

# INTELLIGENT INTERACTIVE SYNTHESIZER

## SURFACE MOUNT MODEL: FSW200400-100

WIDE BANDWIDTH

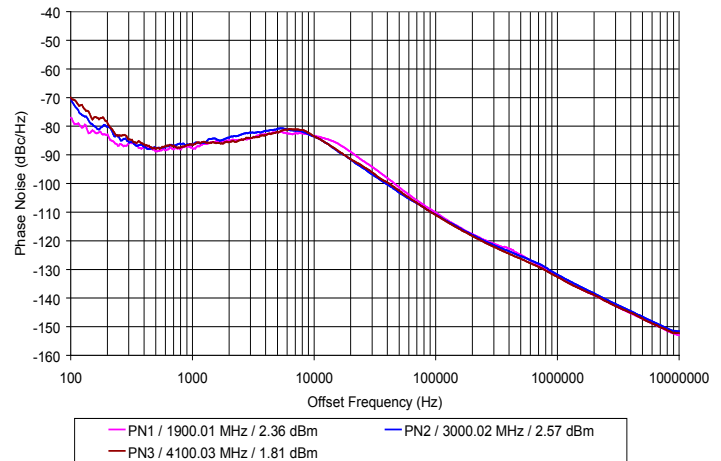
2000 - 4000 MHz

**FEATURES:**

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



**Phase Noise**



**SPECIFICATIONS (Rev. C 01/12/09)**

<b>Frequency</b>	2000 - 4000 MHz		
<b>Step Size</b>	1000 kHz		
<b>Reference Input Frequency</b>	10 MHz		
<b>Reference Input Voltage</b>	1 V p-p to 3.3 V p-p		
<b>Bias Voltage</b>	Vcc	V (Vdc)	I (mA Max)
	Digital	+5	15
	VCO	+5	50
	Tune	+18	5
<b>Output Power</b>	+3 dBm ±3 dB		
<b>Spurious Suppression</b>	-70 dBc (Max)		
<b>Harmonic Suppression</b>	-10 dBc (Typ)		
<b>Settling Time</b>	10 mSec (Typ)*		
<b>Output Impedance</b>	50 Ohms		
<b>Typical Phase Noise</b>	Offset	Phase Noise	
	@ 1 kHz	-85 dbc/Hz	
	@ 10 kHz	-85 dbc/Hz	
	@ 100 kHz	-110 dbc/Hz	
<b>Operating Temperature Range</b>	-40 to +85 °C		
<b>Programming</b>	See Application Note: AN7100		

\* From the rising edge of LE to stable lock detect

**Package #** 273LF

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

**RECOMMENDED PCB LAYOUT**  
 AT 16 PLCS. AT 16 PLCS.

**OPTIONAL SOLDER AREA FOR HIGH VIBRATION ENVIRONMENT**

PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

This product is manufactured under one or more of the following patents: **Approved:** 5,160,810; 5,122,621; 5,390,349; 5,416,449; 5,650,754; 5,805,431; 6,525,623; 6,850,575; 7,088,189; 7,180,381; 7,196,591; 7,262,670; 7,265,642; 7,292,113  
**Pending:** 60/493075; 60/501371 & 60/501790; 60/527957 & 60/528670; 60/563481; 60/564173; 60/589090; 60/601823; 60/605791; EV31369834; 11/259766; 60/622485 & 60/710310; 10/937525/60/736901; 60/732787

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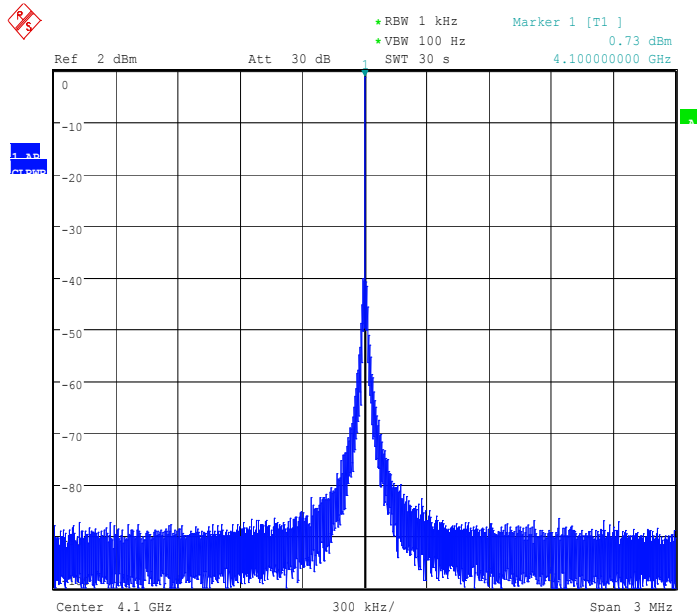
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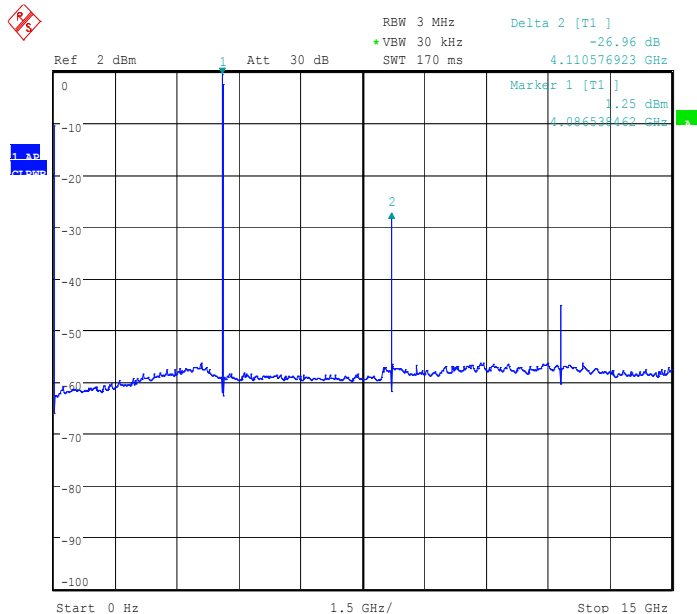
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2000 - 4000 MHz

### REFERENCE SIDEBAND SUPPRESSION



### TYPICAL HARMONIC REJECTION



PERFORMANCE PLOTS

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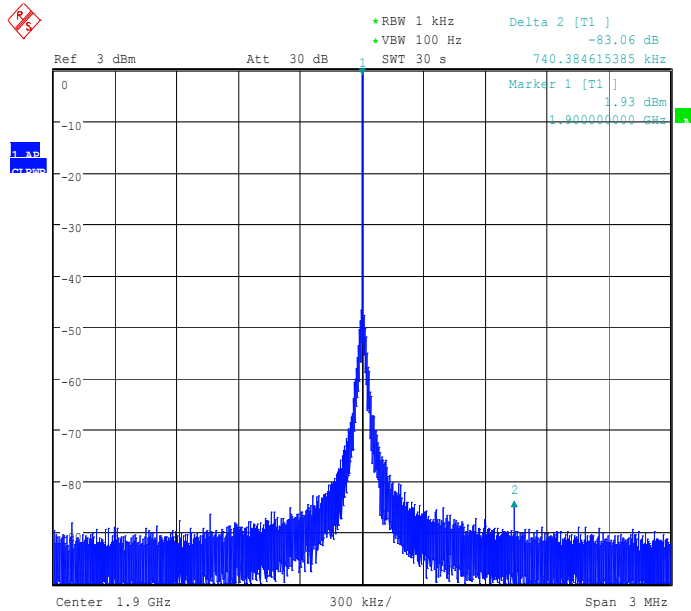
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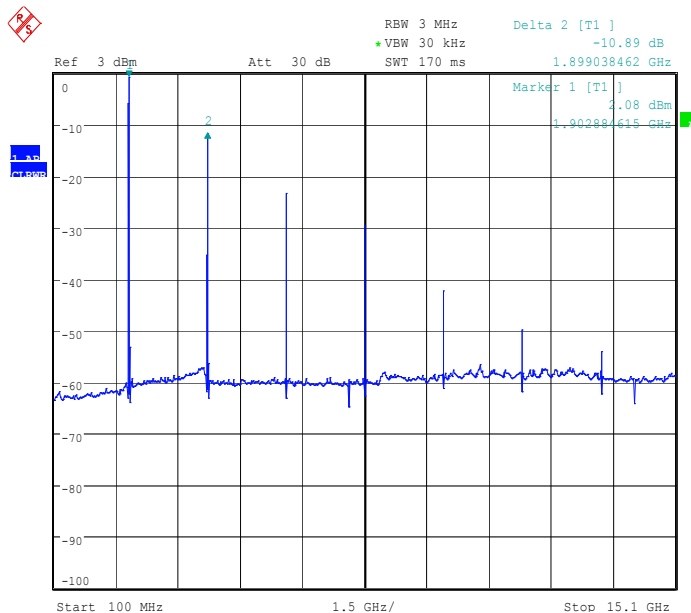
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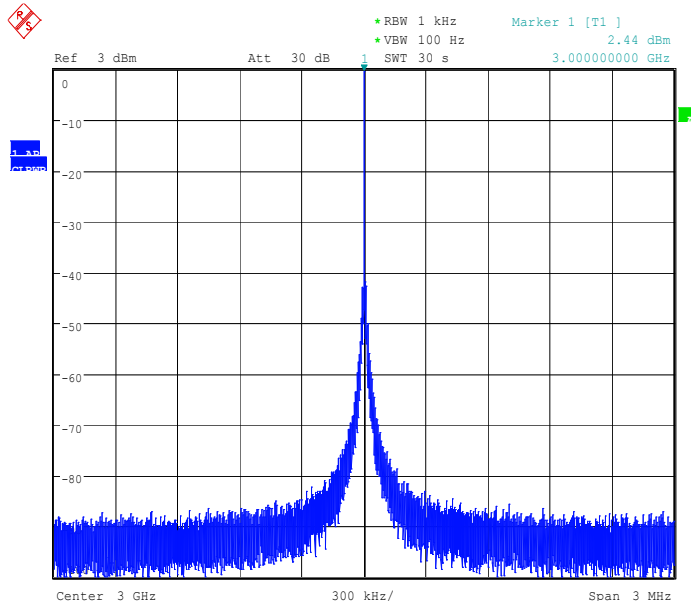
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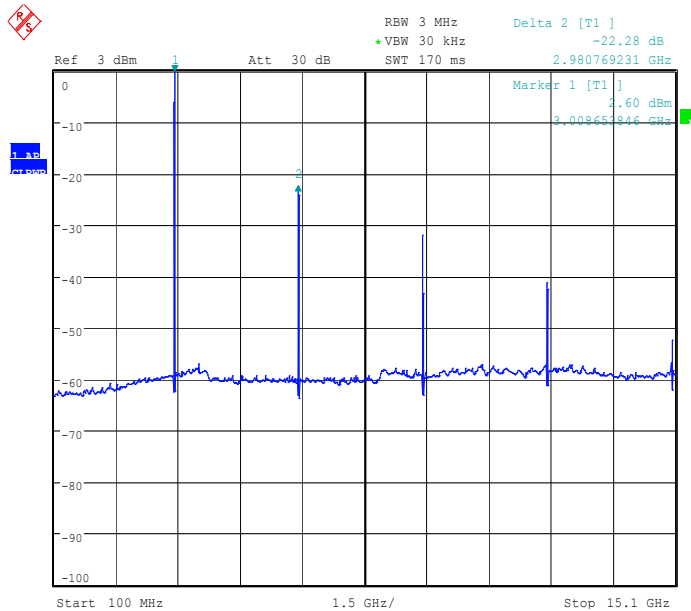
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