

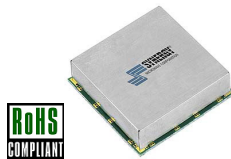
# FIXED FREQUENCY SYNTHESIZER

## SURFACE MOUNT MODEL: FCPH-1950-13

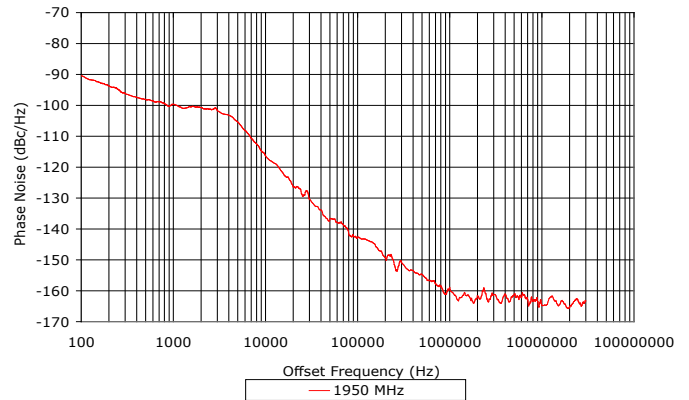
**1950 MHz**

**FEATURES:**

- ▶ Exceptionally Low Phase Noise
- ▶ No Programming Required
- ▶ Lead Free - RoHS Compliant
- ▶ Patented REL-PRO® Technology
- ▶ Small Size, Surface Mount



**Phase Noise**



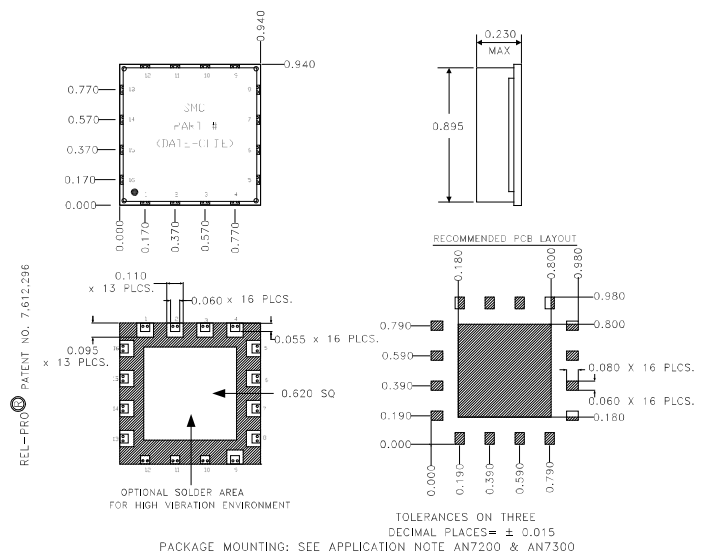
**SPECIFICATIONS (Rev. E 04/25/11)**

|                             |                        |                    |                    |
|-----------------------------|------------------------|--------------------|--------------------|
| Frequency                   | 1950 MHz               |                    |                    |
| Reference Input Frequency   | 13 MHz                 |                    |                    |
| Reference Input Voltage     | 1.0 V p-p to 3.3 V p-p |                    |                    |
| Bias Voltage                | <b>Vcc</b>             | <b>V (Vdc)</b>     | <b>I (mA Max.)</b> |
|                             | Digital                | +5                 | 15                 |
|                             | VCO                    | +15                | 45                 |
| Output Power                | 0 dBm (Min.)           |                    |                    |
| Spurious & Ref. Sideband    | 80 dBc (Typ.)          |                    |                    |
| Harmonic Suppression        | 40 dBc (Typ.)          |                    |                    |
| Settling Time *             | 150 mSec (Max.)        |                    |                    |
| Output Impedance            | 50 Ohms (Nom.)         |                    |                    |
| Lock Detect Indicator       | CMOS                   |                    |                    |
| Typical Phase Noise         | <b>Offset</b>          | <b>Phase Noise</b> |                    |
|                             | @ 1 kHz                | -100 dBc/Hz        |                    |
|                             | @ 10 kHz               | -116 dBc/Hz        |                    |
|                             | @ 100 kHz              | -142 dBc/Hz        |                    |
| Operating Temperature Range | -40 to +85 °C          |                    |                    |
| * At power up               |                        |                    |                    |

**Absolute Maximum Ratings**

|                              |                |
|------------------------------|----------------|
| Storage Temp. Range          | -55 to +125 °C |
| Bias Voltage (Digital)       | +5.0 ±0.25 V   |
| Bias Voltage (VCO)           | +15.0 ±0.5 V   |
| DC Voltage Applied to RF Out | ±25 V          |

**Package #** 273LF



**Port Configuration**

|                         |                          |                    |
|-------------------------|--------------------------|--------------------|
| Pin 6 - Ref. Input      | Pin 13 - RF Out          | NC - Not Connected |
| Pin 7 - Vcc 1 (Digital) | Pin 14 - Lock Detect     |                    |
| Pin 8 - Vcc 2 (Tune)    | Pin 1,2,3,4,5,15,16 - NC |                    |
| Pin 9 - Vcc 3 (VCO)     | Pin 10,11,12 - GND.      |                    |

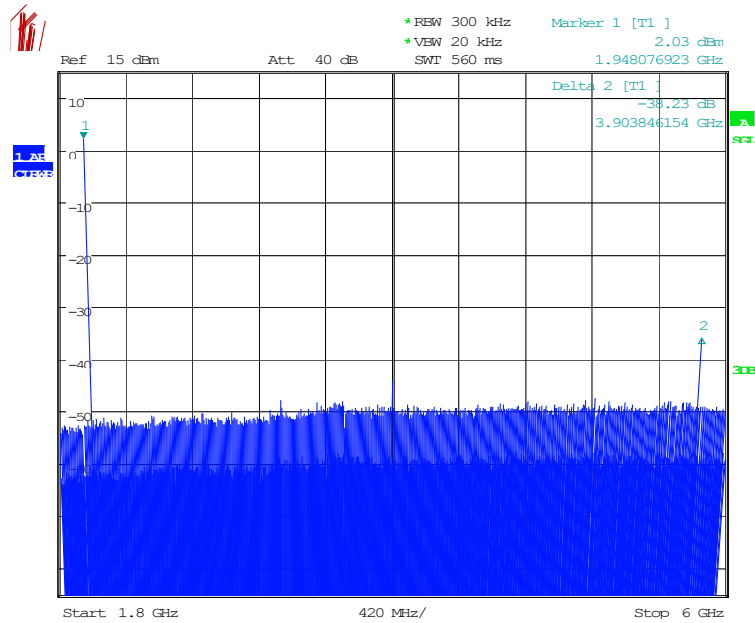
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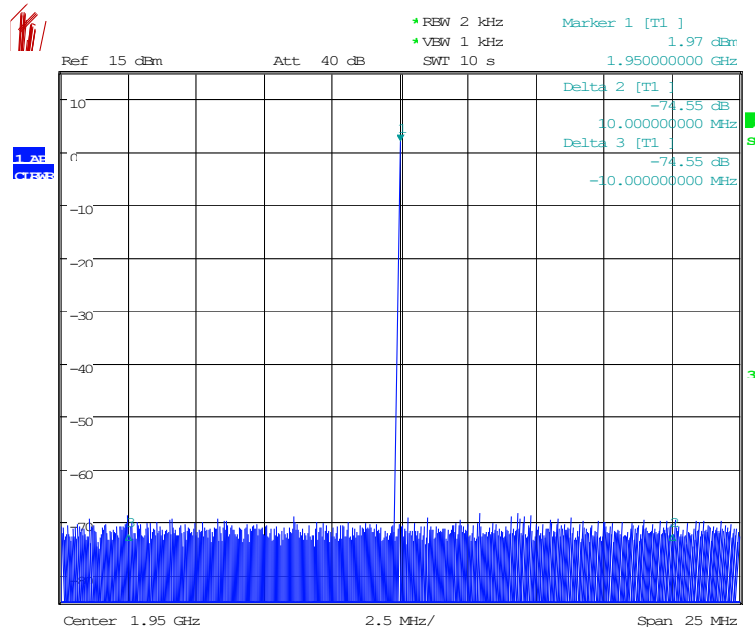
1950 MHz

PERFORMANCE PLOTS

### HARMONIC SUPPRESSION

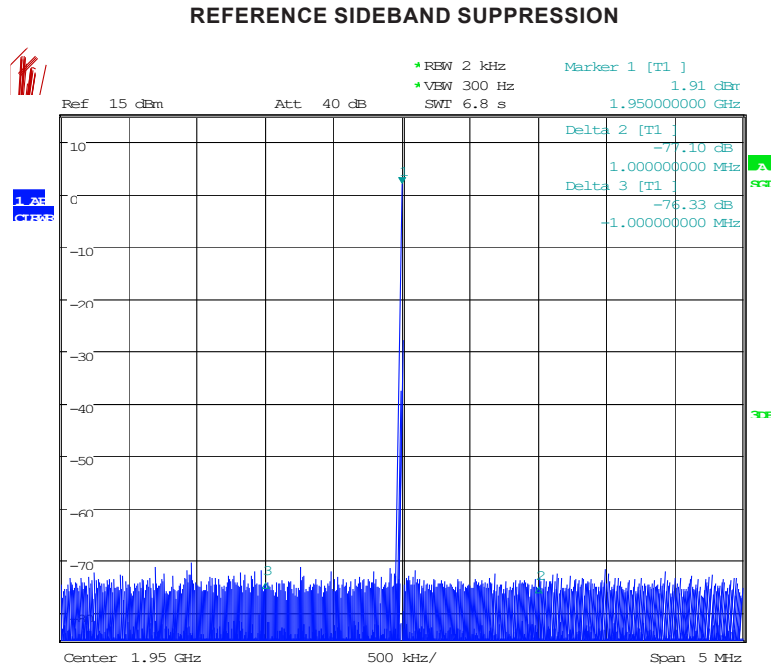


### REFERENCE SIDEBAND SUPPRESSION



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1950 MHz



PERFORMANCE PLOTS