

# INTELLIGENT INTERACTIVE SYNTHESIZER

## SURFACE MOUNT MODEL: LFSW110250-100

**WIDE BANDWIDTH**

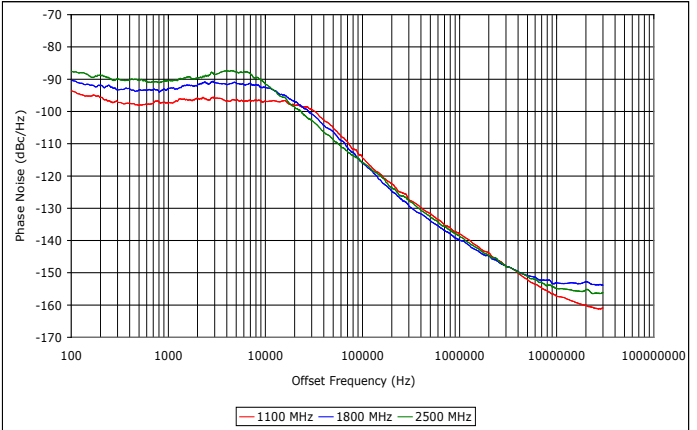
**1100 - 2500 MHz**

**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. B 03/31/11)**

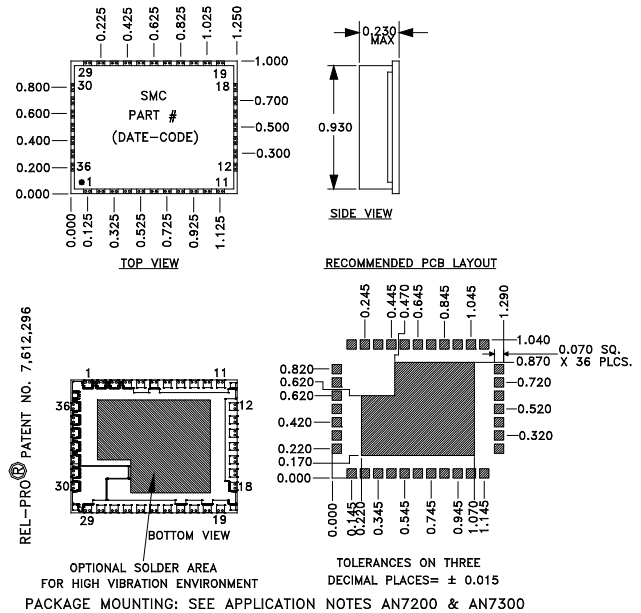
<b>Frequency</b>	1100 - 2500 MHz		
<b>Step Size</b>	1 MHz		
<b>Reference Input Frequency</b>	10 MHz <sup>1</sup>		
<b>Reference Input Voltage</b>	1 V p-p to 3.3 V p-p		
<b>Bias Voltage</b>	Vcc	V (Vdc)	I (mA Max.)
	Digital	+5	50
	VCO	+5	35
	Converter	+5	55
<b>Output Power</b>	+5 dBm (Min.)		
<b>Spurious Suppression</b>	70 dB (Typ.)		
<b>Harmonic Suppression</b>	20 dB (Typ.)		
<b>Settling Time</b>	10 mSec (Typ.) <sup>2</sup>		
<b>Output Impedance</b>	50 Ohms (Nom.)		
<b>Lock Detect Indicator</b>	CMOS 3.3 V		
<b>Typical Phase Noise</b>	Offset	Phase Noise	
	@ 1 kHz	-92 dbc/Hz	
	@ 10 kHz	-92 dbc/Hz	
	@ 100 kHz	-115 dbc/Hz	
<b>Operating Temperature Range</b>	-40 to +85 °C		
<b>Programming</b>	See Application Note: AN7100		

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

**Absolute Maximum Ratings**

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

**Package # 197LF**



**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.

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; 7,365,612; 7,495,525; 2,548,311; 2,548,317; 7,545,229; 7,580,693; 7,586,381; 7,605,670; 7,636,021; 2,533,623  
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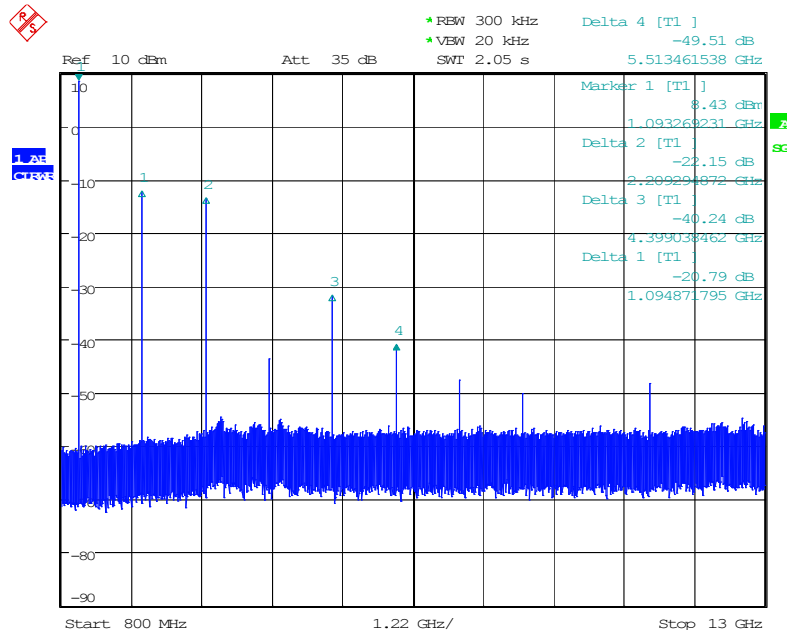
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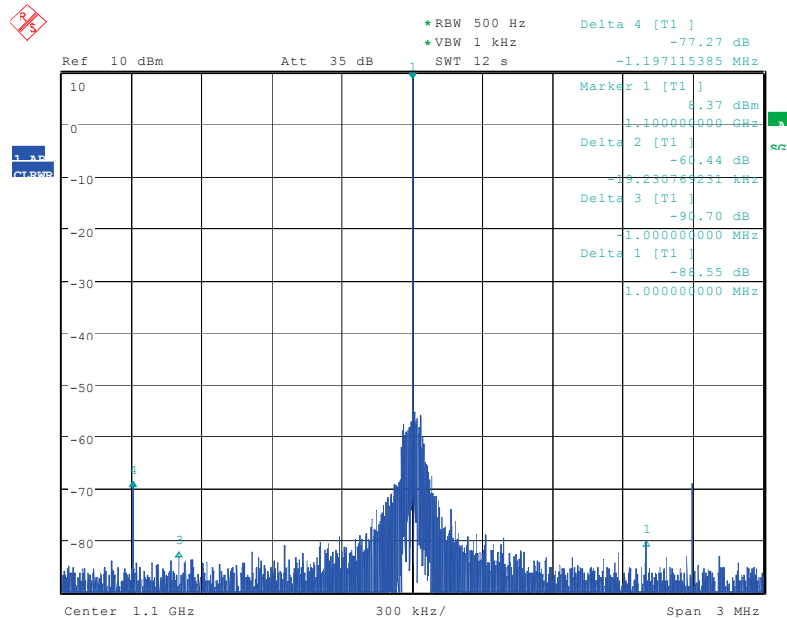
WIDE BANDWIDTH

1100 - 2500 MHz

### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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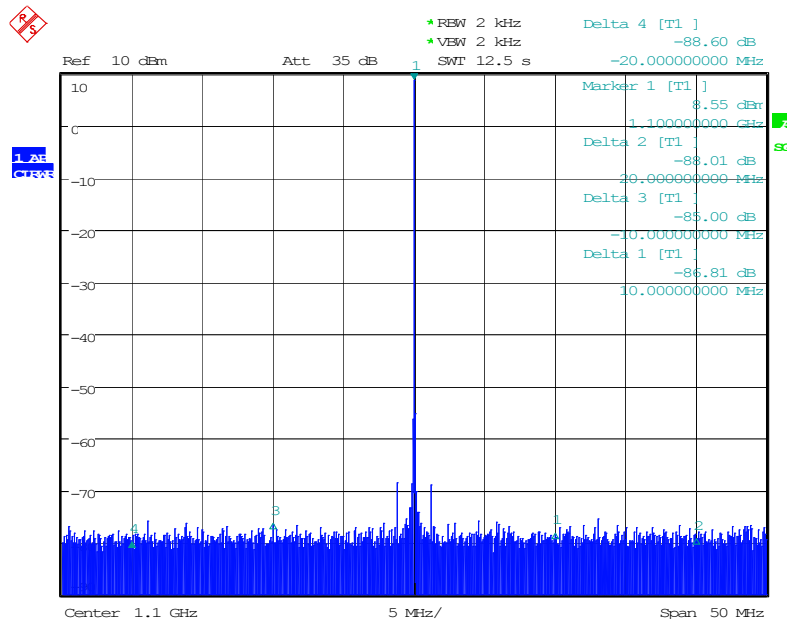
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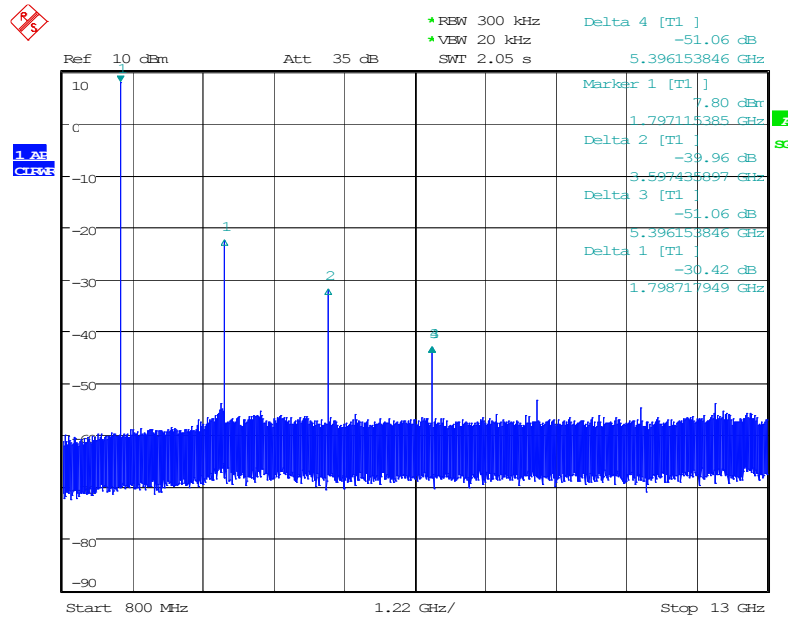
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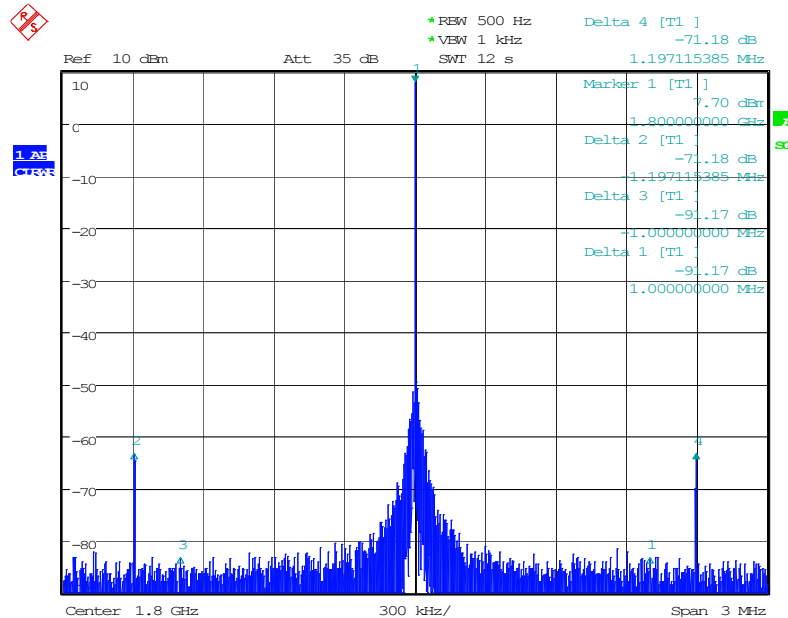
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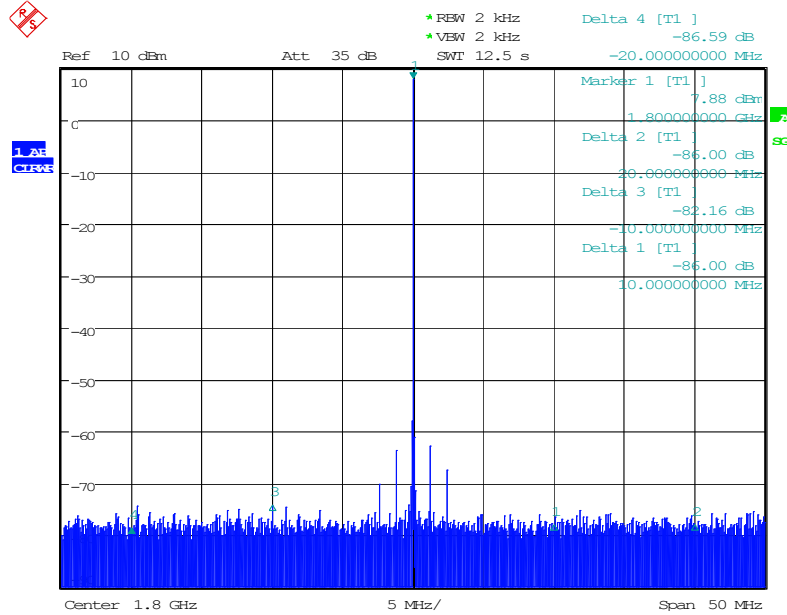
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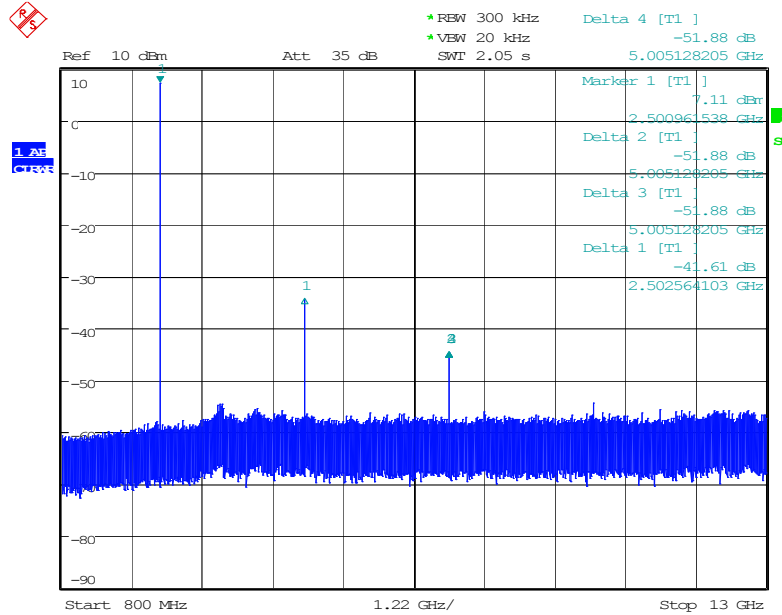
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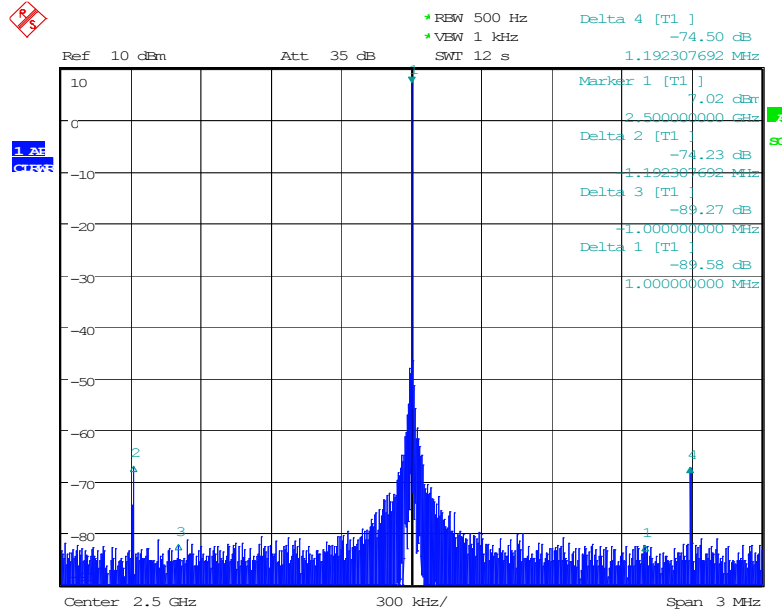
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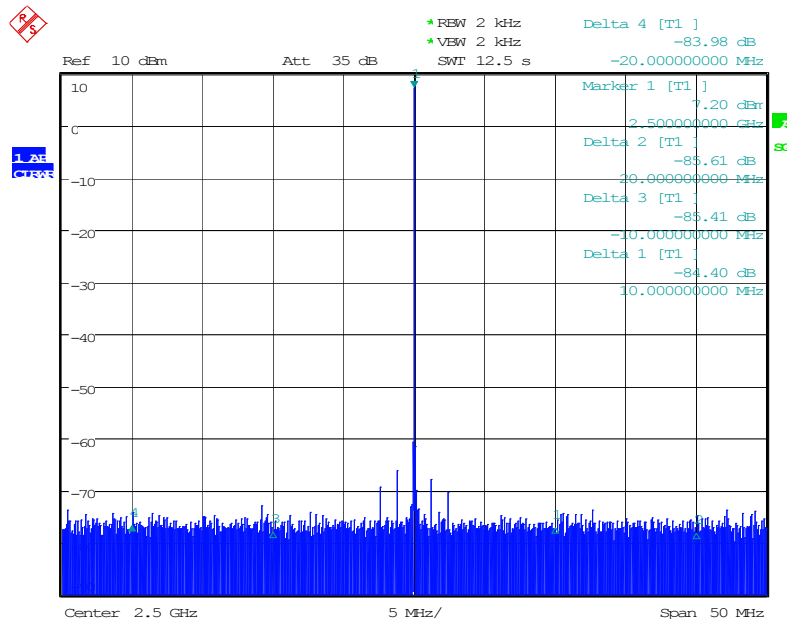
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