# INTELLIGENT INTERACTIVE SYNTHESIZER
# SURFACE MOUNT MODEL: FSW60135-50

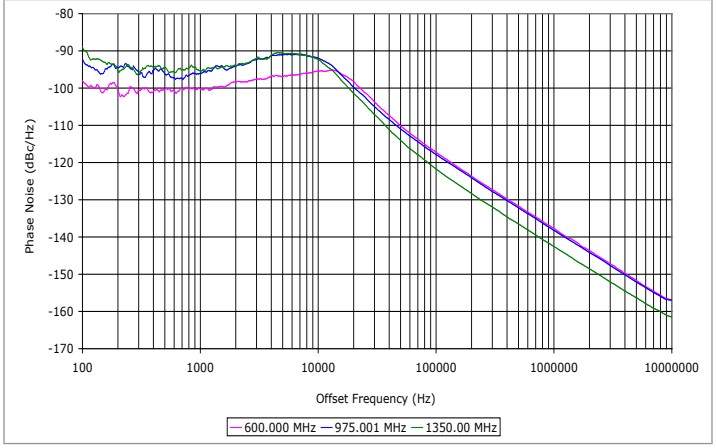
## WIDE BANDWIDTH — 600 - 1350 MHz

***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**



**Phase Noise**

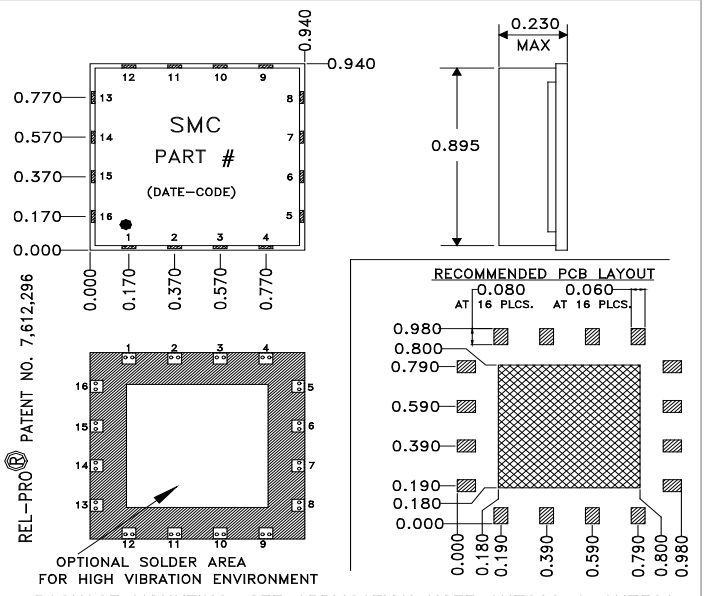



## SPECIFICATIONS (Rev. C 03/24/11)

| | |
|---|---|
| **Frequency** | 600 - 1350 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: Digital +5 V (Vdc) 15 I (mA Max.); VCO +5 V 40; Tune +15 V 10 |
| **Output Power** | +1 dBm (Min.) |
| **Spurious Suppression** | 85 dB (Typ.) |
| **Harmonic Suppression** | 12 dB (Typ.) |
| **Settling Time** | 5 mSec (Typ.) [2] |
| **Output Impedance** | 50 Ohms (Nom.) |
| **Lock Detect Indicator** | CMOS 3.3 V |
| **Typical Phase Noise** | Offset: @ 1 kHz -95 dbc/Hz; @ 10 kHz -92 dbc/Hz; @ 100 kHz -118 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 default setting. 150 MHz (Max.)*
*[2] From the rising edge of LE to stable lock detect*

**Package #** 273LF




PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200 & AN7300

**Port Configuration**

| | | |
|---|---|---|
| Pin 1,2,3 - NC | Pin 8 - Vcc (Tune) | Pin 16 - Clock In |
| Pin 4 - Error flag | Pin 9 - Vcc (VCO) | All Others - Ground |
| Pin 5 - Latch Enable In | Pin 13 - RF Out | |
| Pin 6 - Ref. In | Pin 14 - Lock Detect Out * | NC - No Connection |
| Pin 7 - Vcc (Digital) | Pin 15 - Data In | |

** High when locked (source/sink 500 uA)*

## Absolute Maximum Ratings

| | |
|---|---|
| **Storage Temp. Range** | -55 to +125 ºC |
| **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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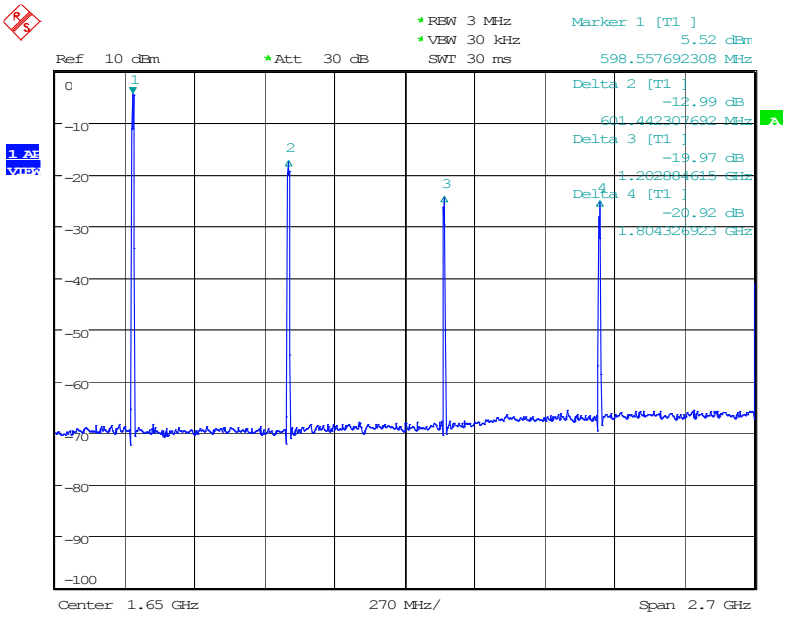
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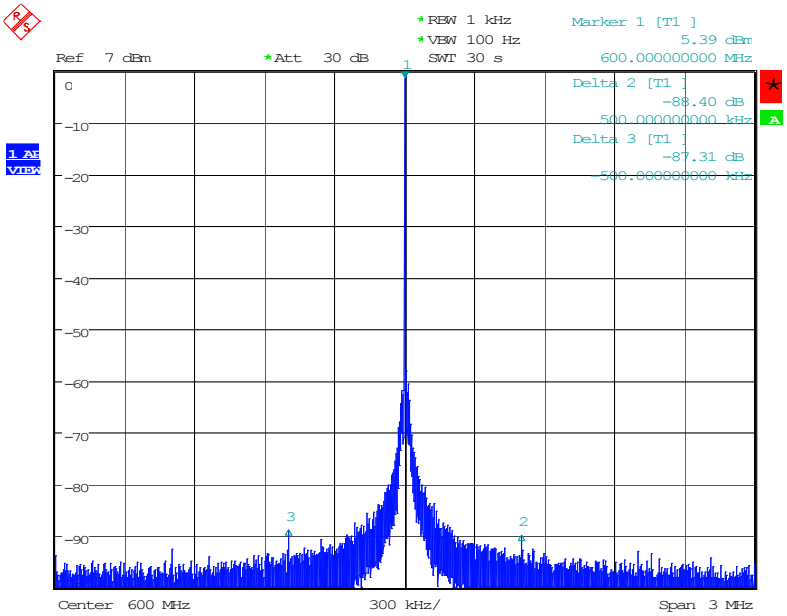
## 600 - 1350 MHz

PERFORMANCE PLOTS

### HARMONIC SUPPRESSION




### REFERENCE SIDEBAND SUPPRESSION




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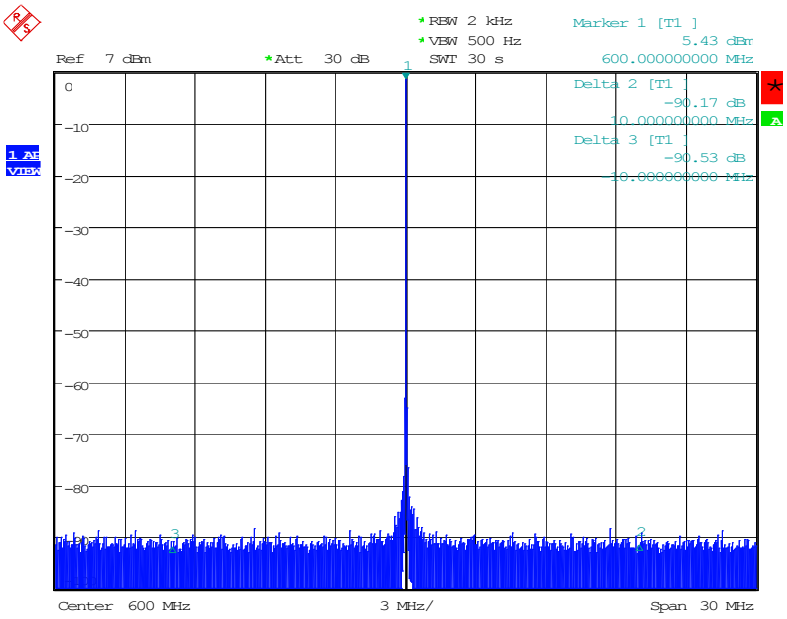
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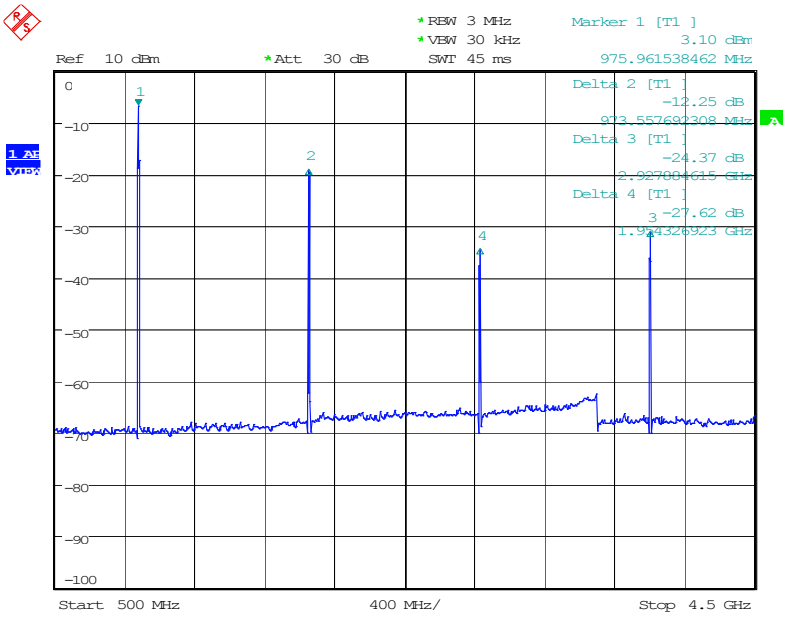
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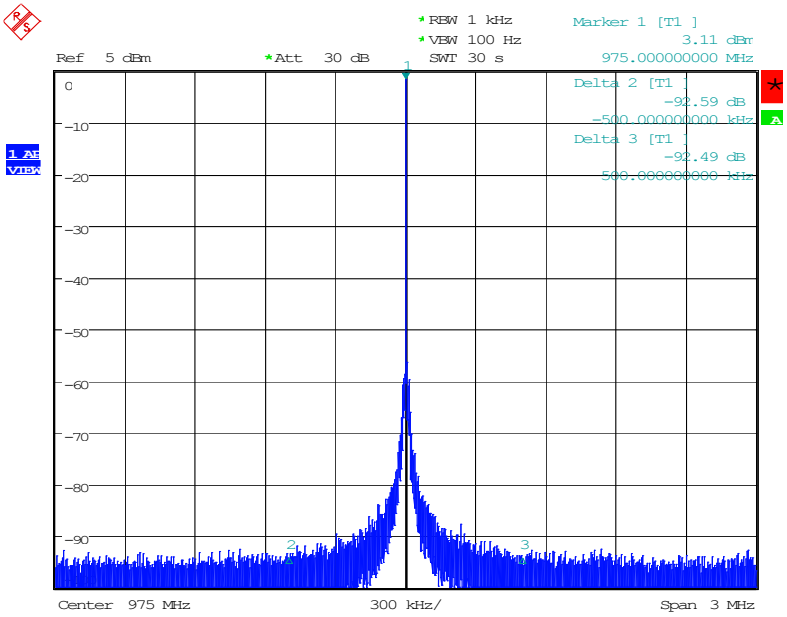
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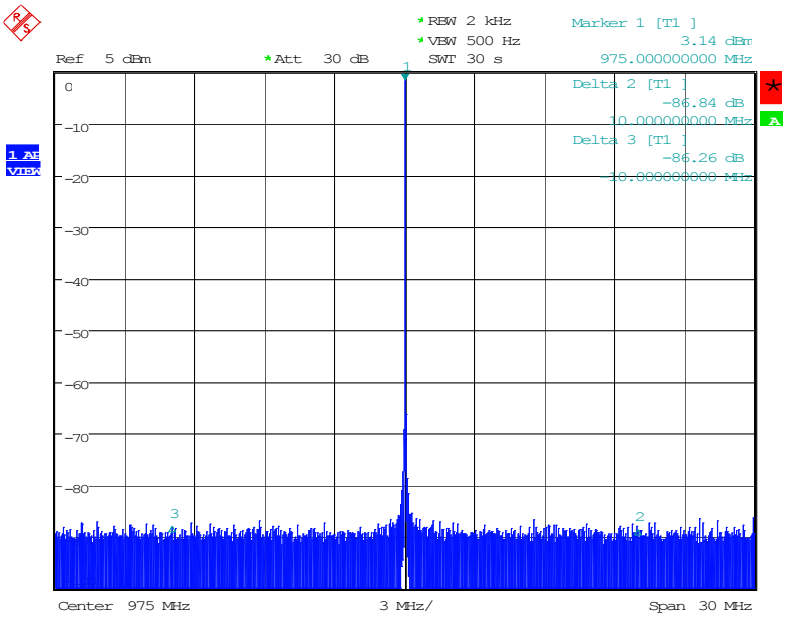
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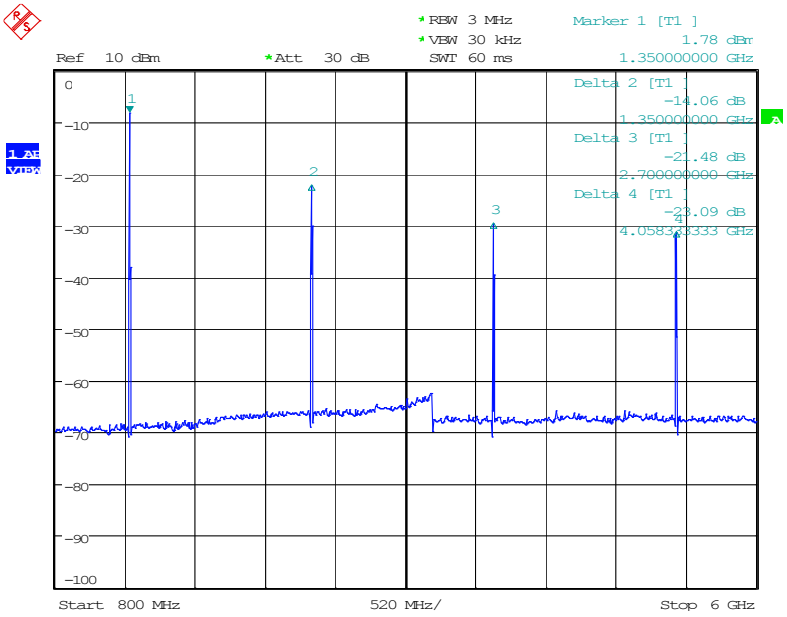
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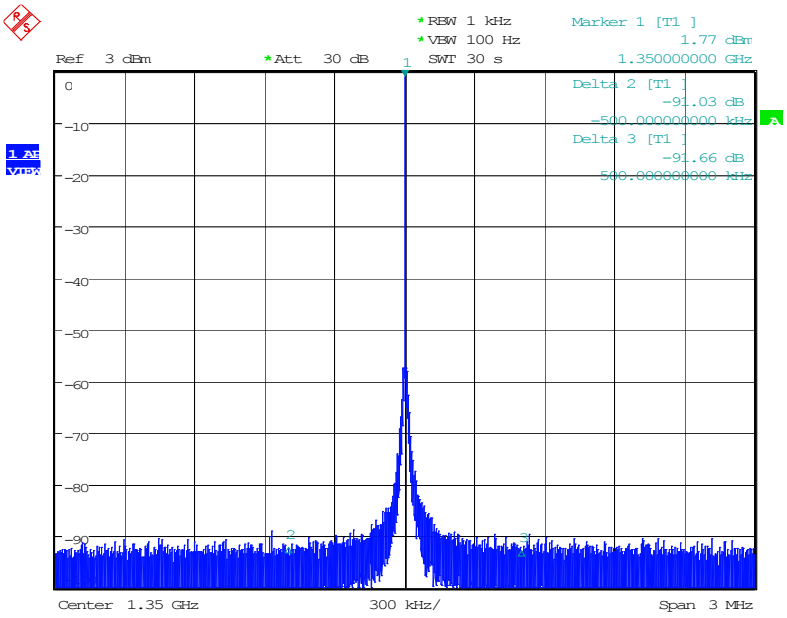
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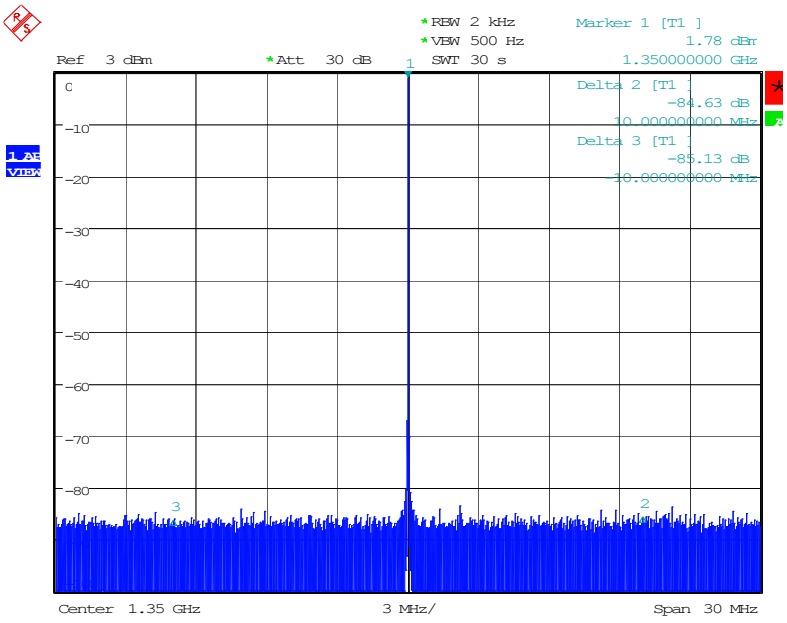
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