

# INTELLIGENT INTERACTIVE SYNTHESIZER

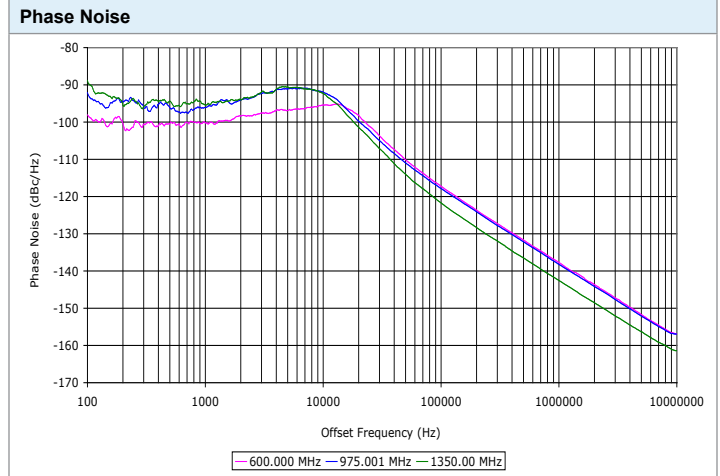
## SURFACE MOUNT MODEL: FSW60135-50

**WIDE BANDWIDTH**

**600 - 1350 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

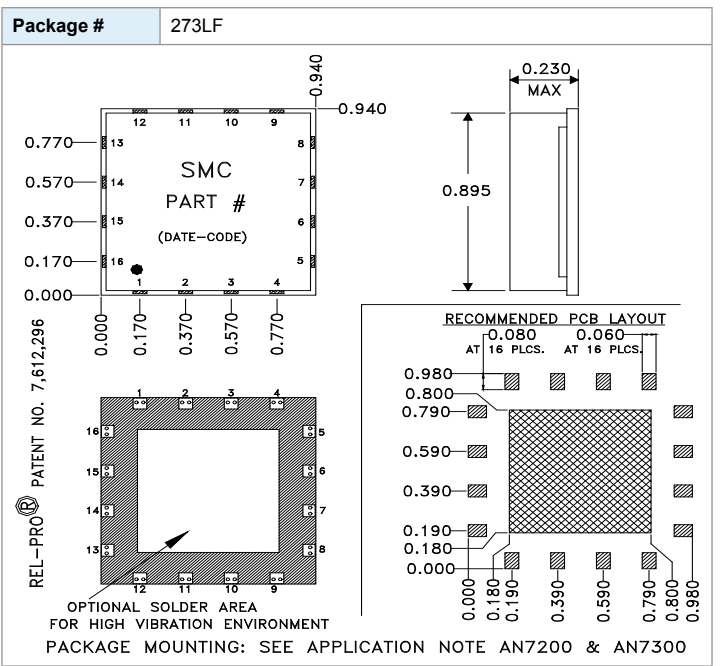


**SPECIFICATIONS (Rev. C 03/24/11)**

Frequency	600 - 1350 MHz		
Step Size	500 kHz		
Reference Input Frequency	10 MHz <sup>1</sup>		
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	40
	Tune	+15	10
Output Power	+1 dBm (Min.)		
Spurious Suppression	85 dB (Typ.)		
Harmonic Suppression	12 dB (Typ.)		
Settling Time	5 mSec (Typ.) <sup>2</sup>		
Output Impedance	50 Ohms (Nom.)		
Lock Detect Indicator	CMOS 3.3 V		
Typical Phase Noise	Offset	Phase Noise	
	@ 1 kHz	-95 dbc/Hz	
	@ 10 kHz	-92 dbc/Hz	
@ 100 kHz	-118 dbc/Hz		
Operating Temperature Range	-40 to +85 °C		
Programming	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**

Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (Tune)	+16 V
Bias Voltage (VCO)	+5.5 V
DC Voltage Applied to RF Out	±25 V

Port Configuration		
Pin 1,2,3 - 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
Pin 7 - Vcc (Digital)	Pin 15 - Data In	

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

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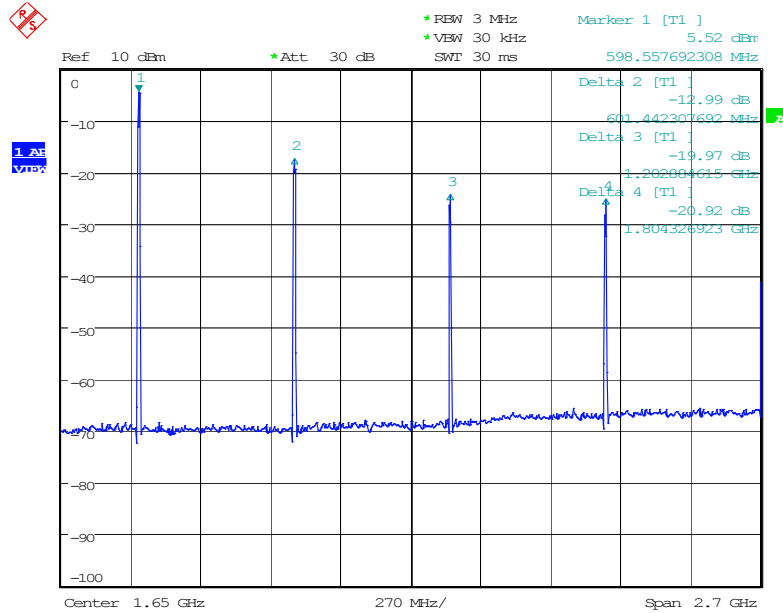
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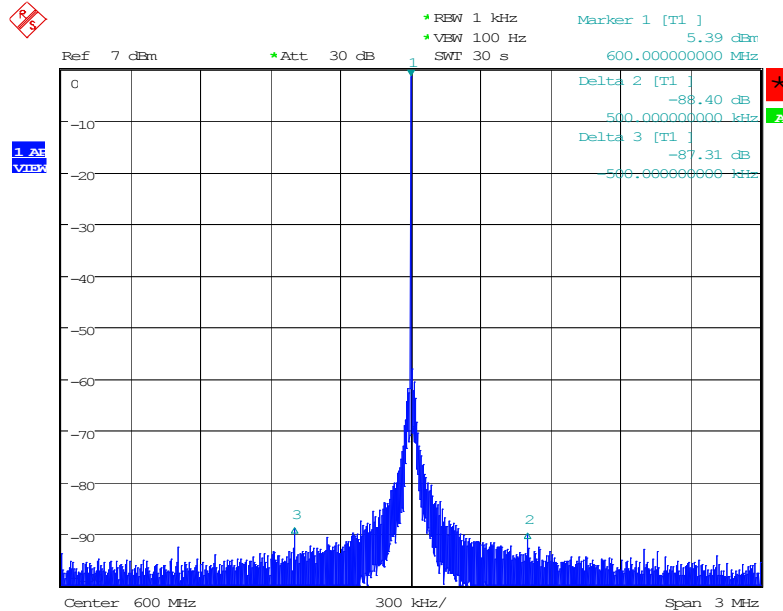
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### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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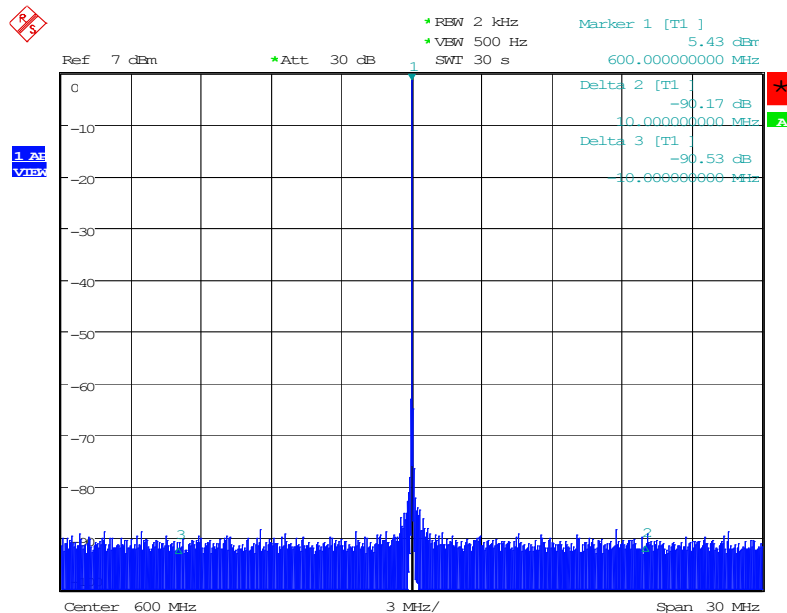
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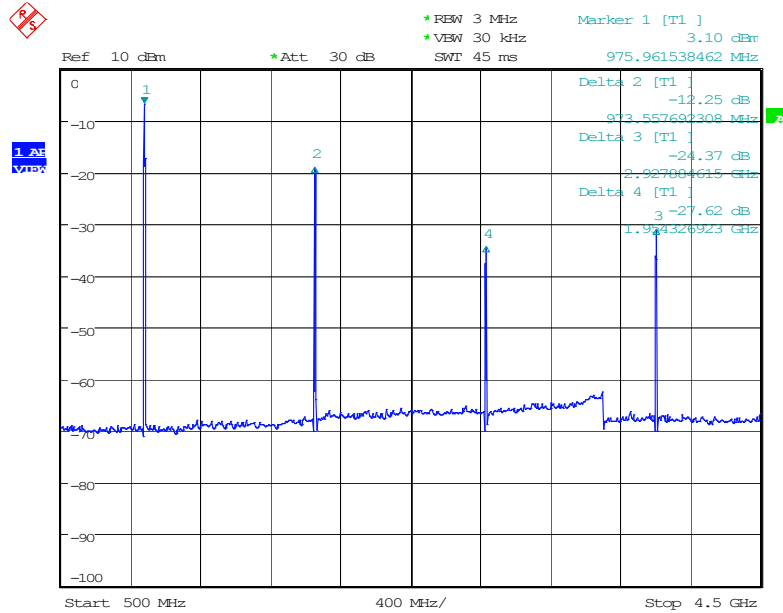
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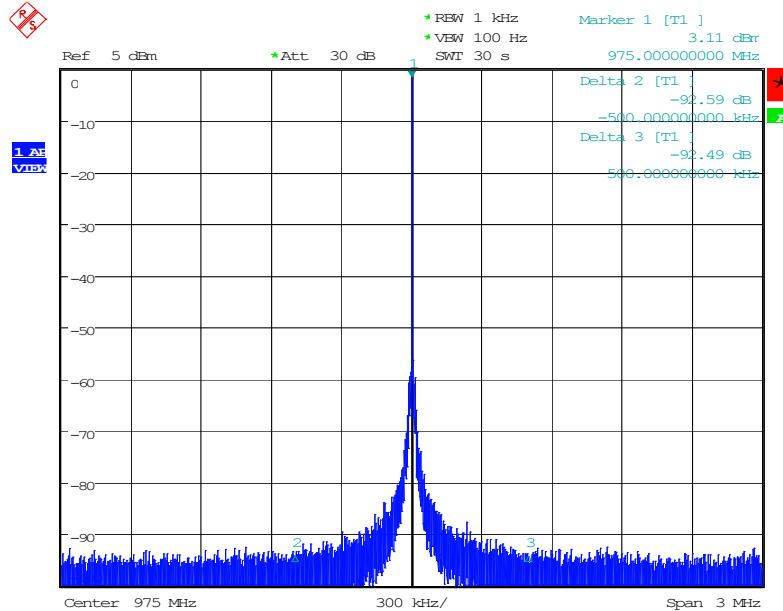
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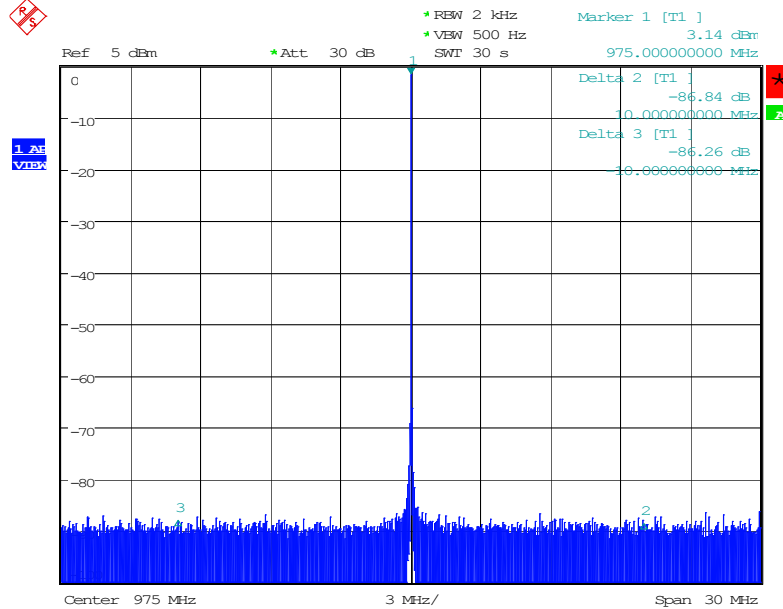
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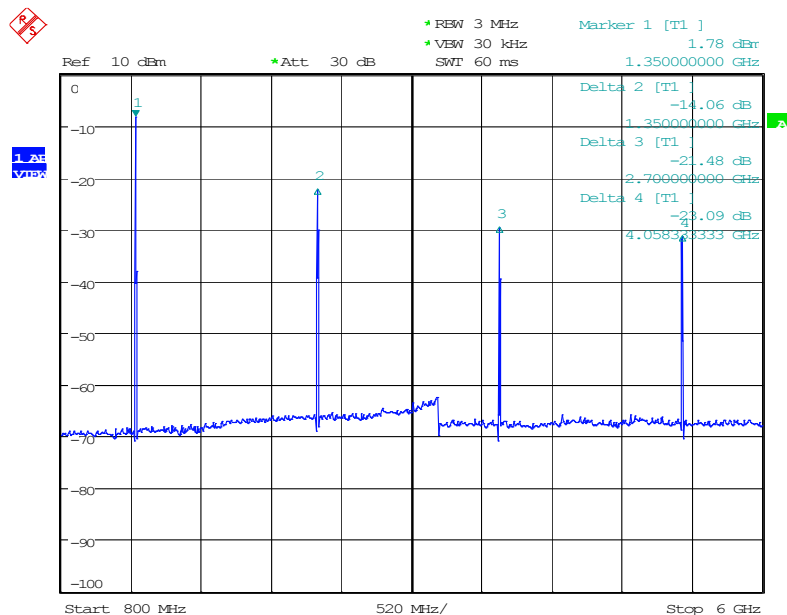
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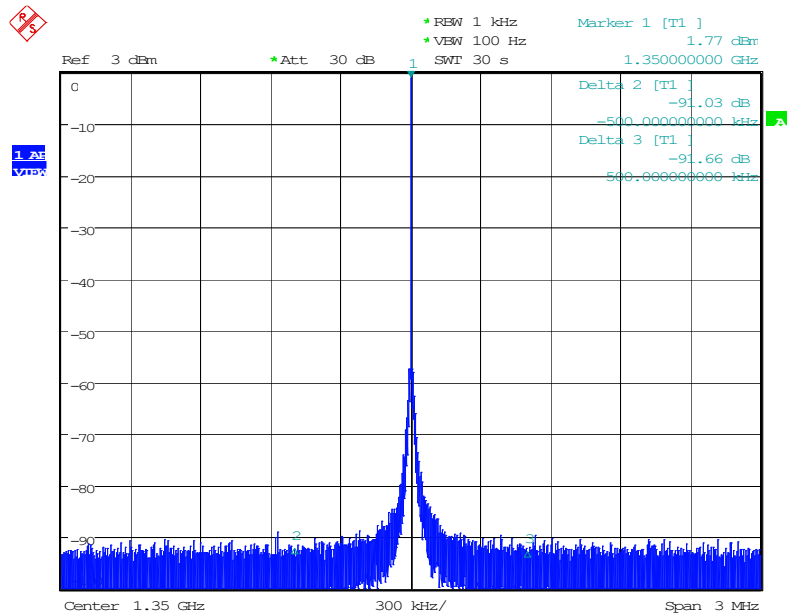
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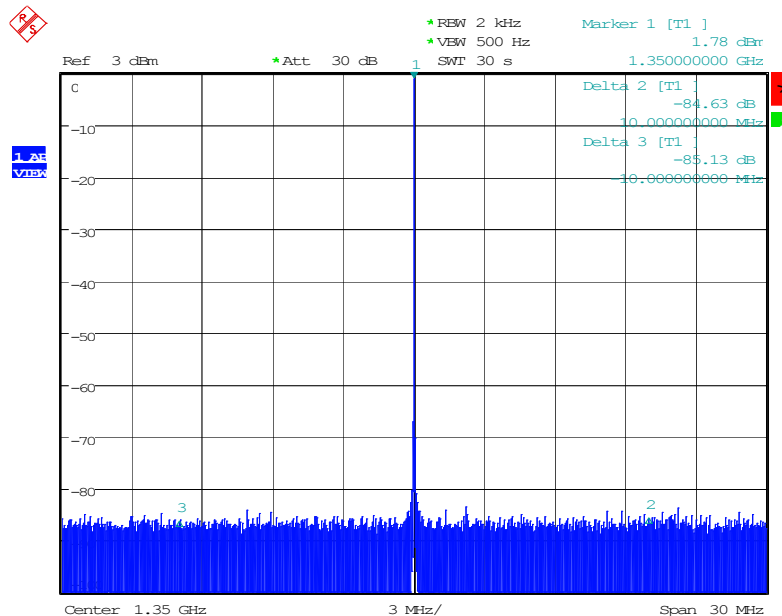
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