

INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: LFSW300600-20

WIDE BANDWIDTH

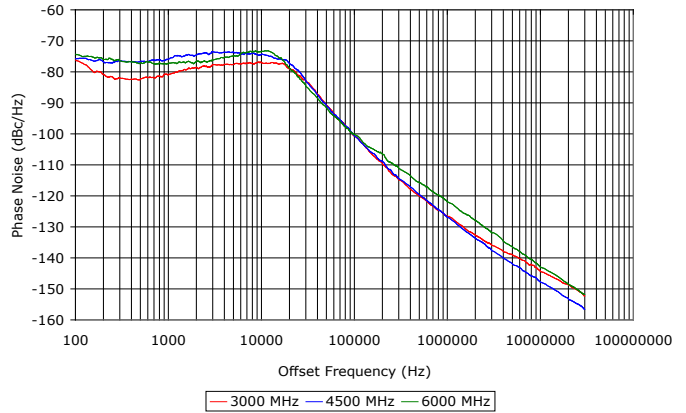
3000 - 6000 MHz

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
- ▶ Buffered Output



Phase Noise



SPECIFICATIONS (Rev. A 05/01/08)

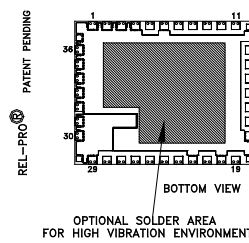
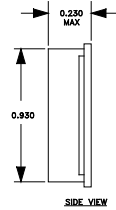
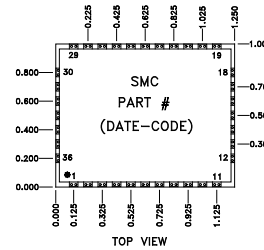
Frequency	3000 - 6000 MHz		
Step Size	200 kHz		
Reference Input Frequency	100 MHz *		
Reference Input Voltage	1 V p-p to 3.3 V p-p		
Bias Voltage	Vcc	V (Vdc)	I (mA Max.)
	Digital	+5	35
	VCO	+5	45
	Converter	+5	65
Output Power	+5 dBm (Min.)		
Spurious Suppression	60 dB (Typ.)		
Harmonic Suppression	15 dB (Typ.)		
Settling Time	15 mSec (Typ.) **		
Output Impedance	50 Ohms (Nom.)		
Typical Phase Noise	Offset	Phase Noise	
	@ 1 kHz	-75 dbc/Hz	
	@ 10 kHz	-73 dbc/Hz	
	@ 100 kHz	-98 dbc/Hz	
Operating Temperature Range	-20 to +70 °C		
Programming	See Application Note: AN7100		

* Reference input frequency is programmable in multiples of the step size, from 10 MHz to 150 MHz. 100 MHz is the default setting.
 ** From the rising edge of LE to stable lock detect

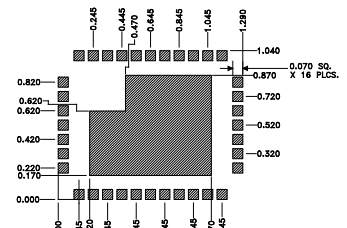
Absolute Maximum Ratings

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

Package # 197LF



RECOMMENDED PCB LAYOUT



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: 5,180,810; 5,122,621; 5,390,346; 5,416,446; 5,630,754; 5,805,431; 6,325,623; 6,856,573; 7,088,189; 7,180,381; 7,185,591; 7,282,670; 7,283,642; 7,292,113
 Pending: 65/48,307; 65/50,1371 & 65/50,1796; 65/52,7937 & 65/53,0673; 65/56,4173; 65/58,0083; 65/60,1822; 65/60,5797; 65/31,268,034; 65/29,768; 65/62,2485 & 65/7,0019; 65/67,325,607 & 65/67,359,011; 65/7,327,937



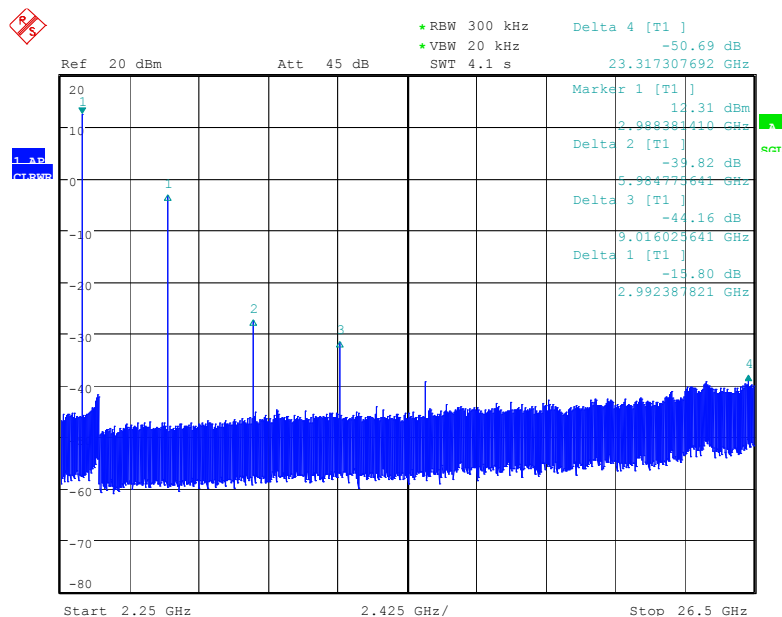
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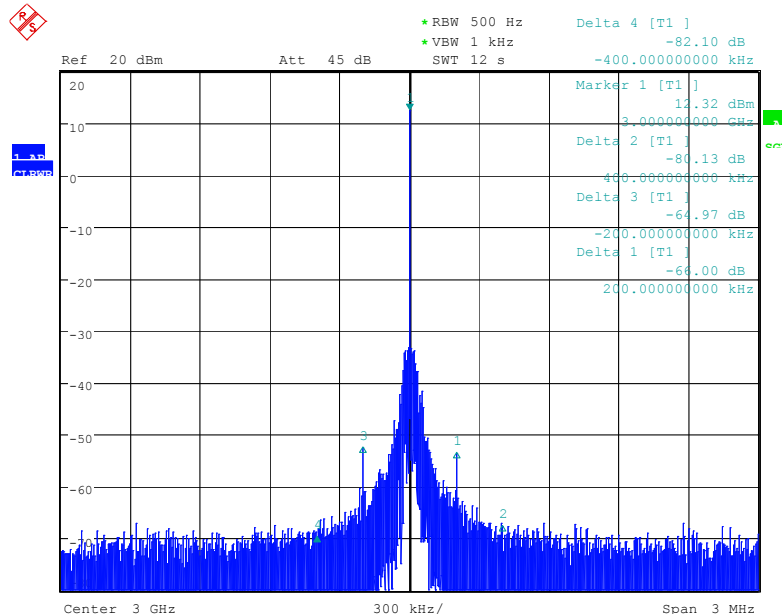
WIDE BANDWIDTH

3000 - 6000 MHz

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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Pending: 66483075; 60501371 & 66561796; 60527937 & 66532675; 60263481; 60564173; 60580083; 60661822; 60605791; EV31268034;
RU258768; 60622485 & 66710212; RU60732560736901; 60732787

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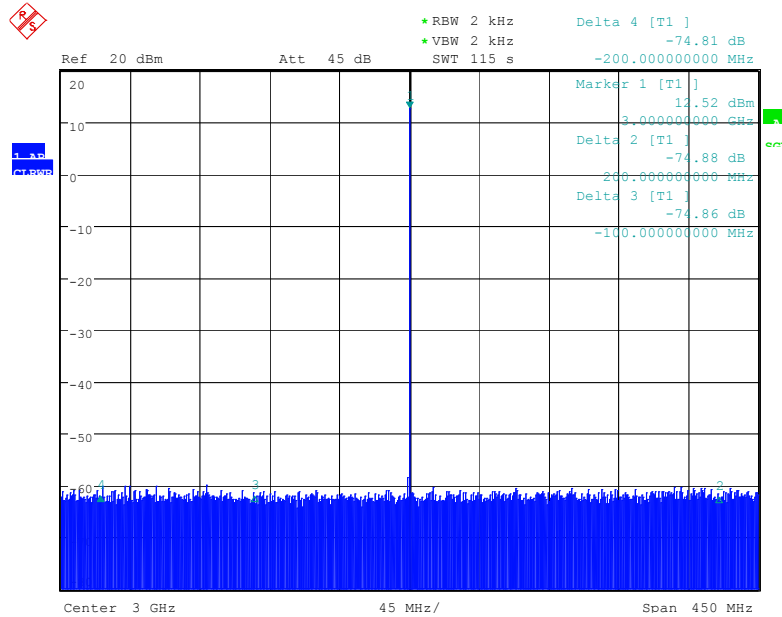
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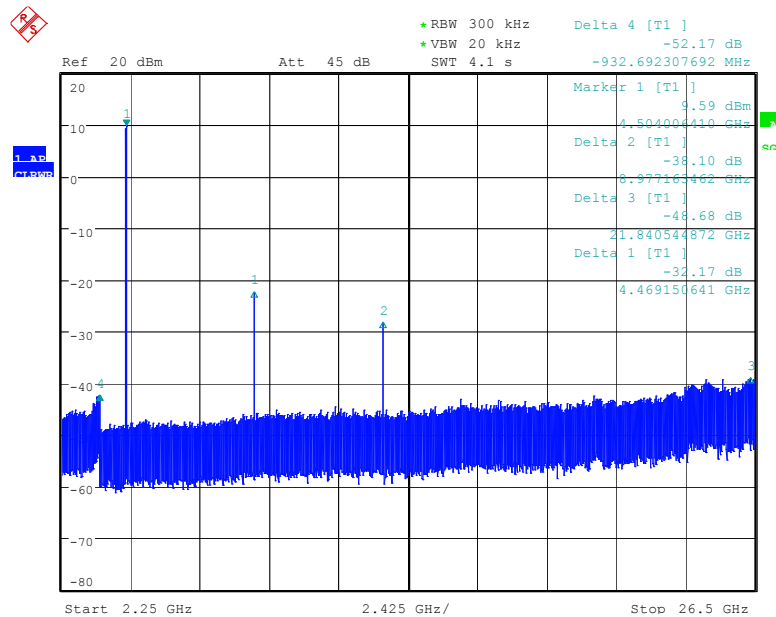
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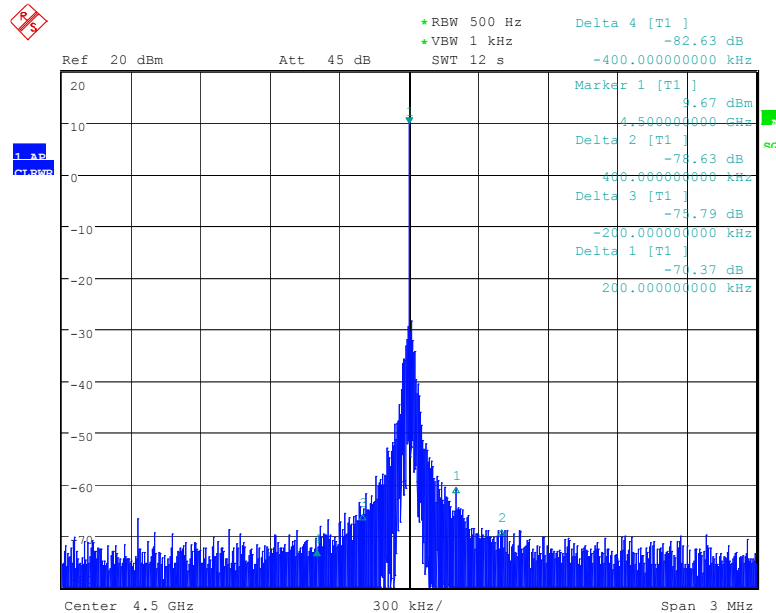
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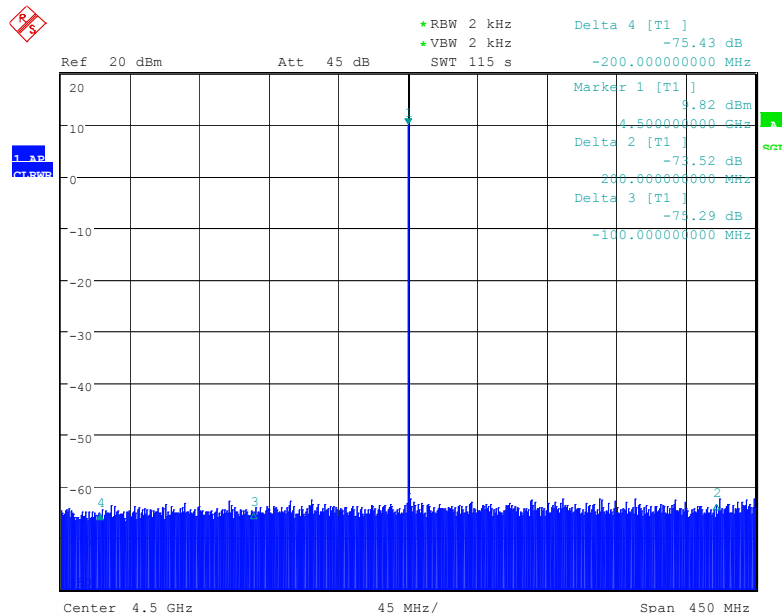
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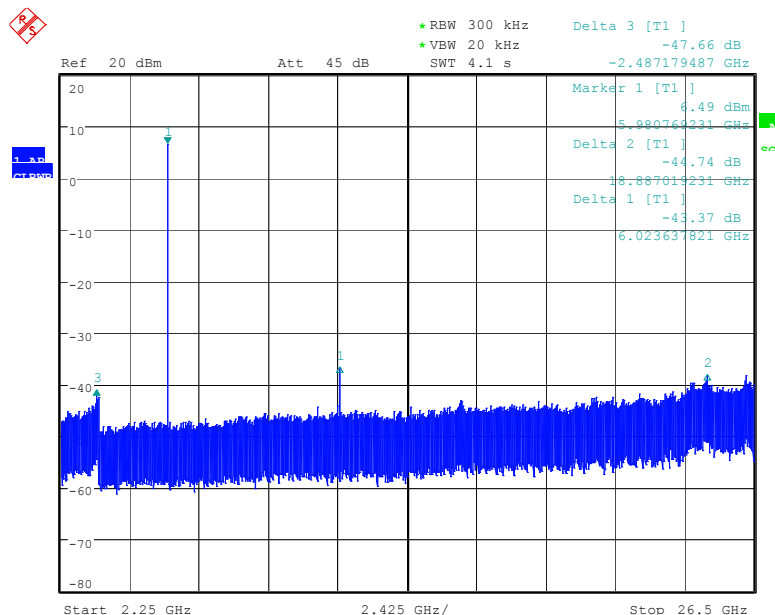
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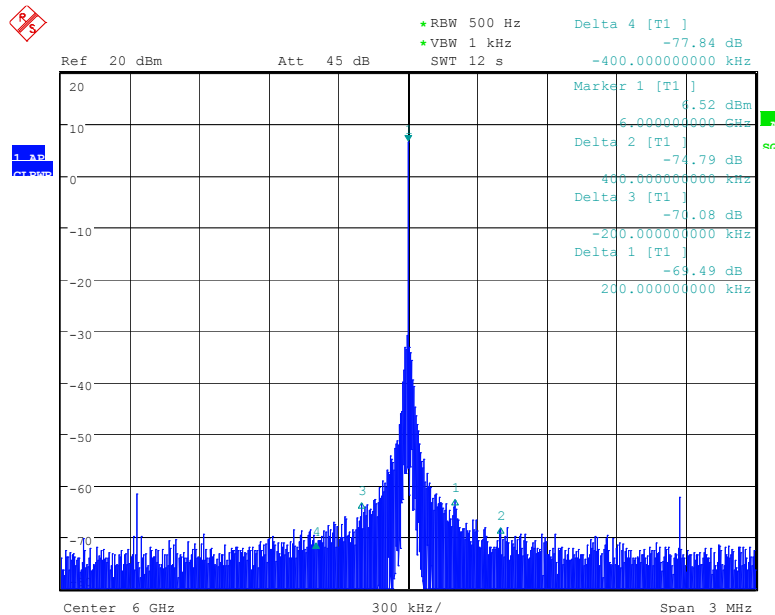
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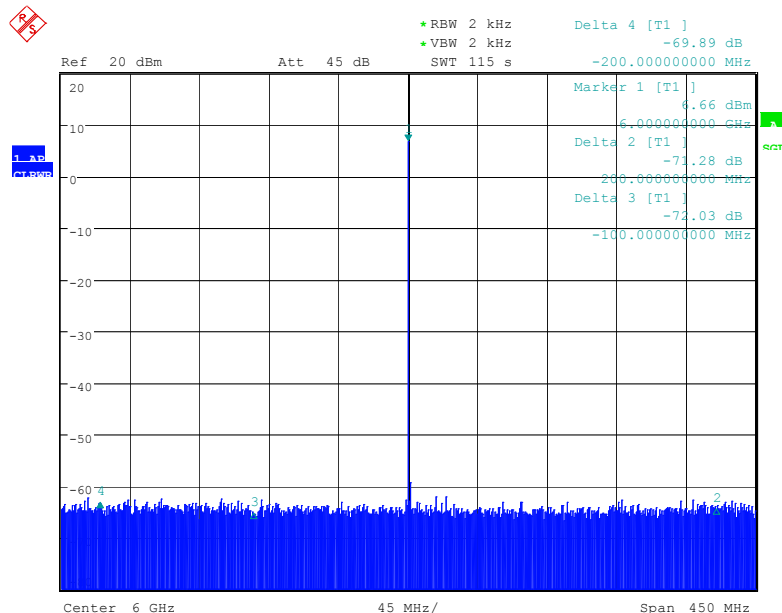
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