

# INTELLIGENT INTERACTIVE SYNTHESIZER

## SURFACE MOUNT MODEL: MFSH50100-50

### OPTIMIZED LOOP PARAMETER

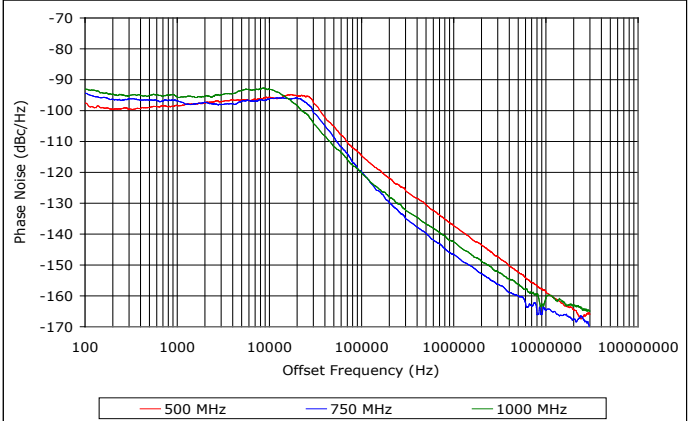
500 - 1000 MHz

#### FEATURES:

- ▶ Small Size, Surface Mount (0.6" x 0.6")
- ▶ Low Phase Noise
- ▶ Standard Programming Interface
- ▶ Ultra Wide Tuning Range
- ▶ Lead Free - RoHS Compliant
- ▶ Patented REL-PRO® Technology
- ▶ Buffered Output



#### Phase Noise



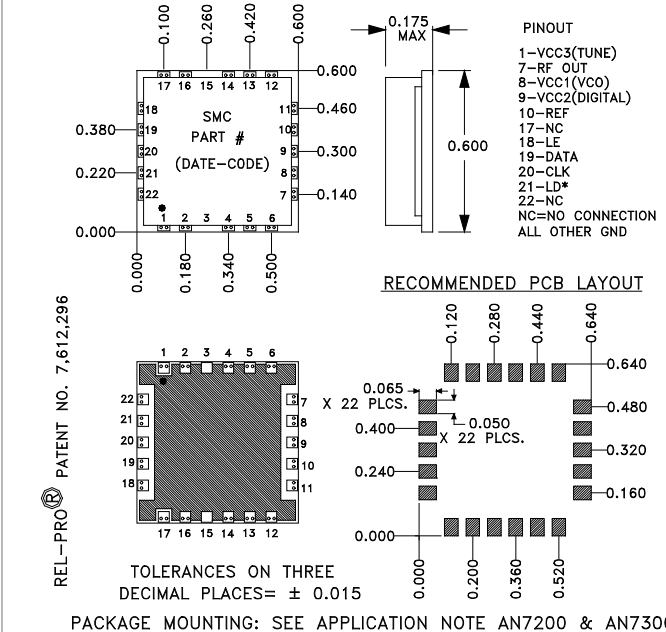
#### SPECIFICATIONS (Rev. A 04/22/11)

Frequency	500 - 1000 MHz		
Step Size	0.5 MHz		
Reference Input Frequency	10 MHz <sup>1</sup>		
Reference Input Voltage	1.0 V p-p to 3.0 V p-p		
Bias Voltage	Vcc	V (Vdc)	I (mA Max.)
	VCO	+5	60
	Digital	+3	10
	Tune	+16	5
Output Power	+5 dBm (Min.)		
Spurious Suppression	90 dB (Typ.)		
Harmonic Suppression	10 dB (Typ.)		
Settling Time	10 mSec (Typ.) <sup>2</sup>		
Output Impedance	50 Ohms (Nom.)		
Lock Detect Indicator	CMOS 3 V		
Typical Phase Noise	Offset	Phase Noise	
	@ 10 kHz	-96 dBc/Hz	
	@ 100 kHz	-118 dBc/Hz	
Operating Temperature Range	-40 to +85 °C		
Programming	See Application Note: AN7500		
<sup>1</sup> Reference input frequency is programmable (See AN7500) in multiples of the step size, 10 MHz is the factory 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)	+3.6 V
Bias Voltage (VCO)	+5.5 V
Bias Voltage (Tune)	+16.25 V
DC Voltage Applied to RF Out	±25 V

#### Package # 367



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; 7,365,612; 7,495,525; 2,548,311; 2,548,317; 7,545,229; 7,580,693; 7,586,381; 7,605,670; 7,636,021; 2,533,623 | 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; 7,495,525; 2,548,311; 2,548,317; 7,545,229; 2,563,174; 7,580,693; 7,612,296; 2,524,751

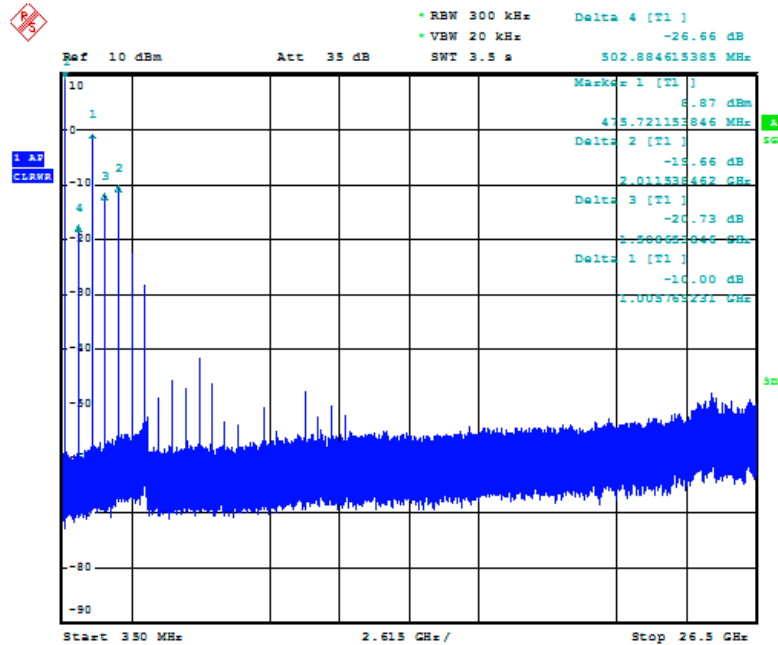
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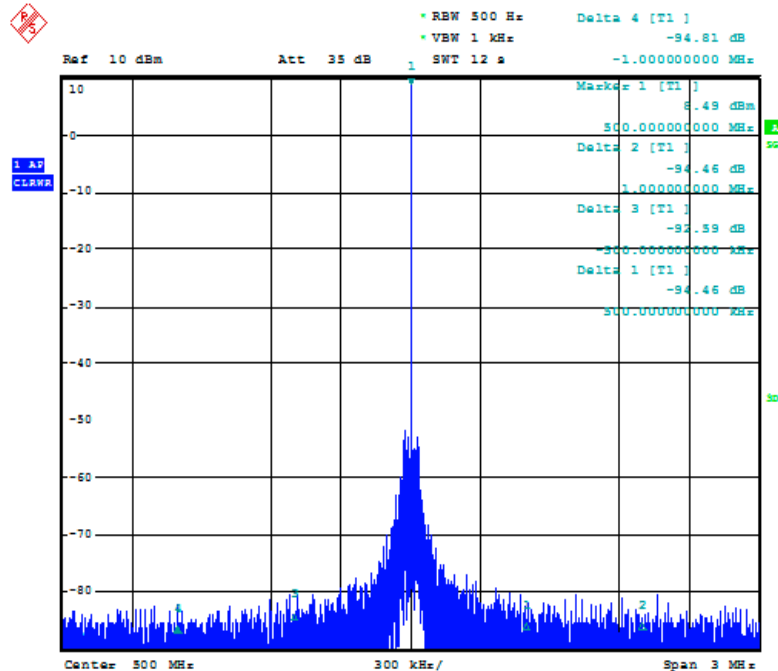
OPTIMIZED LOOP PARAMETER

500 - 1000 MHz

### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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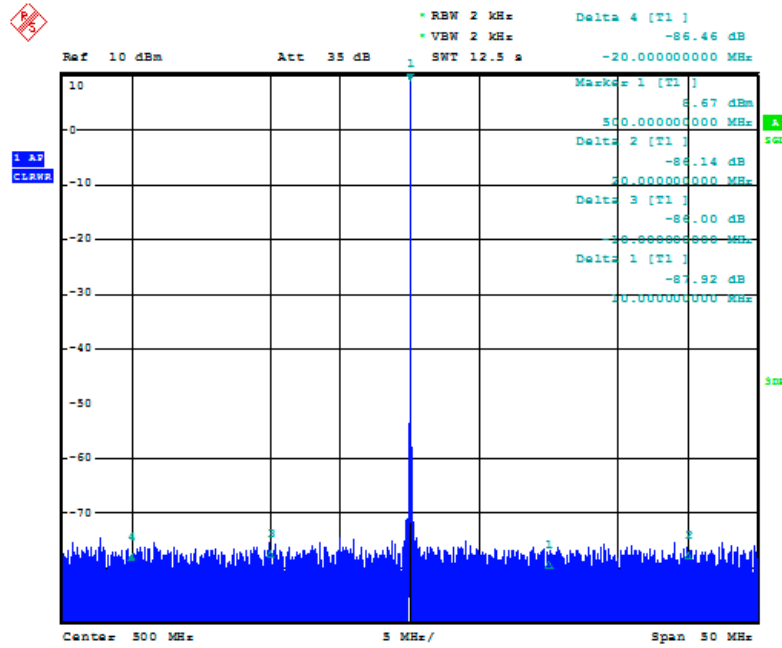
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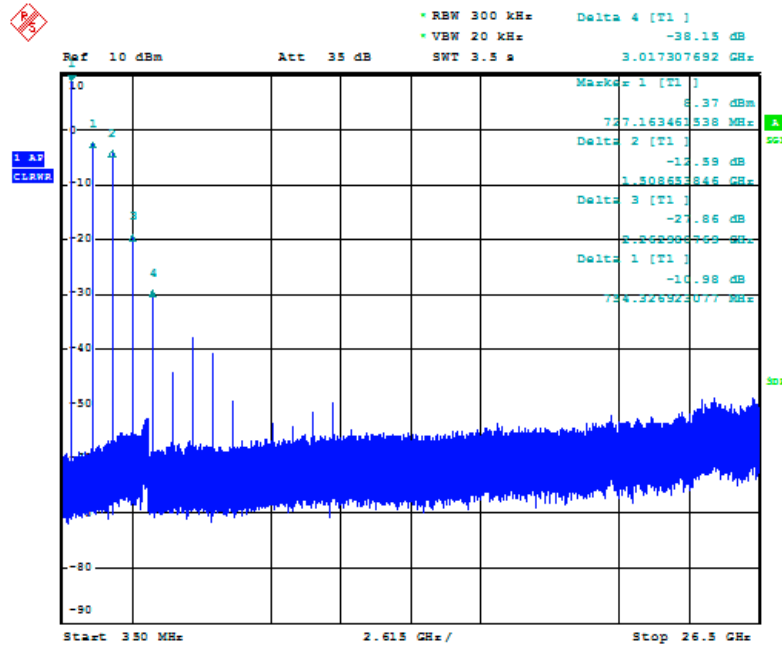
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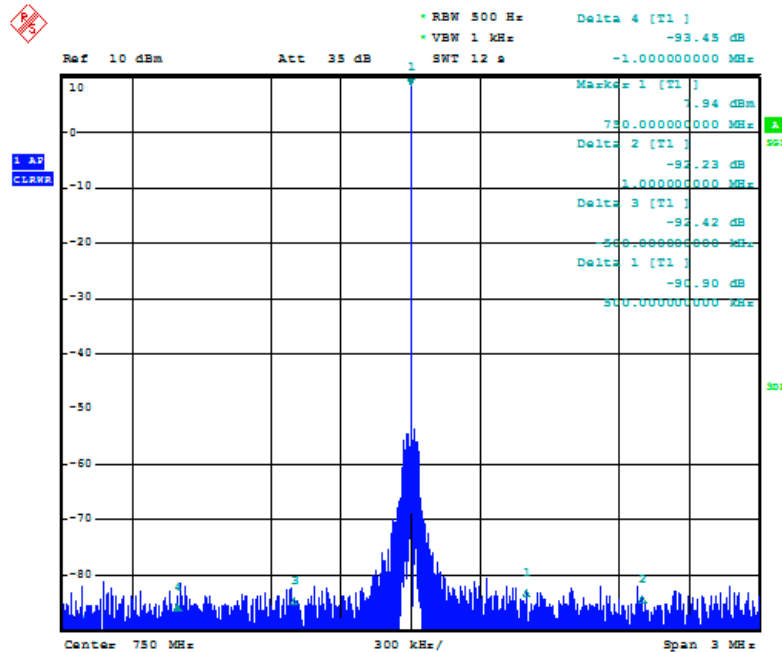
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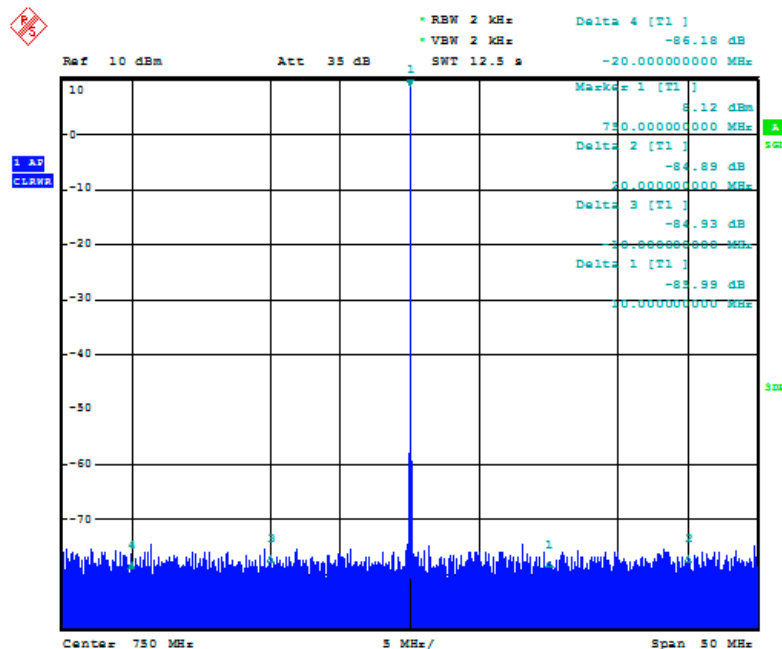
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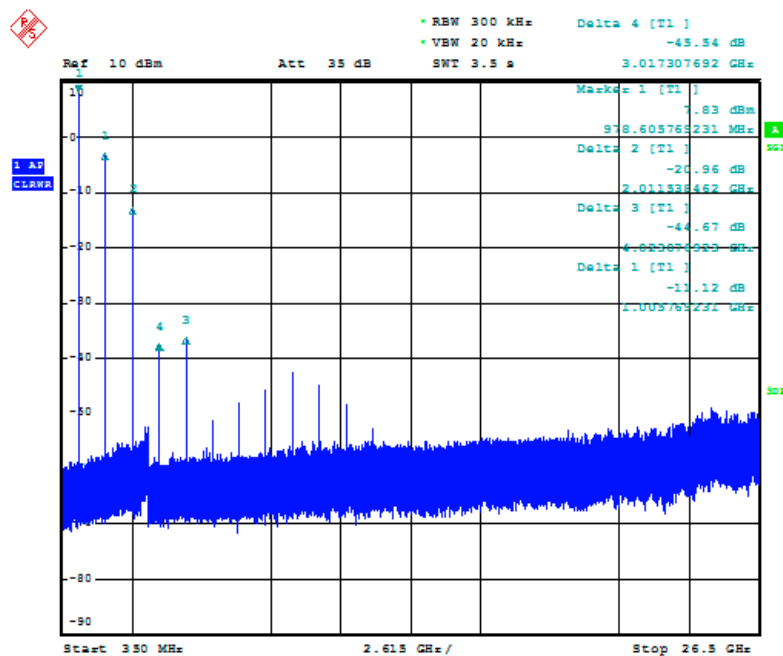
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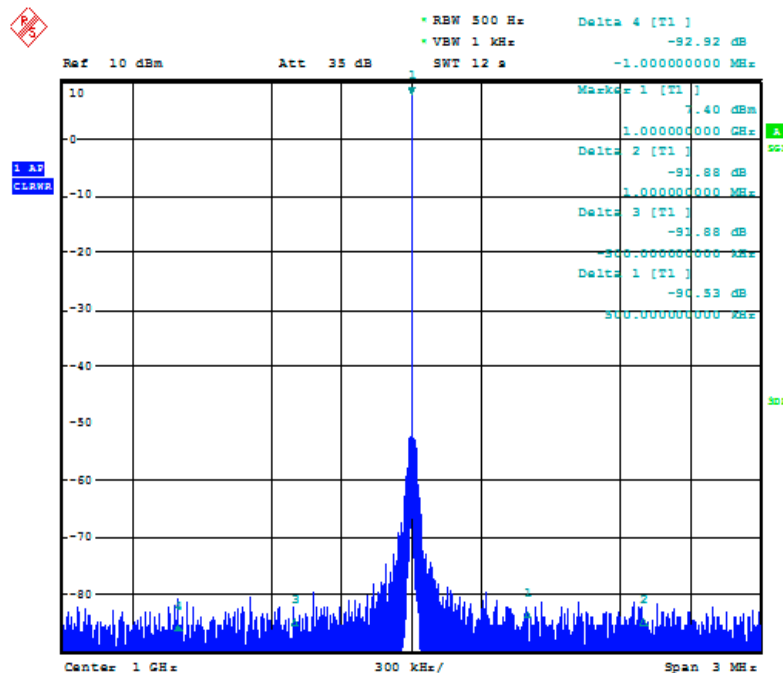
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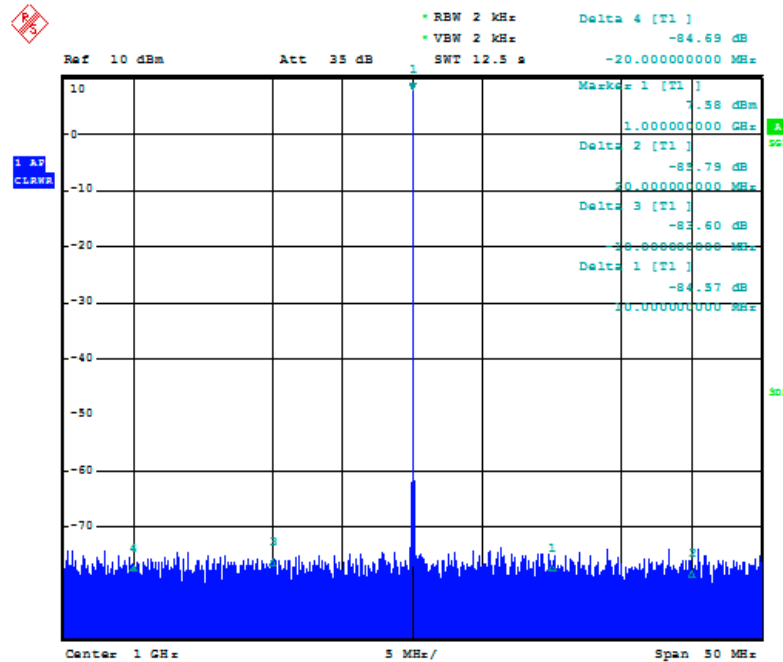
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