

INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW1545-50

WIDE BANDWIDTH

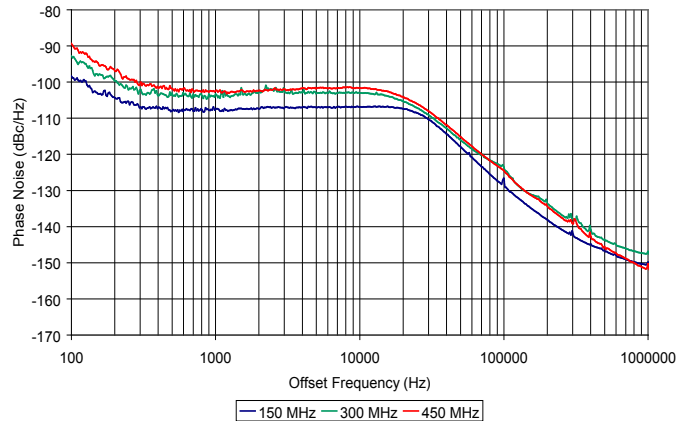
150 - 450 MHz

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. L 12/07/07)

Frequency	150 - 450 MHz		
Step Size	500 kHz		
Reference Input Frequency	10 MHz *		
Reference Input Voltage	1.0 V p-p to 3.3 V p-p		
Bias Voltage	Vcc	V (Vdc)	I (mA Max)
	Digital	+5	65
	VCO	+5	30
	Converter	+5	55
Output Power	+7 dBm (Min.)		
Spurious Suppression	73 dB (Typ.)		
Harmonic Suppression	10 dB (Typ.)		
Settling Time	10 mSec (Typ.)**		
Output Impedance	50 Ohms (Nom.)		
Typical Phase Noise	Offset	Phase Noise	
	@ 1 kHz	-98 dbc/Hz	
	@ 10 kHz	-98 dbc/Hz	
	@ 100 kHz	-120 dbc/Hz	
Operating Temperature Range	-40 to +85 °C		
Programming	See Application Note: AN7100		

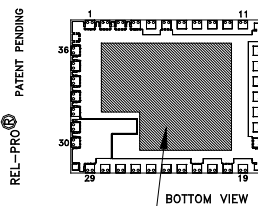
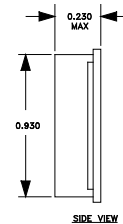
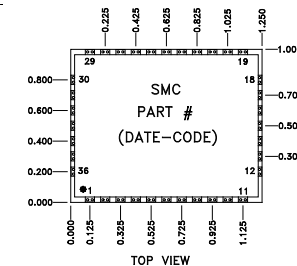
* Reference input frequency is programmable in multiples of the step size, 10 MHz is the default setting. 150 MHz (Max.)

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

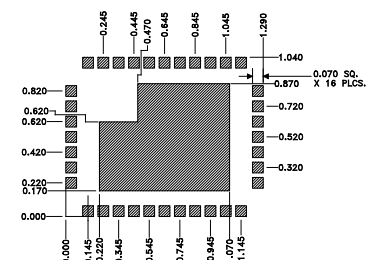
Absolute Maximum Ratings

Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (VCO)	+5.5 V
Bias Voltage (Converter)	+8.0 V
DC Voltage Applied to RF Out	±25 V

Package # 197LF



RECOMMENDED PCB LAYOUT



OPTIONAL SOLDER AREA FOR HIGH VIBRATION ENVIRONMENT

TOLERANCES ON THREE DECIMAL PLACES= ± 0.015

PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200

Pin-Out

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

* High when locked (source/sink 500 uA)

** A low on this input will reset the internal controller. Leave unconnected for normal operation.

*** 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
 Pending: 60/493075; 60/501371 & 60/501790; 60/527957 & 60/528970; 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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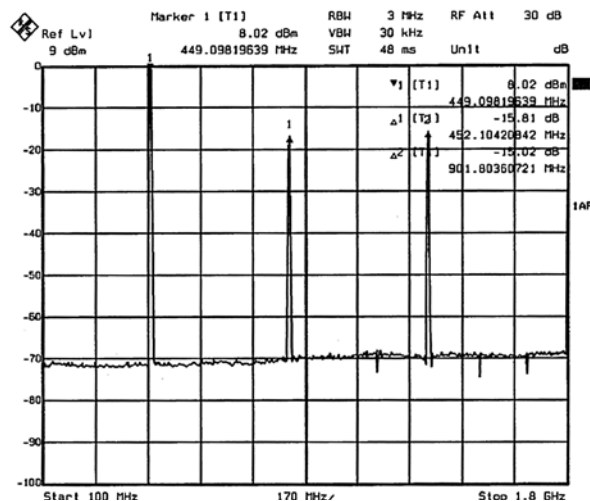
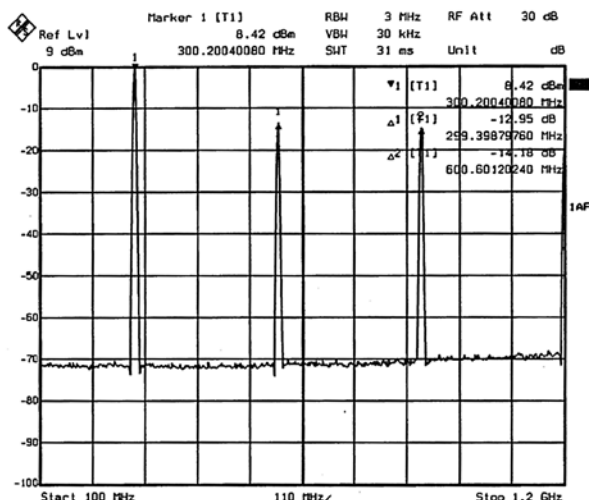
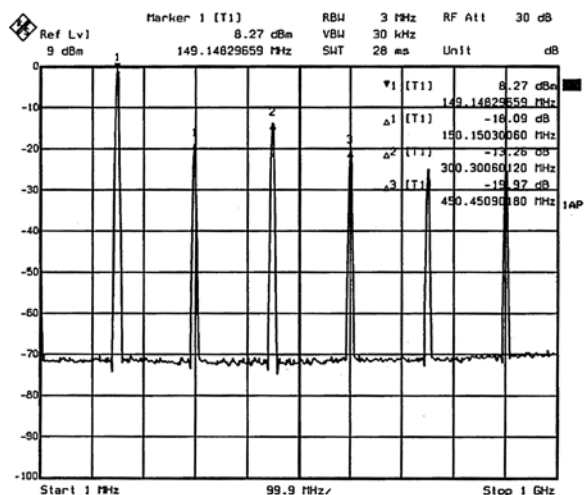
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TYPICAL HARMONIC REJECTION



PERFORMANCE PLOTS

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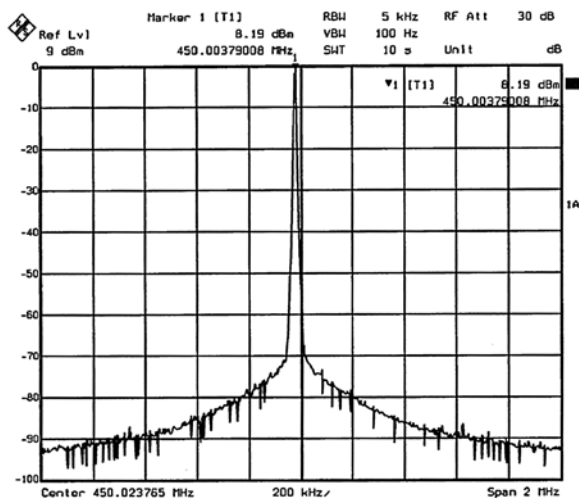
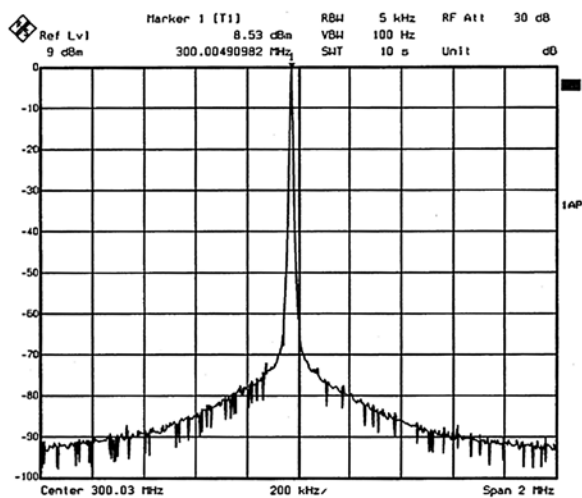
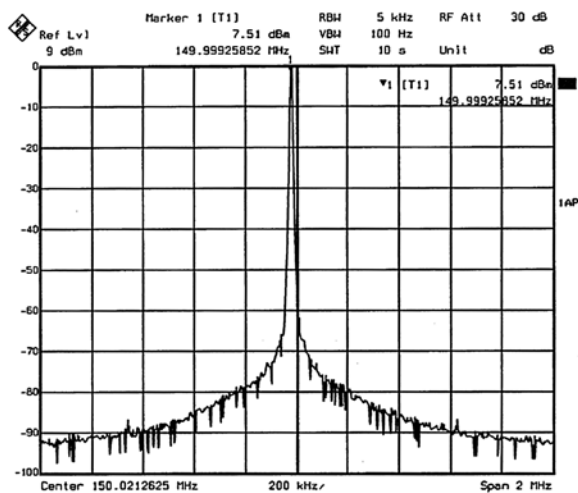
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REFERENCE SIDEBAND SUPPRESSION



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