

INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW80210-50

WIDE BANDWIDTH

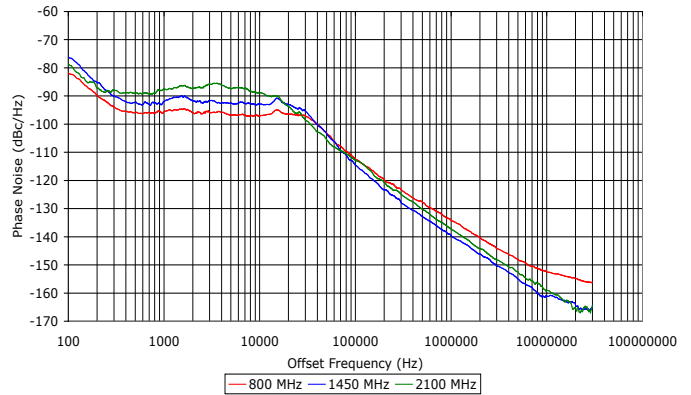
800 - 2100 MHz

FEATURES:

- ▶ Exceptionally Low Phase Noise
- ▶ Interactive Communication
- ▶ Standard Programming Interface
- ▶ Ultra Wide Tuning Range
- ▶ Lead Free - RoHS Compliant
- ▶ Patented REL-PRO® Technology
- ▶ Small Size, Surface Mount
- ▶ Buffered Output



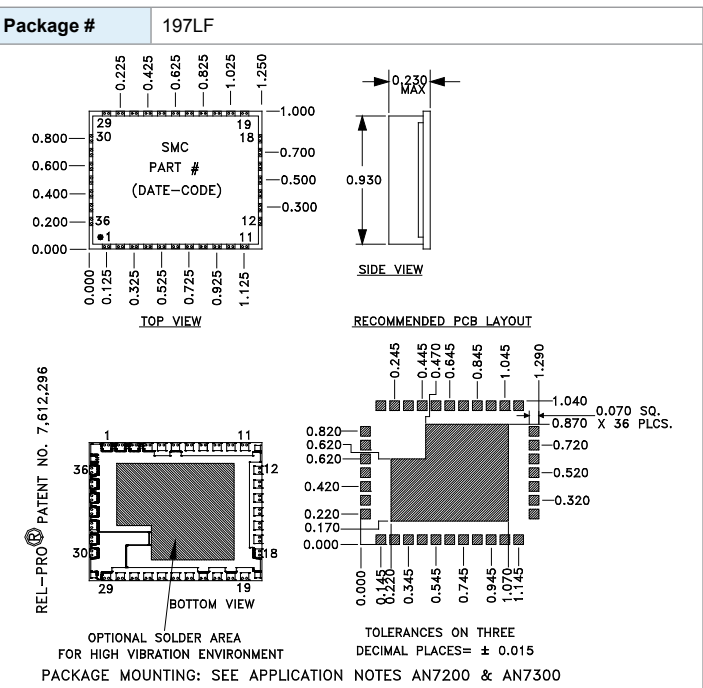
Phase Noise



SPECIFICATIONS (Rev. D 04/25/11)

| | | | |
|-----------------------------|------------------------------|-------------|-------------|
| Frequency | 800 - 2100 MHz | | |
| Step Size | 500 kHz | | |
| Reference Input Frequency | 10 MHz ¹ | | |
| Reference Input Voltage | 1.0 V p-p to 3.3 V p-p | | |
| Bias Voltage | Vcc | V (Vdc) | I (mA Max.) |
| | Digital | +5 | 50 |
| | VCO | +5 | 35 |
| | Converter | +5 | 55 |
| Lock Detect Indicator | CMOS 3.3 V | | |
| Output Power | +4 dBm (Min.) | | |
| Spurious Suppression | 76 dB (Typ.) | | |
| Harmonic Suppression | 15 dB (Typ.) | | |
| Settling Time | 5 mSec (Typ.) ² | | |
| Output Impedance | 50 Ohms (Nom.) | | |
| Typical Phase Noise | Offset | Phase Noise | |
| | @ 1 kHz | -92 dBc/Hz | |
| | @ 10 kHz | -93 dBc/Hz | |
| | @ 100 kHz | -113 dBc/Hz | |
| Operating Temperature Range | -40 to +85 °C | | |
| Programming | See Application Note: AN7100 | | |

¹ Reference input frequency is programmable (See AN7100) in multiples of the step size, 10 MHz is the factory default setting. 150 MHz (Max.)
² From the rising edge of LE to stable lock detect



Absolute Maximum Ratings

| | |
|------------------------------|----------------|
| Storage Temp. Range | -55 to +125 °C |
| Bias Voltage (Digital) | +5.25 V |
| Bias Voltage (VCO) | +5.5 V |
| Bias Voltage (Converter) | +8 V |
| DC Voltage Applied to RF Out | ±25 V |

Port Configuration

| | | |
|---------------------------|-------------------------------|---------------------------|
| Pin 5 - RF out | Pin 21 - Ref. In | Pin 8,12,14,15,16,17 - NC |
| Pin 7 - Lock Detect Out * | Pin 23 - Vcc (Digital) | All Others - Ground |
| Pin 9 - Data In | Pin 24 - Vtune (Output) | |
| Pin 10 - Error Flag | Pin 25 - Vcc (VCO) | NC - No Connection |
| Pin 11 - Clock In | Pin 26 - Vout (Converter) *** | |
| Pin 13 - VCO (On/Off)**** | Pin 27 - Vcc (Tune) *** | |
| Pin 19 - Latch Enable In | Pin 28 - Vcc (Converter) | |

* High when locked (source/sink 500 uA)
 *** Connect externally. Bypassed with a 10uF 35V tantalum capacitor.
 **** NC if unused.

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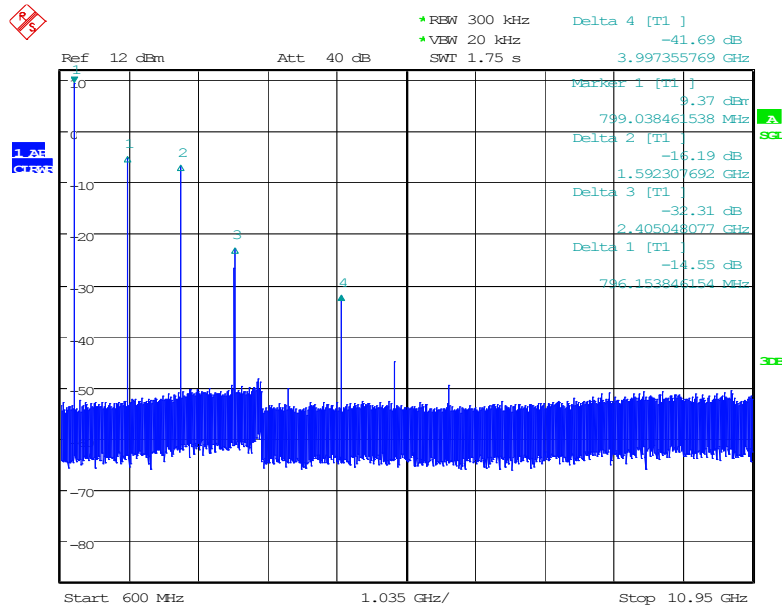
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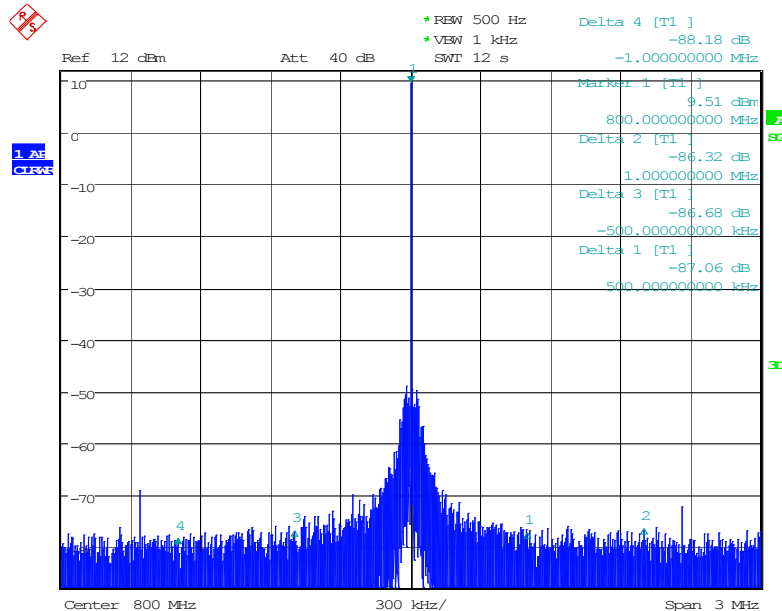
WIDE BANDWIDTH

800 - 2100 MHz

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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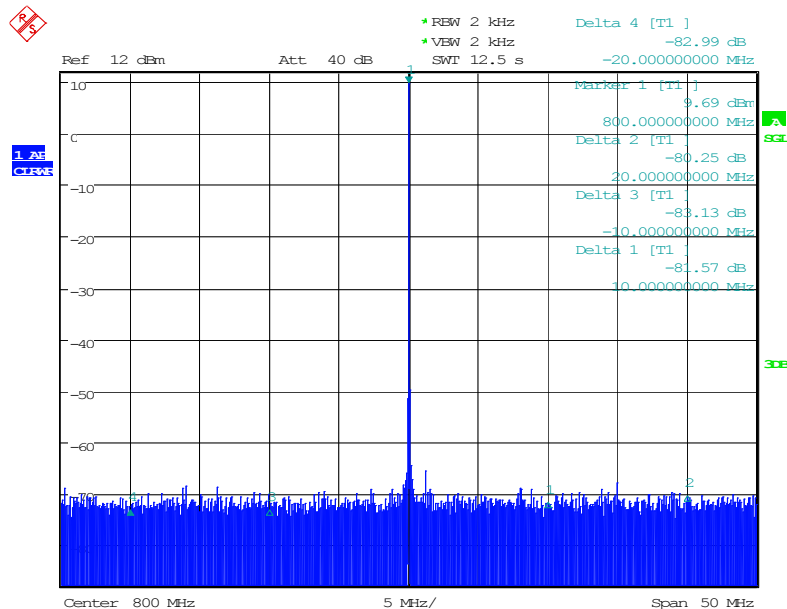
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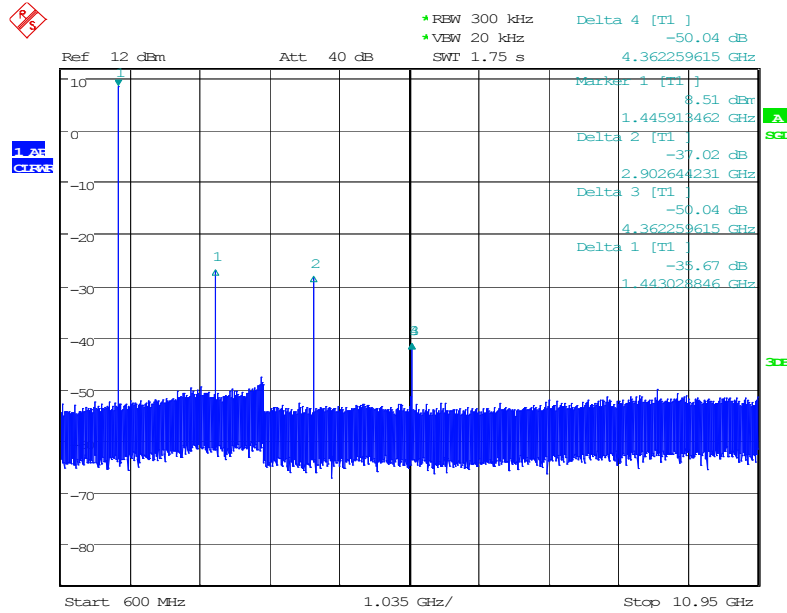
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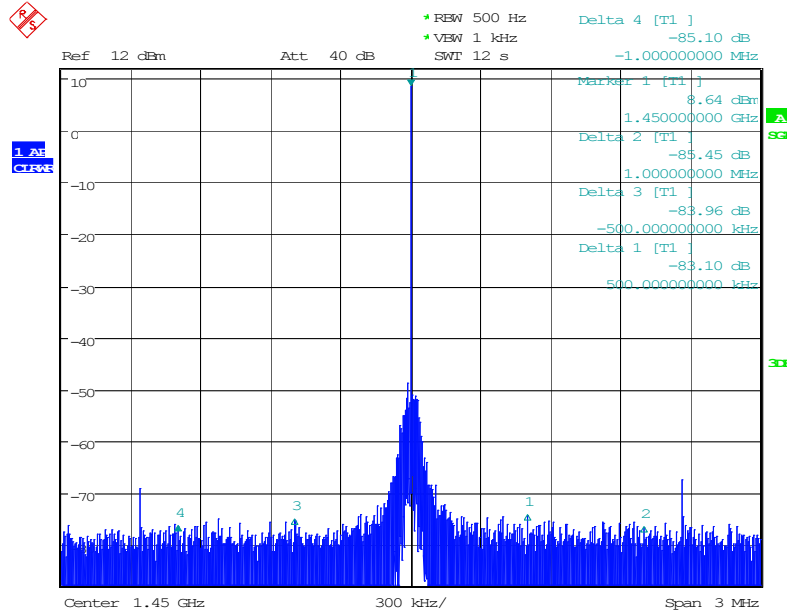
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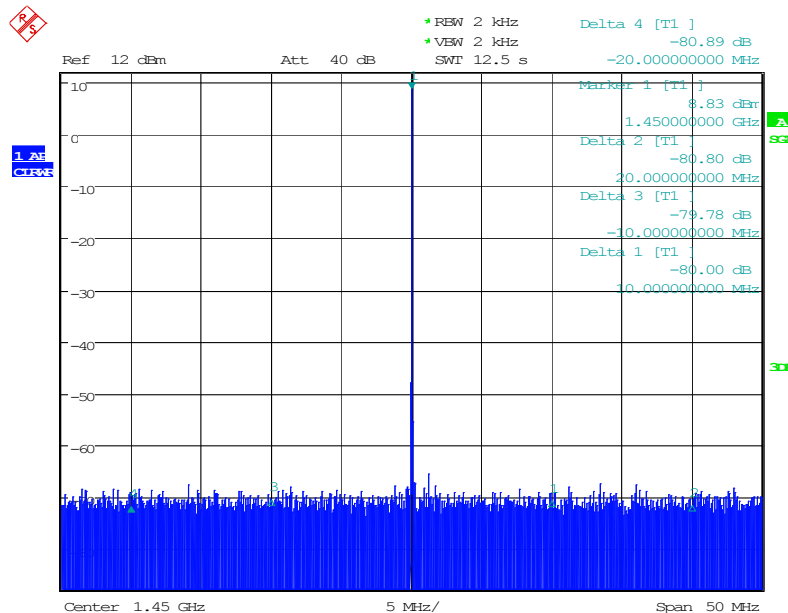
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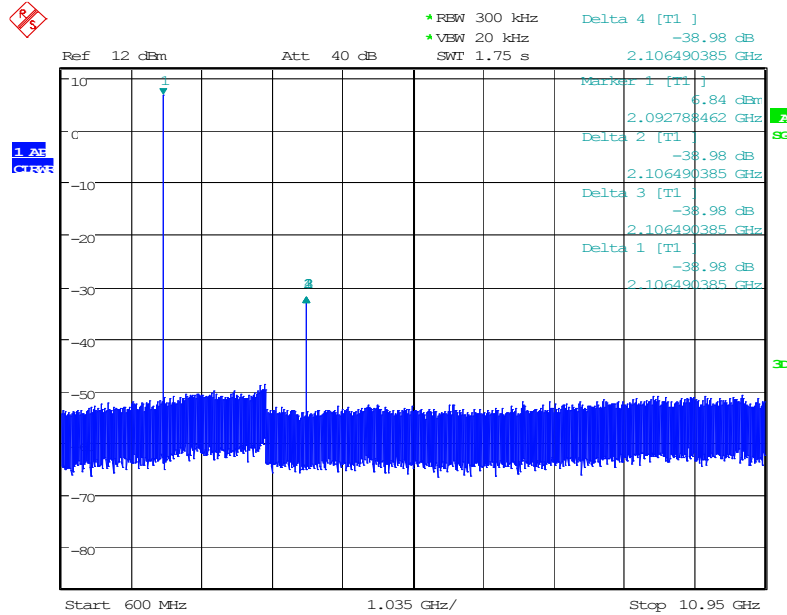
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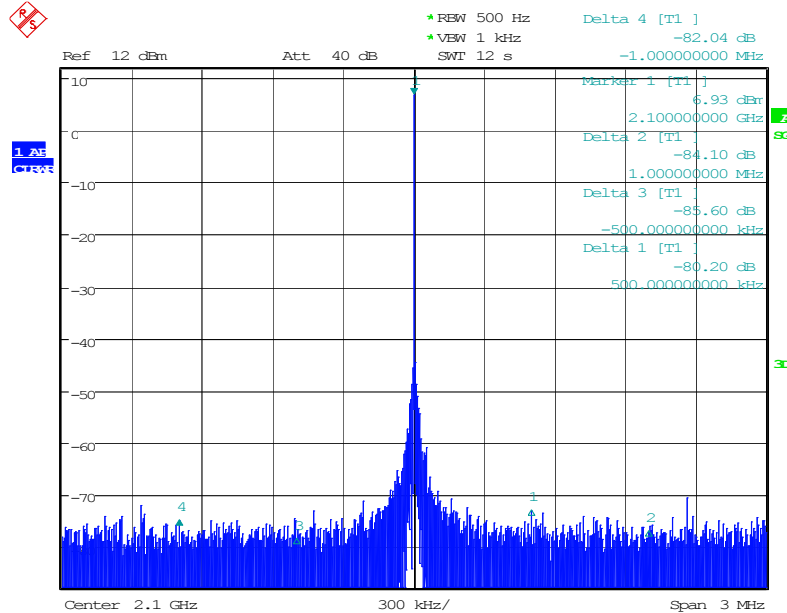
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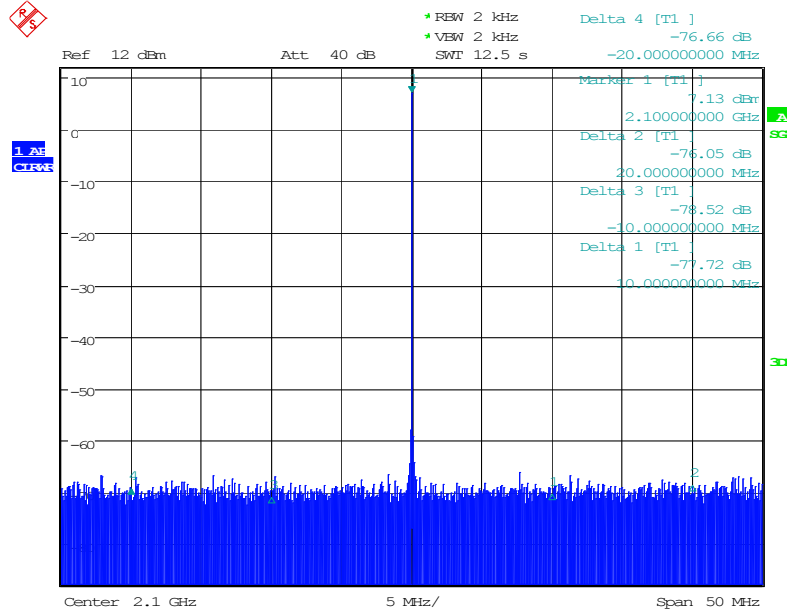
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