

# INTELLIGENT INTERACTIVE SYNTHESIZER

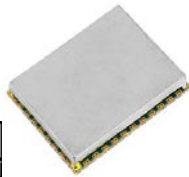
## SURFACE MOUNT MODEL: LFSW60170-50

WIDE BANDWIDTH

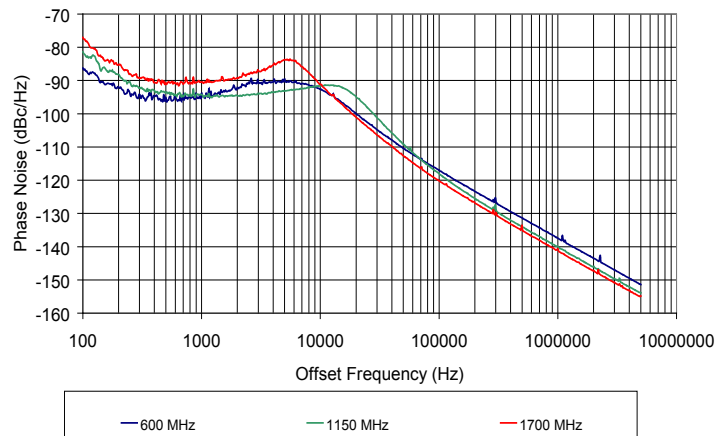
600 - 1700 MHz

### 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

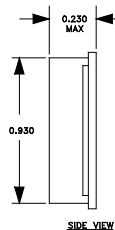
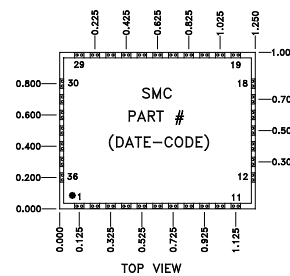


### SPECIFICATIONS (Rev. K 11/17/06)

Frequency	600-1700 MHz		
Step Size	500 kHz		
Reference Input Frequency	10 MHz		
Reference Input Voltage	1 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	-70 dBc (Typ)		
Harmonic Suppression	-10 dBc (Typ)		
Settling Time	10 mSec (Typ) *		
Output Impedance	50 Ohms		
Typical Phase Noise	Offset	Phase Noise	
	@ 1 kHz	-90 dbc/Hz	
	@ 10 kHz	-90 dbc/Hz	
	@ 100 kHz	-117 dbc/Hz	
Operating Temperature Range	-40 to +85 °C		
Programming	See Application Note: AN7100		

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

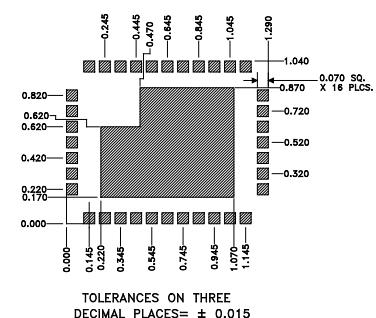
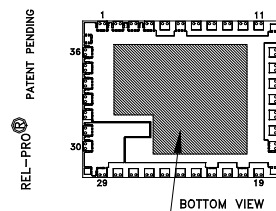
Package # 197LF



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

\*Connect externally, Bypassed with a 10uF 35V Tantalum Capacitor.

### RECOMMENDED PCB LAYOUT



OPTIONAL SOLDER AREA FOR HIGH VIBRATION ENVIRONMENT

PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200

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  
 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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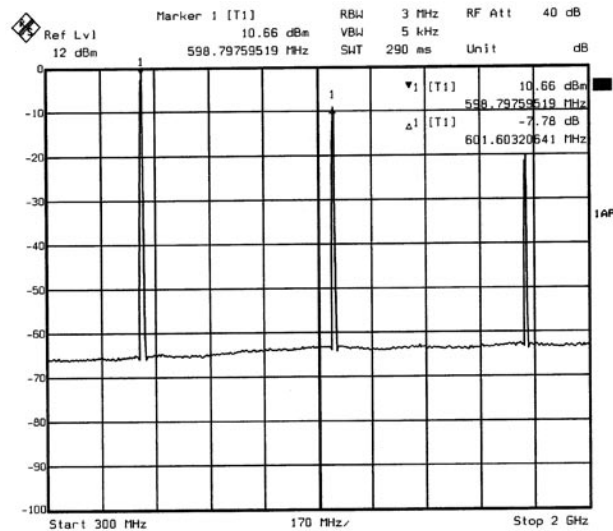
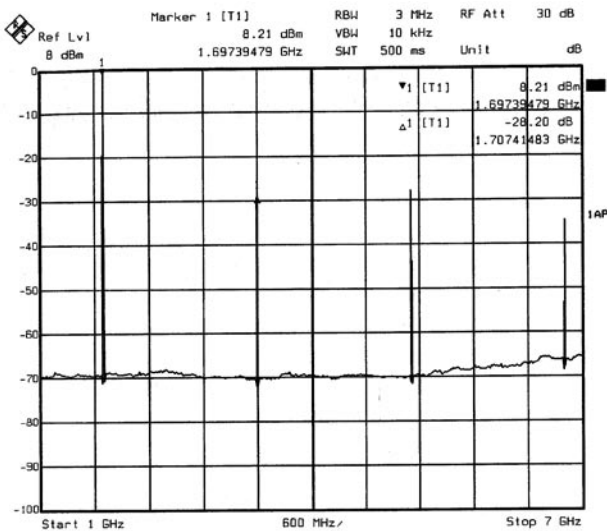
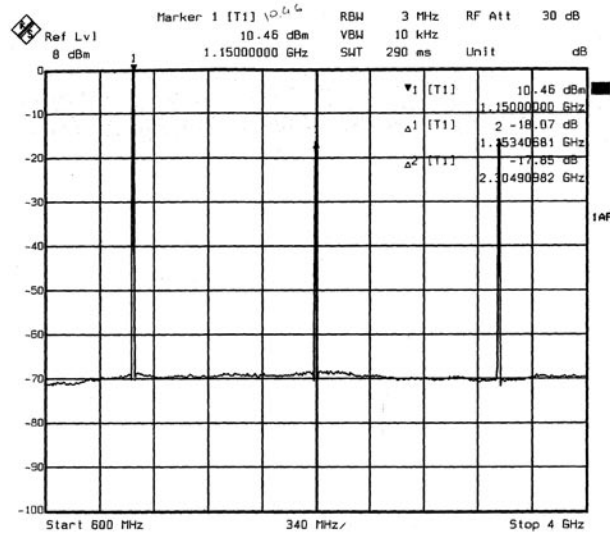
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WIDE BANDWIDTH

600 - 1700 MHz

### TYPICAL HARMONIC REJECTION



PERFORMANCE PLOTS

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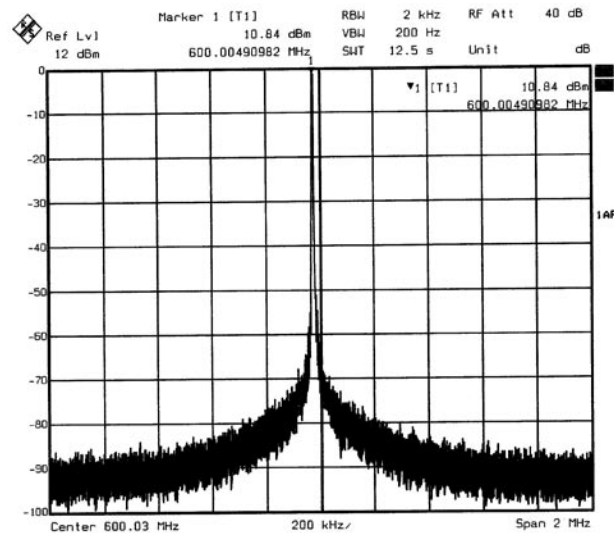
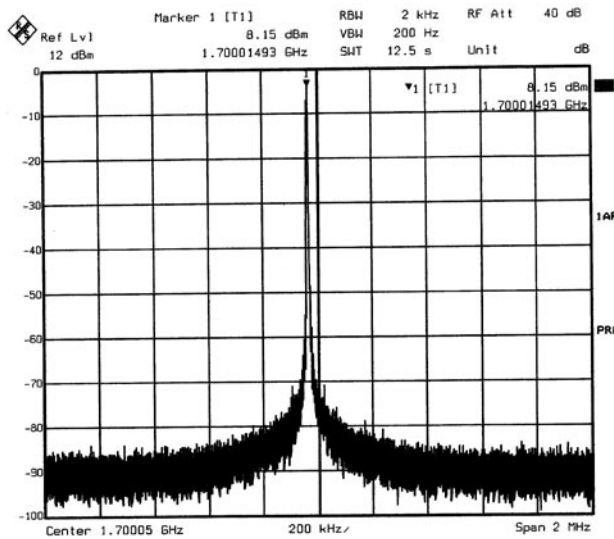
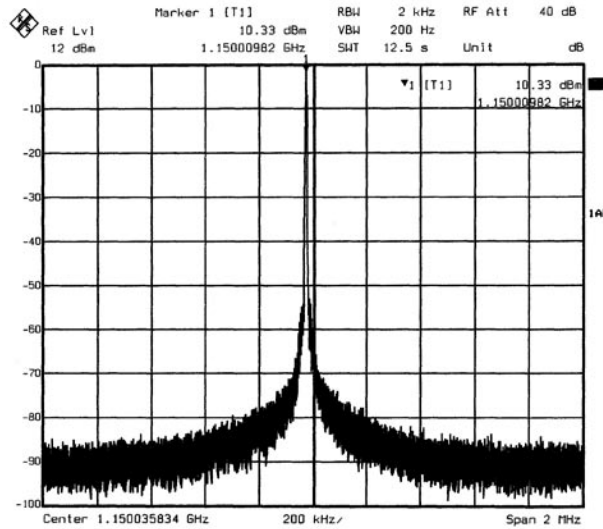
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### REFERENCE SIDEBAND SUPPRESSION



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