

SELECTABLE FREQUENCY SYNTHESIZER

SURFACE MOUNT MODEL: FCPH100120-15

OPTIMIZED BANDWIDTH

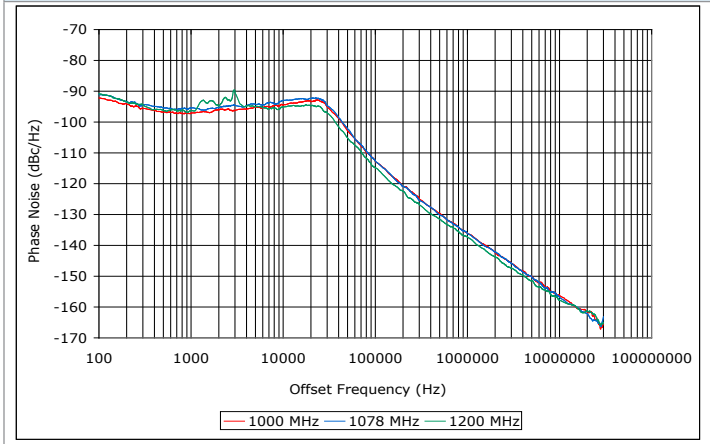
1000 - 1250 MHz

FEATURES:

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



Phase Noise



SPECIFICATIONS (Rev. E 10/31/11)

| | | | |
|------------------------------------|-----------------------------|-------------|-------------|
| Frequency | 1000 - 1250 MHz | | |
| Reference Input Frequency | 15 MHz | | |
| Reference Input Voltage | 1.0 V p-p to 3.3 V p-p | | |
| Bias Voltage | Vcc | V (Vdc) | I (mA Max.) |
| | Vcc 1 (Digital) | +5 | 15 |
| | Vcc 2 (Vtune) | +5 | 10 |
| | Vcc 3 (VCO) | +5 | 60 |
| Lock Detect Indicator | CMOS 3.3 V | | |
| Output Power | +8 dBm (Min.) | | |
| Spurious Suppression | 75 dB (Typ.) | | |
| Harmonic Suppression | 10 dB (Typ.) | | |
| Power Up Time | 90 mSec (Typ.) ¹ | | |
| Output Impedance | 50 Ohms (Nom.) | | |
| Typical Phase Noise | Offset | Phase Noise | |
| | @ 1 kHz | -96 dBc/Hz | |
| | @ 10 kHz | -93 dBc/Hz | |
| | @ 100 kHz | -113 dBc/Hz | |
| Operating Temperature Range | -40 to +85 °C | | |

¹ From stable power on to stable lock detect.

Binary Frequency Selection Table

| D3 | D2 | D1 | D0 | Freq. (MHz) |
|----|----|----|----|-------------|
| 0 | 0 | 0 | 0 | 1000 |
| 0 | 0 | 0 | 1 | -- |
| 0 | 0 | 1 | 0 | -- |
| 0 | 0 | 1 | 1 | -- |
| 0 | 1 | 0 | 0 | 1057.5 |
| 0 | 1 | 0 | 1 | -- |
| 0 | 1 | 1 | 0 | 1078 |
| 0 | 1 | 1 | 1 | 1100 |
| 1 | 0 | 0 | 0 | -- |
| 1 | 0 | 0 | 1 | -- |
| 1 | 0 | 1 | 0 | 1167.5 |
| 1 | 0 | 1 | 1 | 1188 |
| 1 | 1 | 0 | 0 | -- |
| 1 | 1 | 0 | 1 | -- |
| 1 | 1 | 1 | 0 | -- |
| 1 | 1 | 1 | 1 | 1200 |

* Voltage levels: 0V or gnd. / +5V or open.

Absolute Maximum Ratings

| | |
|-------------------------------------|----------------|
| Storage Temp. Range | -55 to +125 °C |
| Bias Voltage (Digital) | +5.25 V |
| Bias Voltage (Tune) | +16 V |
| Bias Voltage (VCO) | +5.5 V |
| DC Voltage Applied to RF Out | ± 25 V |

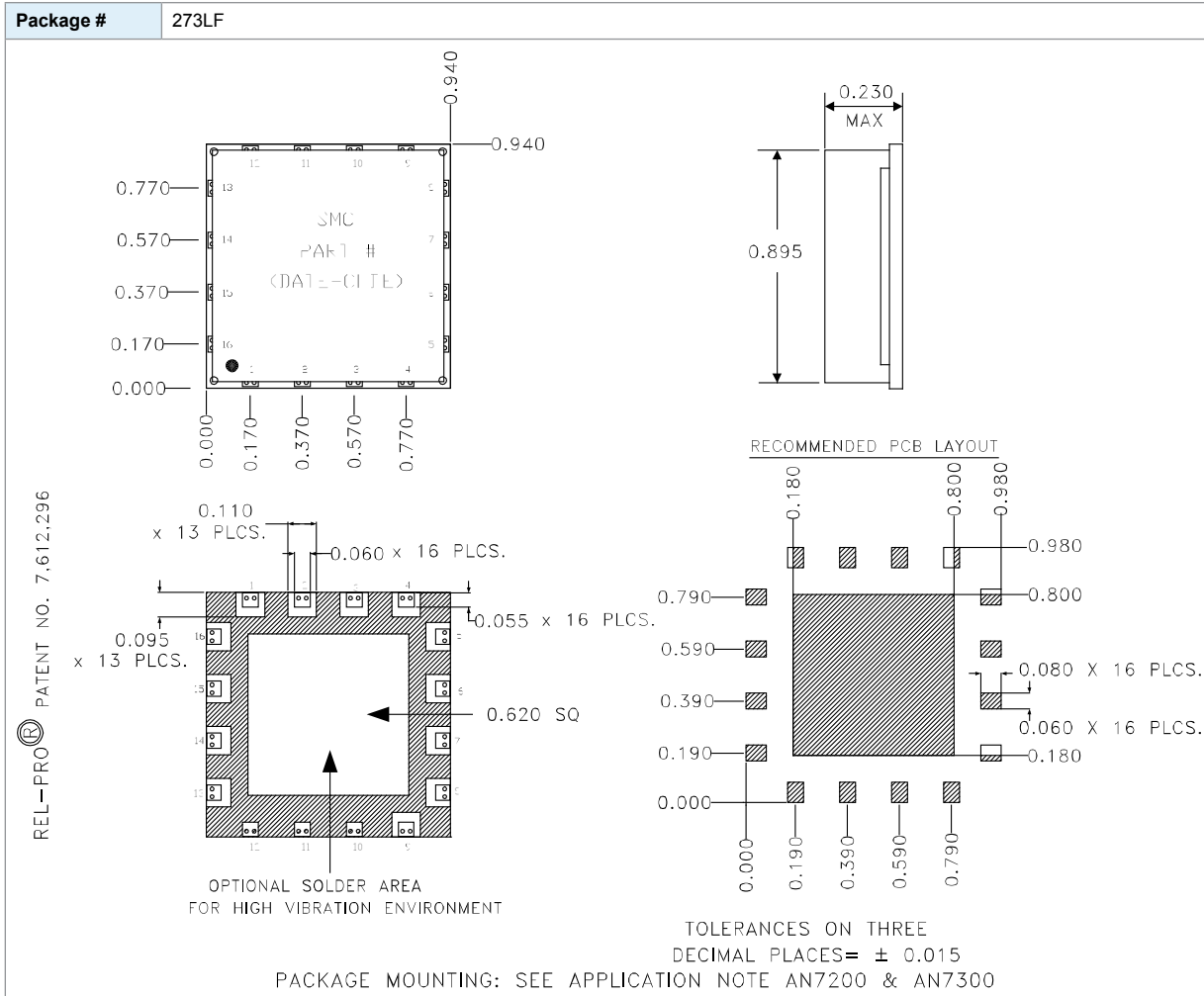
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PORT CONFIGURATION

| | | |
|-------------------------|-------------------------|--|
| Pin 2 - D0 | Pin 8 - Vcc 2 (Tune) | NC - No Connection |
| Pin 3 - D1 | Pin 9 - Vcc 3 (VCO) | *High when locked (source/sink 500 uA) |
| Pin 4 - D2 | Pin 13 - RF Out | |
| Pin 5 - D3 | Pin 14 - Lock Detect * | |
| Pin 6 - Ref. In | Pin 1, 15, 16 - NC | |
| Pin 7 - Vcc 1 (Digital) | Pin 10, 11, 12 - Ground | |

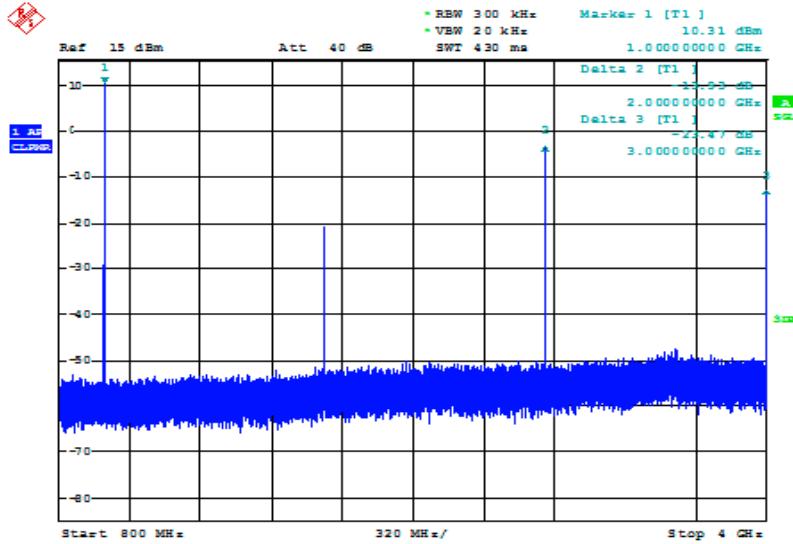
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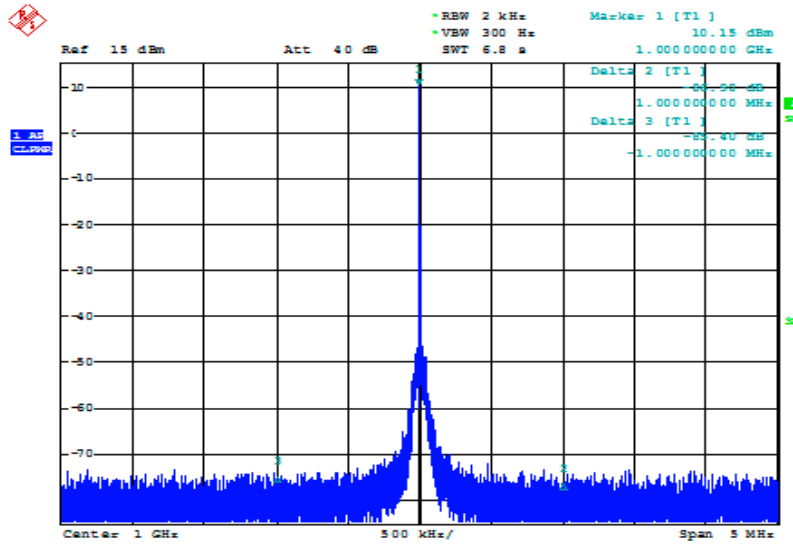
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HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION

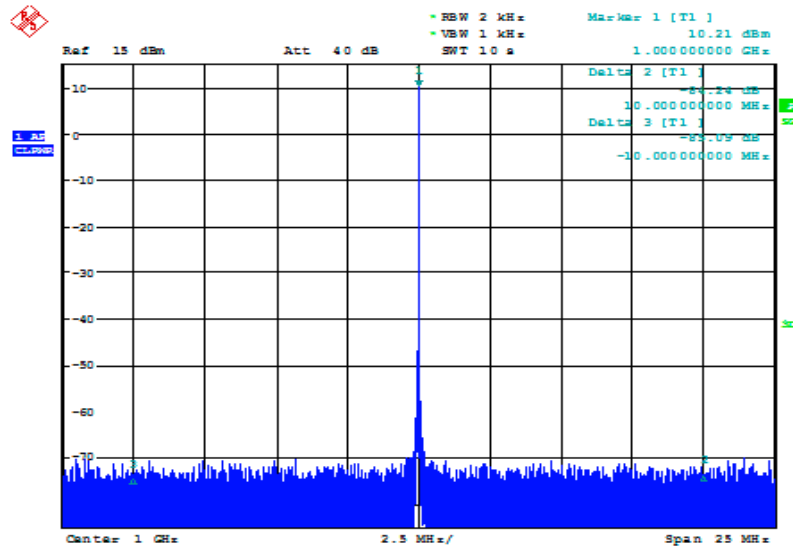


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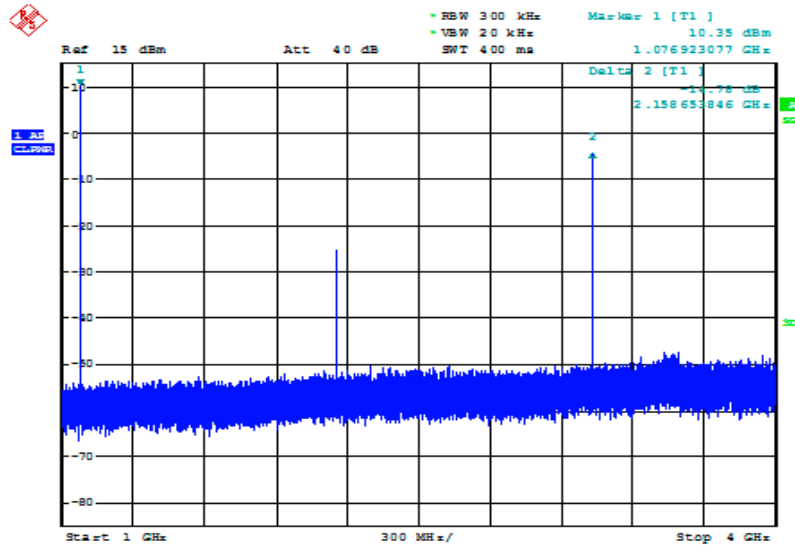
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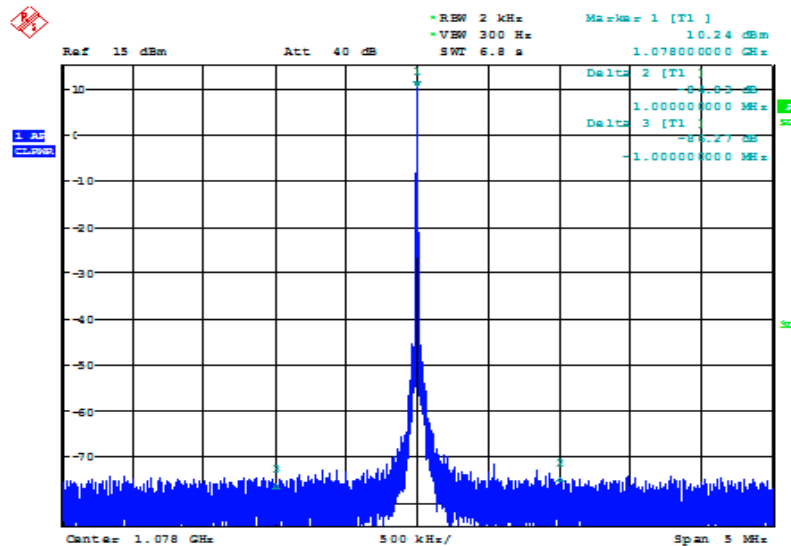
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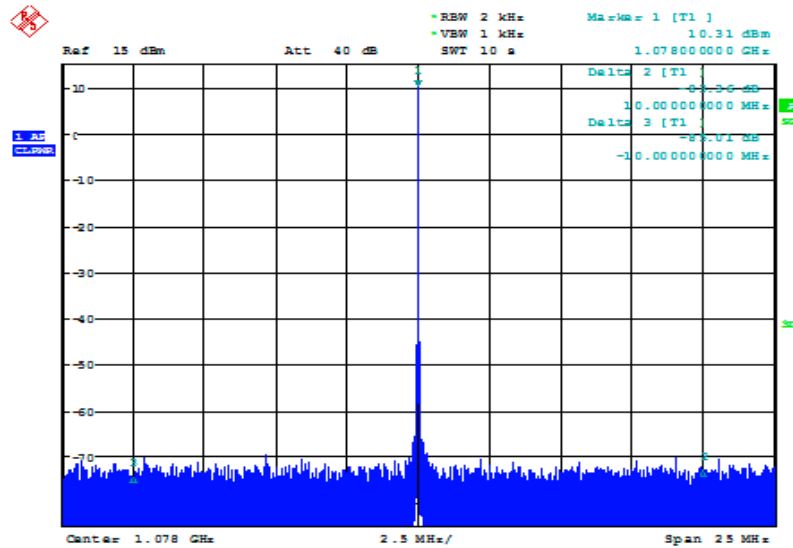


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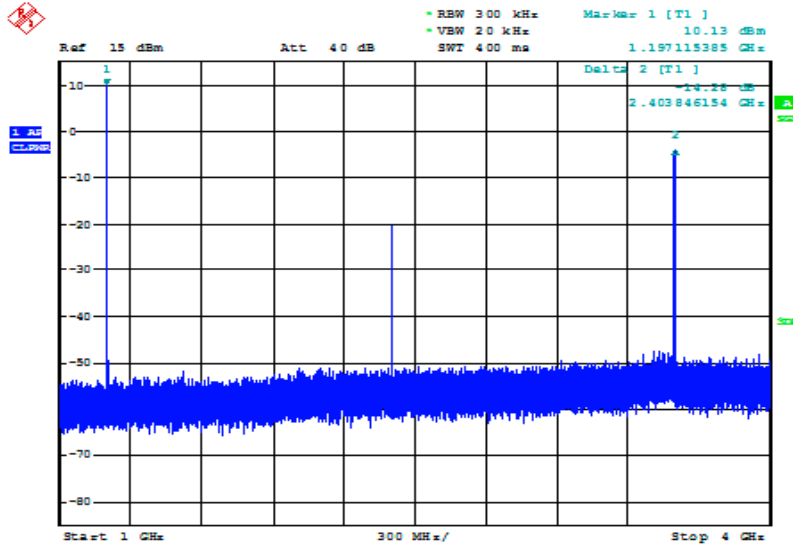
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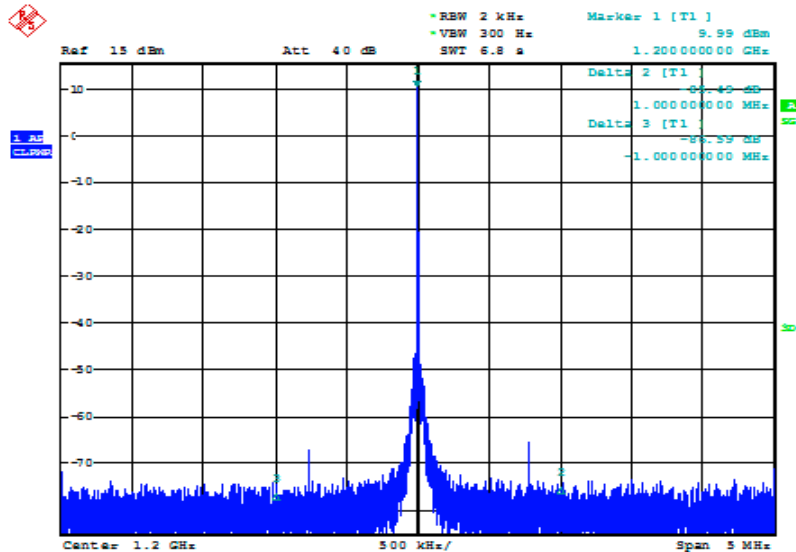
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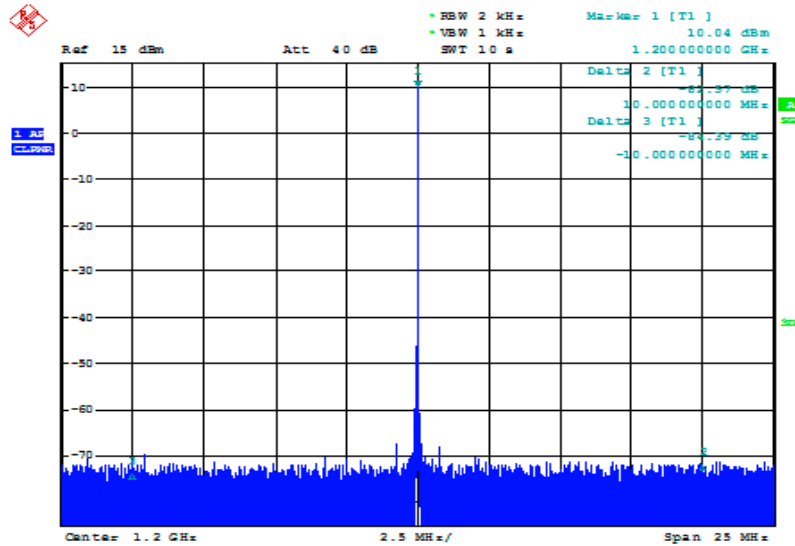
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