 dBc/Hz
- 2nd Harmonic Suppression: -13 dBc typ
- Tuning Sensitivity: 19 MHz/V
- +12 Volt DC Bias
- SMA Female Connectors
- -40°C to +85°C Operating Temperature
- 50 Ohm Design
- Internal Voltage Regulation
- Reverse DC Protection
- Rugged Package Design meets Mil-STD-202 Test Conditions

#### Applications:

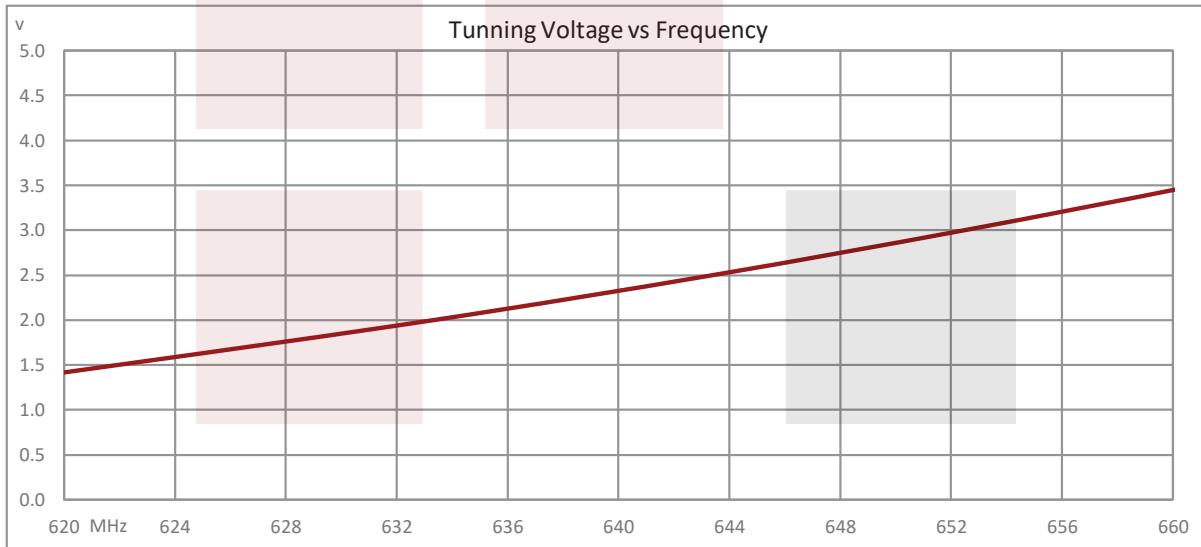
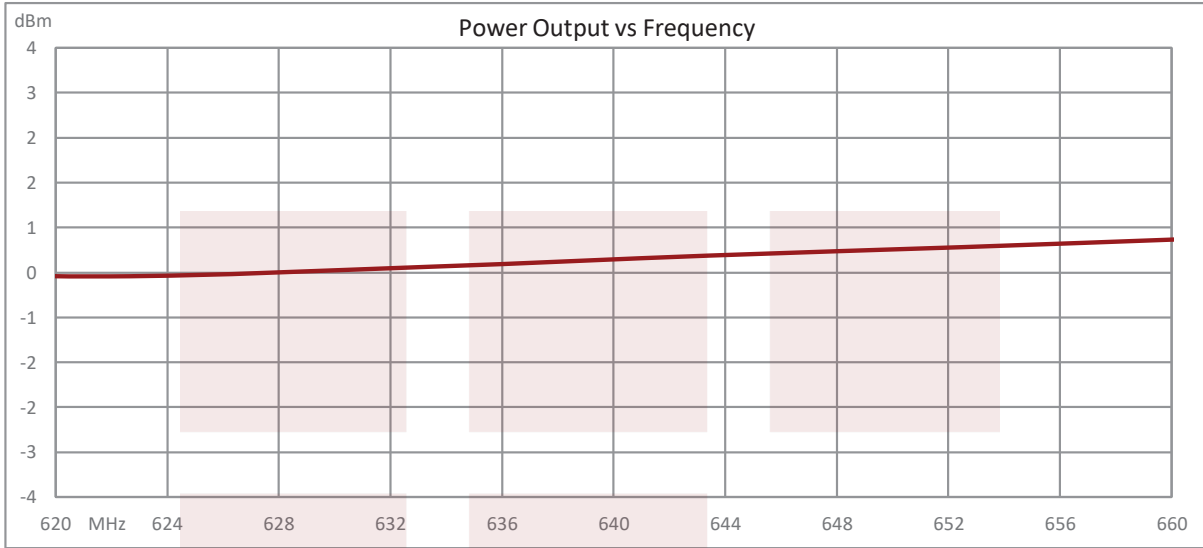
- Phase Locked Loop
- Function Generators
- Frequency Synthesizers
- Receivers
- Electronic Jamming Equipment
- Local Oscillators
- Wireless Communications
- SATCOM
- Optical Communications
- Military Electronic Systems

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**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

**Typical Performance Data**



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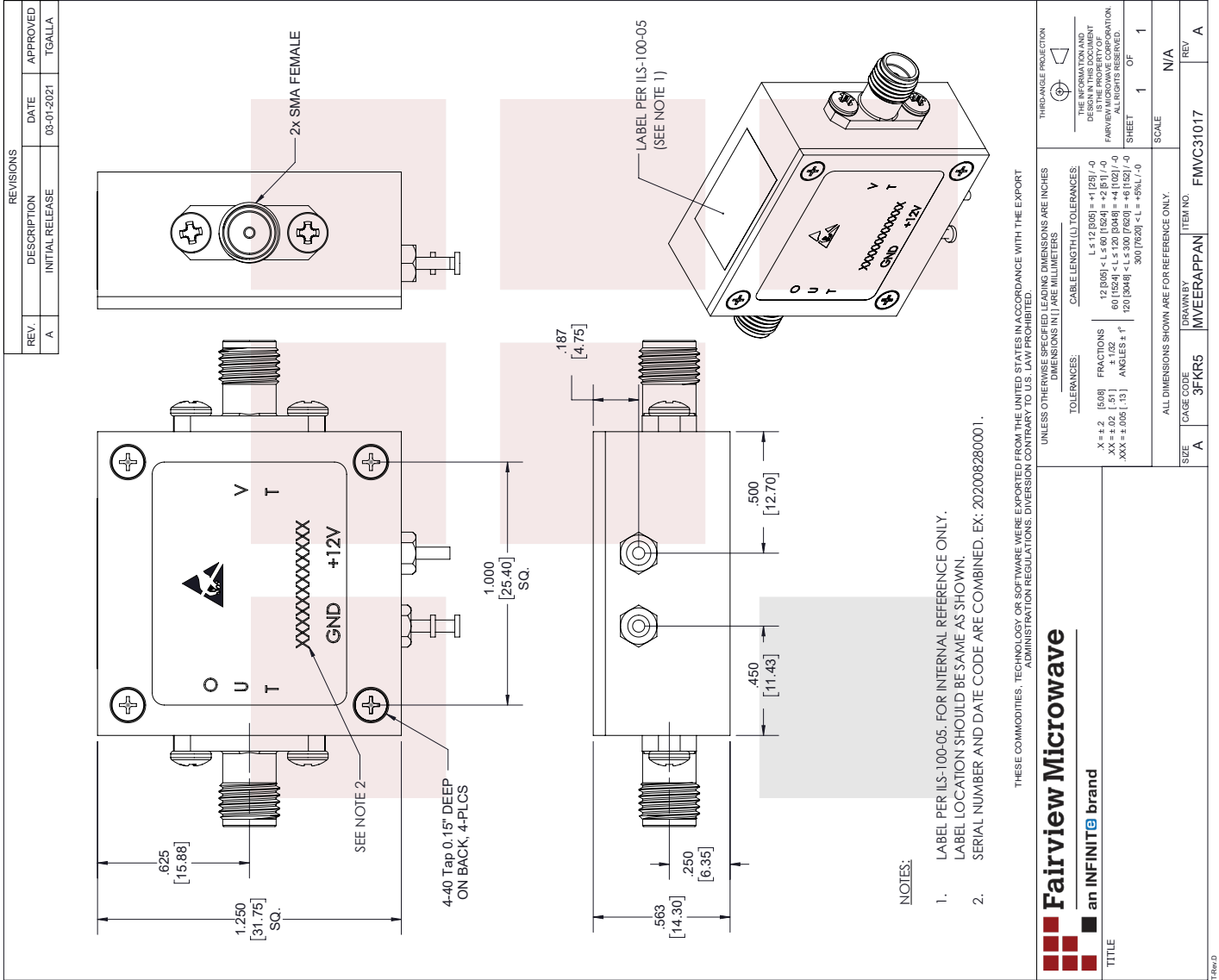
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Voltage Controlled Oscillator, 620 MHz to 660 MHz, Pout 0 dBm, Phase Noise of -110 dBc/Hz, 0.5V to 4.5V Tuning Range, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Voltage Controlled Oscillator, 620 MHz to 660 MHz, Pout 0 dBm, Phase Noise of -110 dBc/Hz, 0.5V to 4.5V Tuning Range, SMA FMVC31017](#)

URL: <https://www.fairviewmicrowave.com/vco-voltage-controlled-oscillator-660-mhz-fmvc31017-p.aspx>

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