

# INTELLIGENT INTERACTIVE SYNTHESIZER

## SURFACE MOUNT MODEL: FSW1857-100

WIDE BANDWIDTH

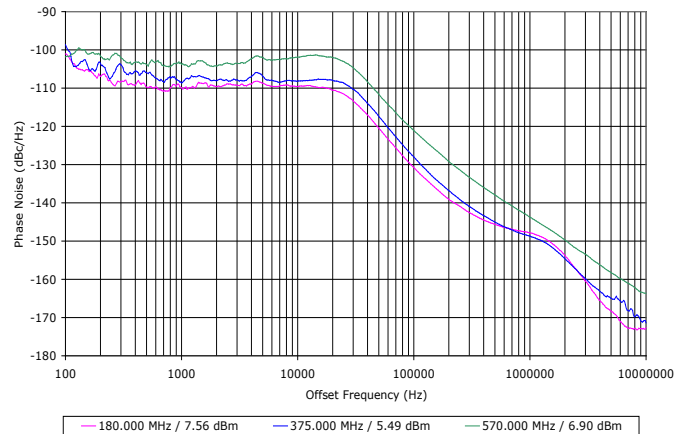
180 - 570 MHz

**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**



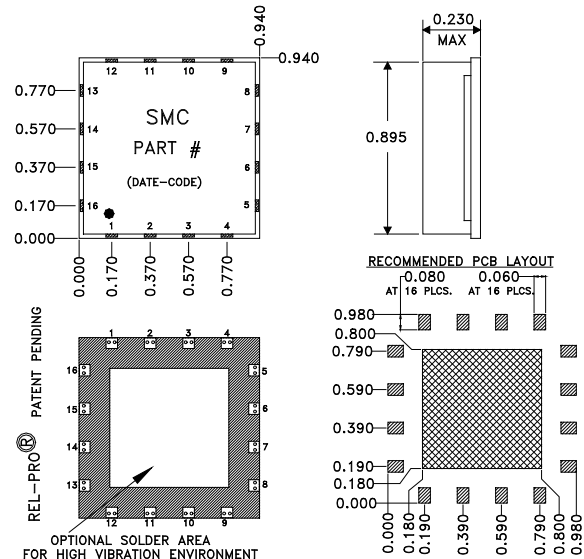
**SPECIFICATIONS (Rev. G 04/10/07)**

Frequency	180 - 570 MHz		
Step Size	1 MHz		
Reference Input Frequency	10 MHz (Min.) *		
Reference Input Voltage	1.0 V p-p to 3.3 V p-p		
Bias Voltage	Vcc	V (Vdc)	I (mA Max.)
	Digital	+5	15
	VCO	+5	30
	Tune	+24	10
Output Power	+3 dBm (Min.)		
Spurious Suppression	90 dB (Typ.)		
Harmonics Suppression	10 dB (Typ.)		
Settling Time	10 mSec (Max.) **		
Output Impedance	50 Ohms (Nom.)		
Typical Phase Noise	Offset	Phase Noise	
	@ 1 kHz	-100 dbc/Hz	
	@ 10 kHz	-100 dbc/Hz	
@ 100 kHz	-126 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

Package # 273LF



PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200

**Absolute Maximum Ratings**

Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (Tune)	+28 V
Bias Voltage (VCO)	+5.5 V
DC Voltage Applied to RF Out	±25 V

**Pin-Out**

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

\* High when locked (source/sink 500 uA)

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

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 | 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



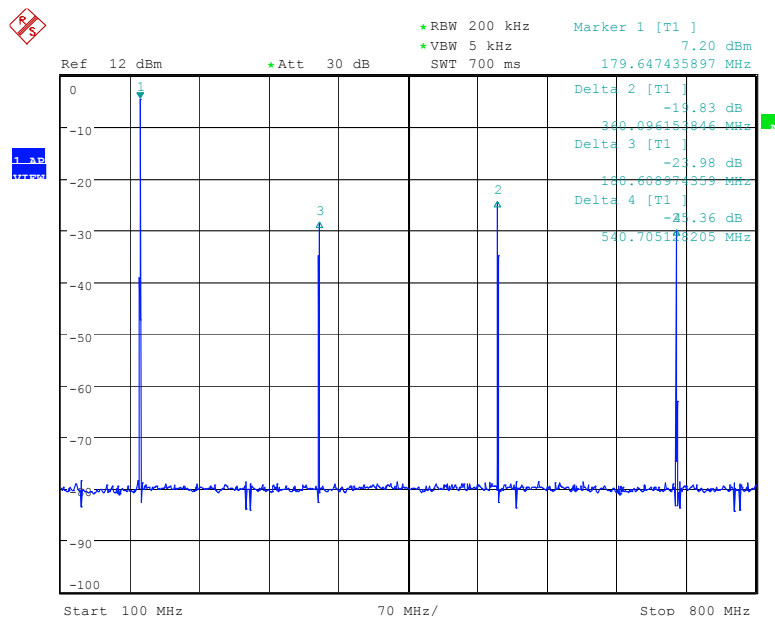
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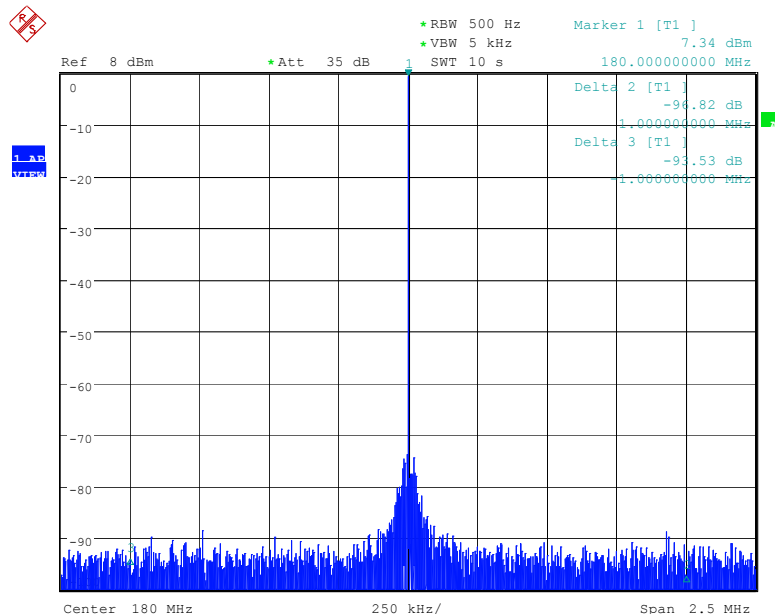
WIDE BANDWIDTH

180 - 570 MHz

### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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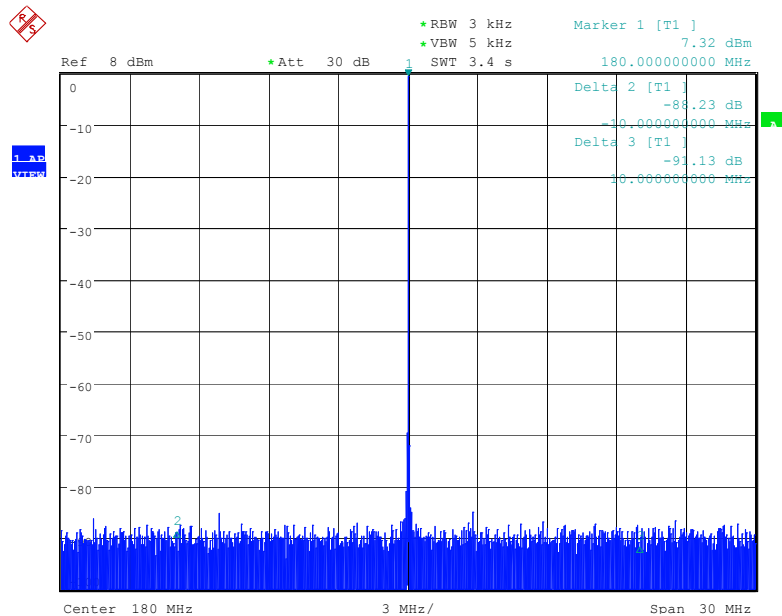
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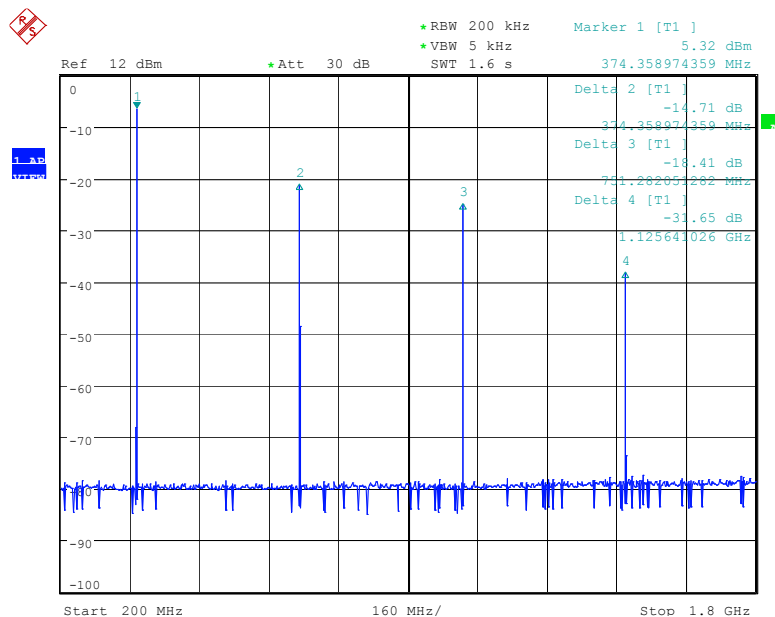
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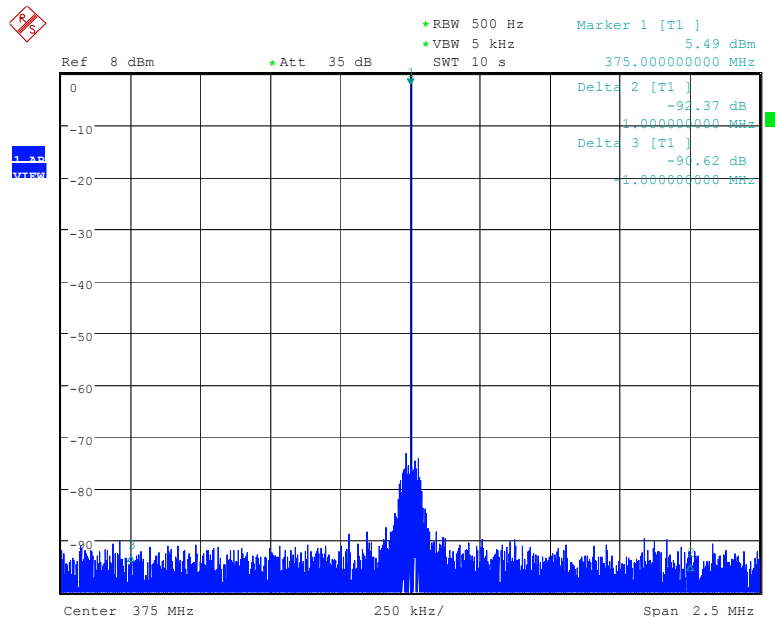
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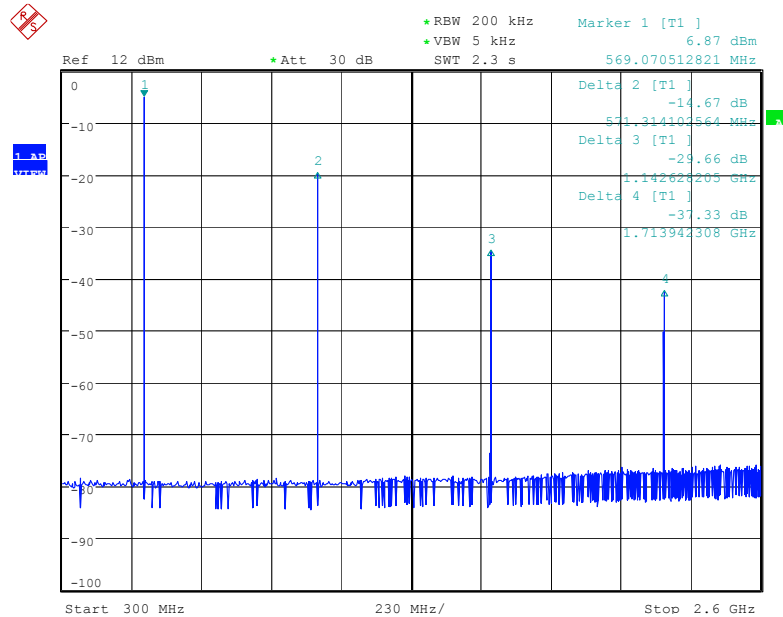
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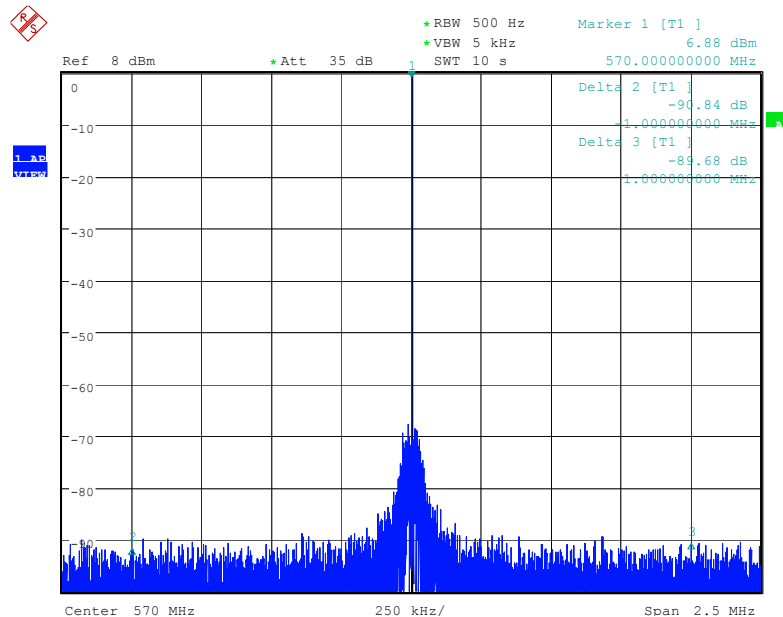
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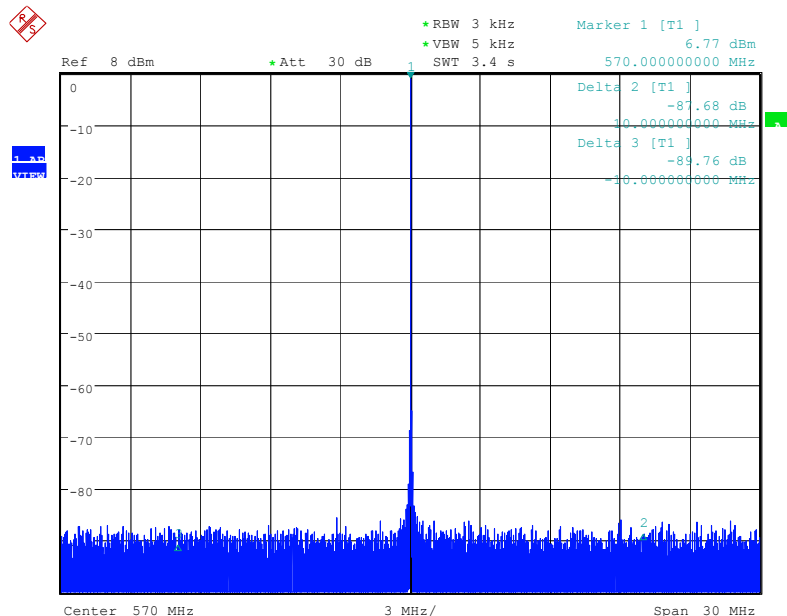
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