

# SELECTABLE FREQUENCY SYNTHESIZER

## SURFACE MOUNT MODEL: FCPL511-10

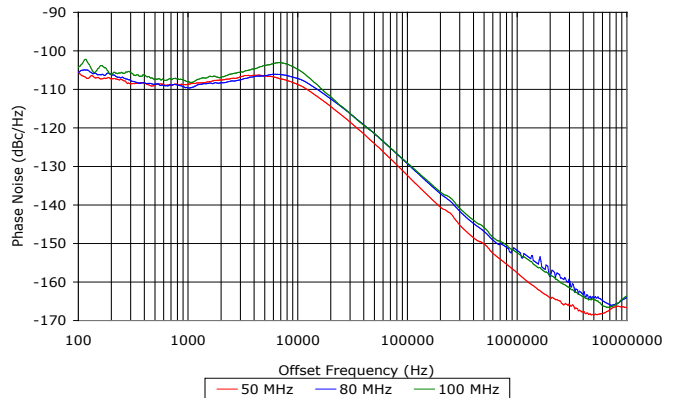
50 - 115 MHz

### FEATURES:

- ▶ Exceptional Phase Noise
- ▶ No Programming Required
- ▶ Lead Free - RoHS Compliant
- ▶ Patented REL-PRO® Technology
- ▶ Small Size, Surface Mount
- ▶ Buffered Output



### Phase Noise



### SPECIFICATIONS (Rev. E 01/02/12)

Frequency	50 - 115 MHz		
Reference Input Frequency	10 MHz		
Reference Input Voltage	1.0 V p-p to 3.3 V p-p		
Bias Voltage	<b>Vcc</b>	<b>V (Vdc)</b>	<b>I (mA Max.)</b>
	Vcc 1 (Digital)	+5	15
	Vcc 2 (Vtune)	+15	10
	Vcc 3 (VCO)	+5	50
Lock Detect Indicator	CMOS 5 V		
Output Power	6 dBm (Min.)		
Spurious Suppression	-90 dB (Typ.)		
Harmonic Suppression	12 dB (Typ.)		
Power Up Time	90 mSec (Typ.) <sup>1</sup>		
Output Impedance	50 Ohms (Nom.)		
Typical Phase Noise	<b>Offset</b>	<b>Phase Noise</b>	
	@ 10 kHz	-107 dBc/Hz	
	@ 100 kHz	-127 dBc/Hz	
Operating Temperature Range	-40 to +85 °C		

<sup>1</sup> From stable power on to stable lock detect.

### Binary Frequency Selection Table

D3*	D2*	D1*	D0*	Freq. (MHz)
0	0	0	0	50
0	0	0	1	43.75
0	0	1	0	70
0	0	1	1	96.25
0	1	0	0	80
0	1	0	1	100
0	1	1	0	--
0	1	1	1	--
1	0	0	0	--
1	0	0	1	--
1	0	1	0	--
1	0	1	1	--
1	1	0	0	--
1	1	0	1	--
1	1	1	0	--
1	1	1	1	--

-- Reserved for future use.

\* Voltage levels: 0V or gnd. / +5V or open.

### Absolute Maximum Ratings

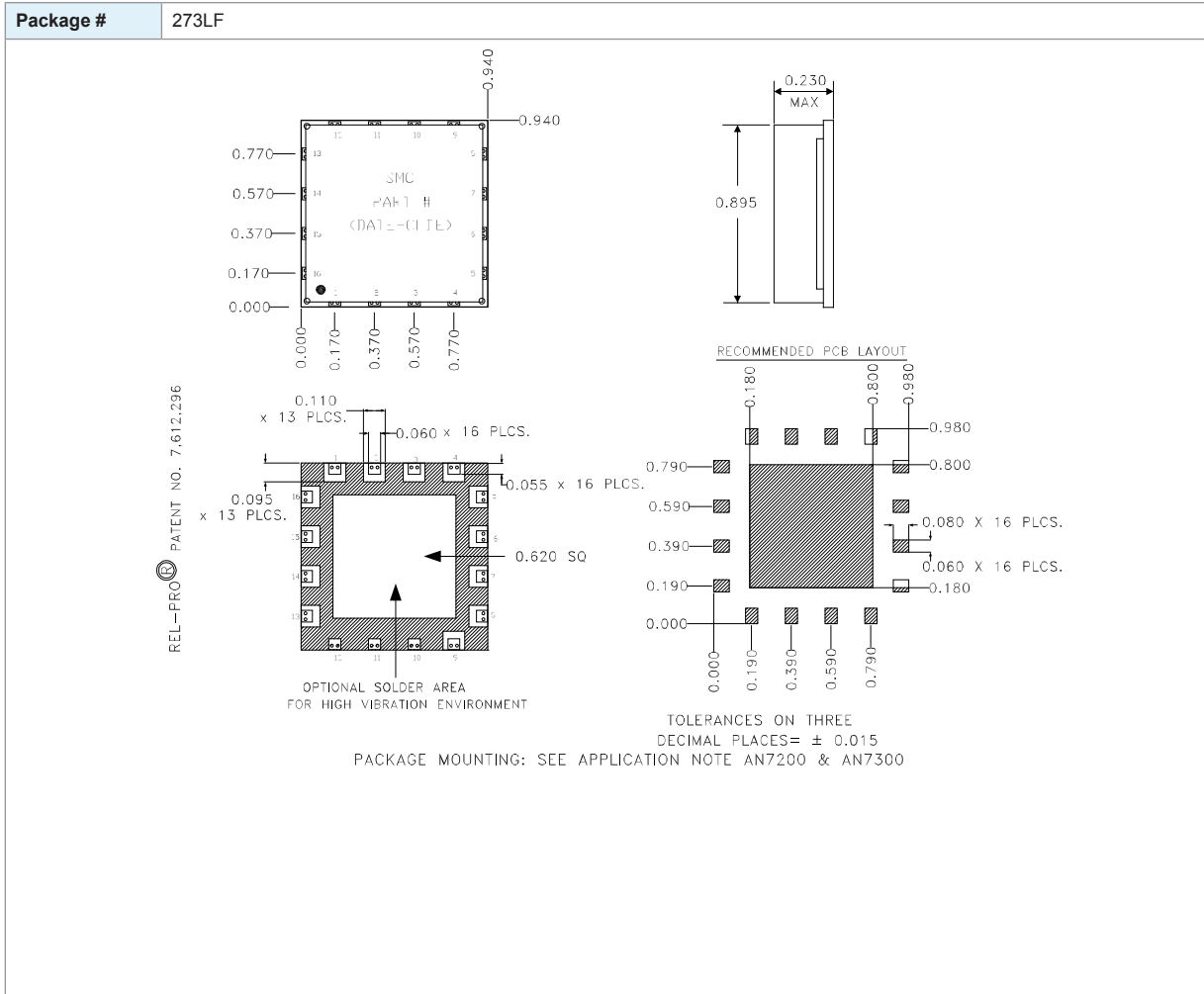
Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (VCO)	+6 V
Bias Voltage (Tune)	+16 V
DC Voltage Applied to RF Out	± 25 V

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PERFORMANCE PLOTS



### Port Configuration

Pin 1 - NC	Pin 5 - D3	Pin 9 - VCC3 (VCO)	Pin 13 - RF Out
Pin 2 - D0	Pin 6 - Ref. Input	Pin 10 - Ground	Pin 14 - Lock Detect *
Pin 3 - D1	Pin 7 - VCC1 (Digital)	Pin 11 - Ground	Pin 15 - NC
Pin 4 - D2	Pin 8 - VCC2 (Vtune)	Pin 12 - Ground	Pin 16 - NC

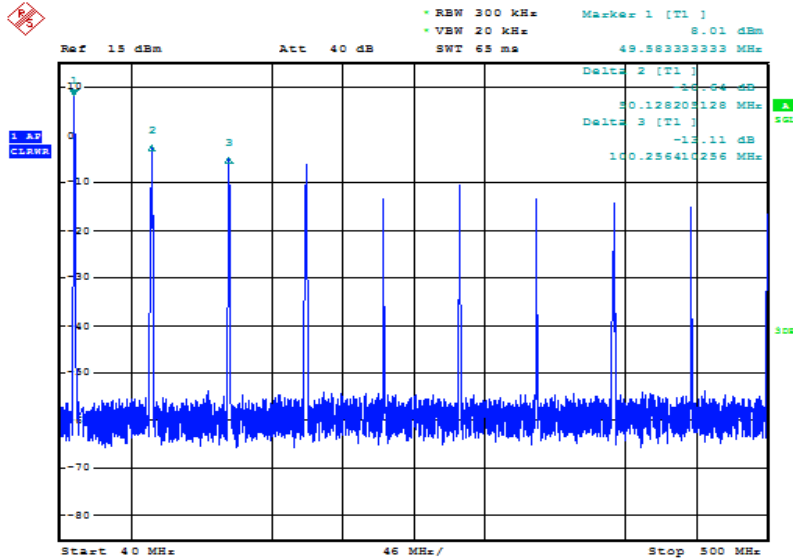
\* High when locked (source/sink 500 uA)

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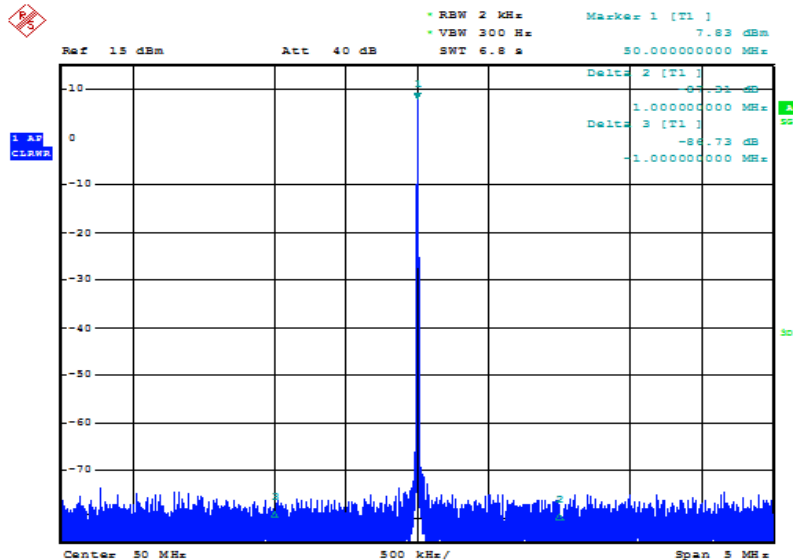
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PERFORMANCE PLOTS

### HARMONIC SUPPRESSION



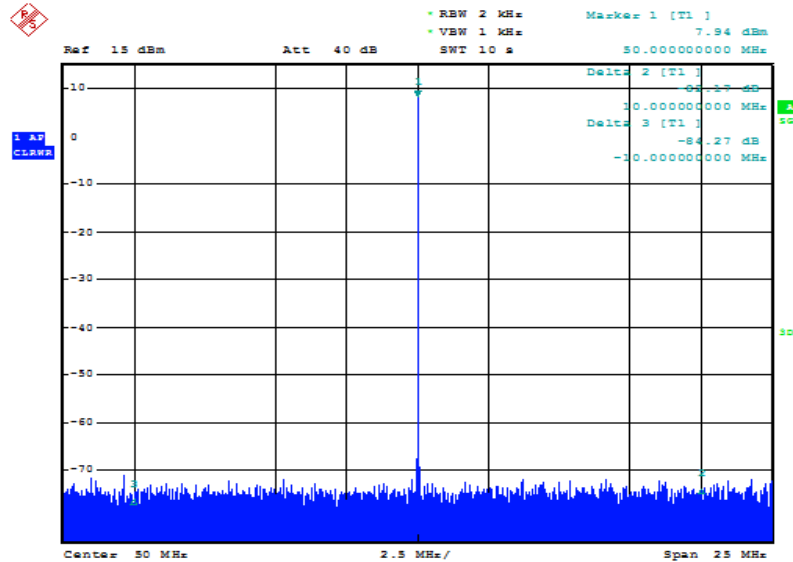
### REFERENCE SIDEBAND SUPPRESSION



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CLOSE IN SPURIOUS SUPPRESSION



PERFORMANCE PLOTS

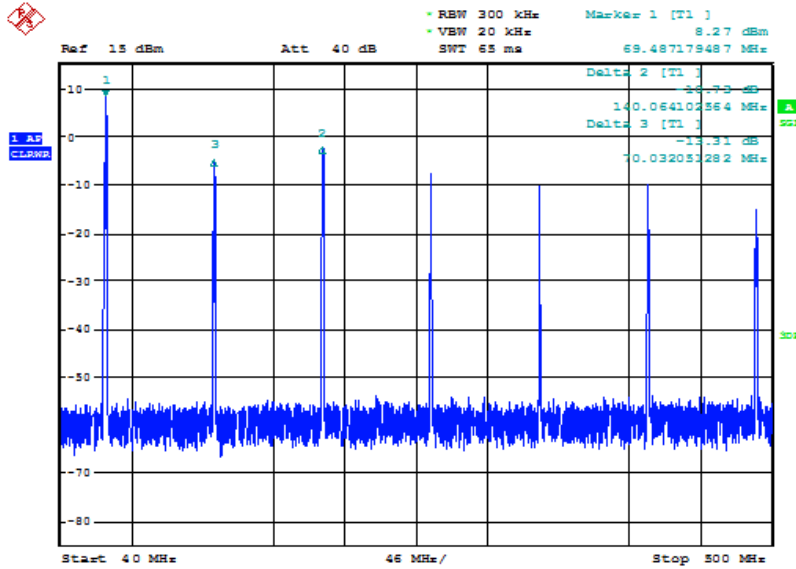
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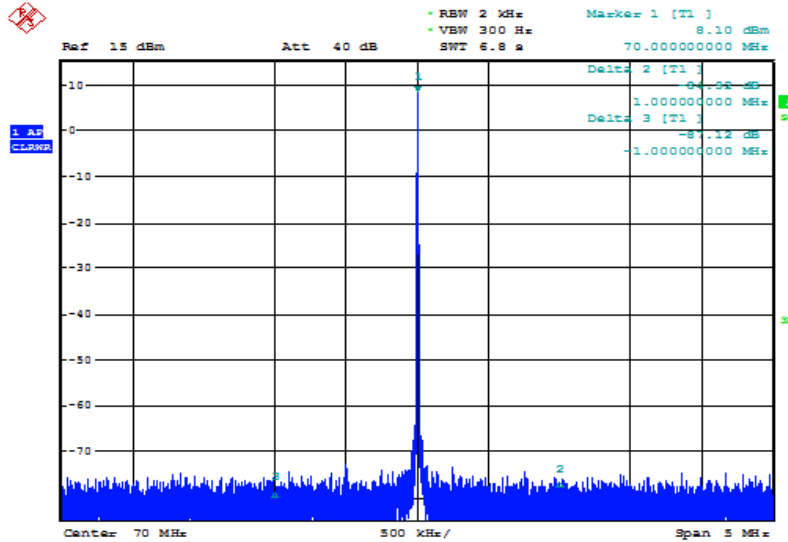
50 - 115 MHz

PERFORMANCE PLOTS

### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



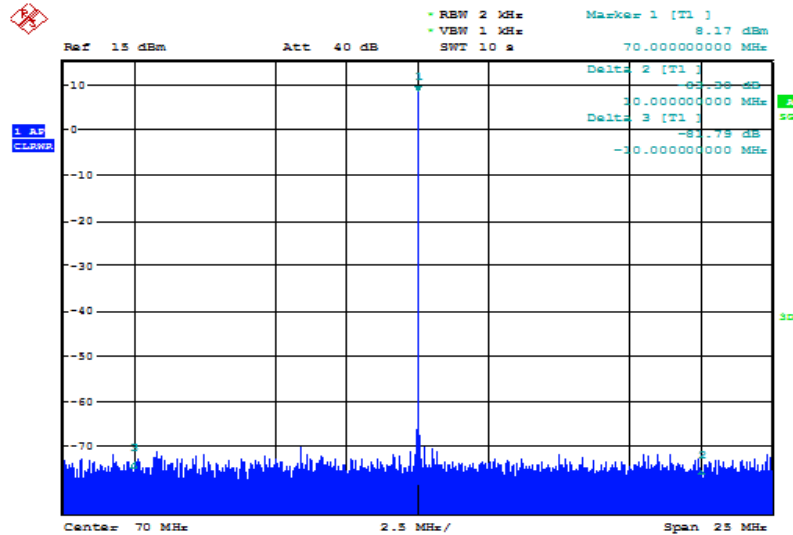
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201 McLean Boulevard • Paterson, New Jersey 07504 USA  
Tel: (973) 881-8800 • Fax: (973) 881-8361  
E-Mail: sales@synergymw.com • Website: <http://www.synergymw.com>  
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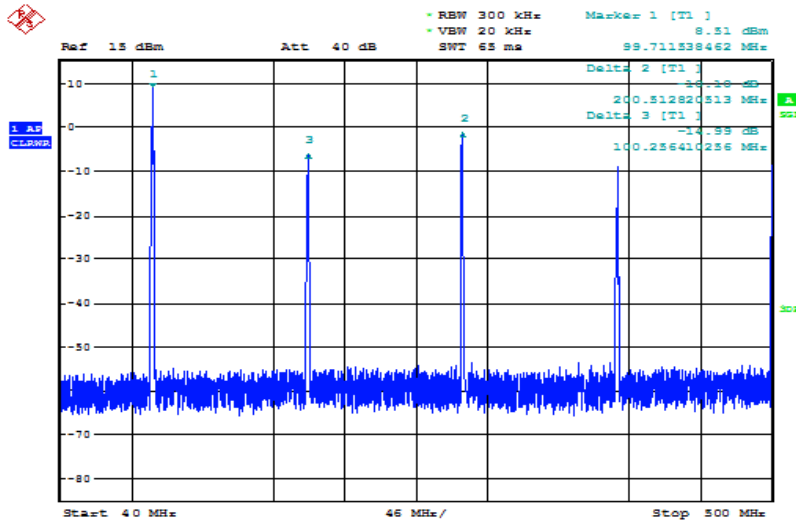
PERFORMANCE PLOTS

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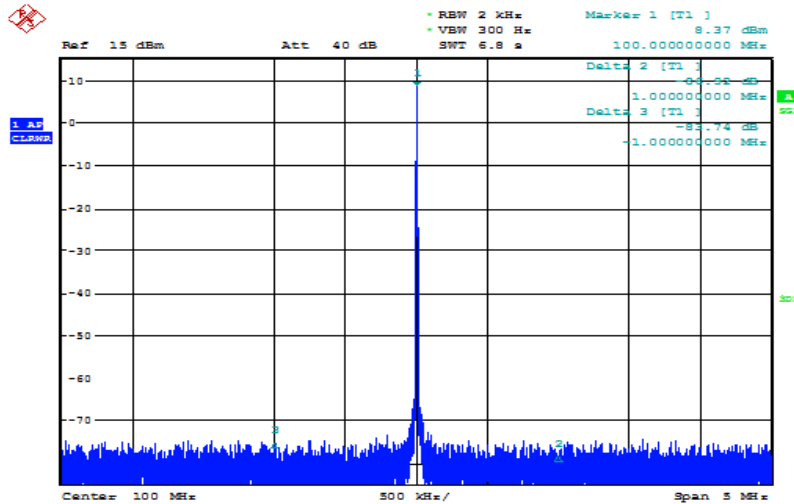
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PERFORMANCE PLOTS

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION

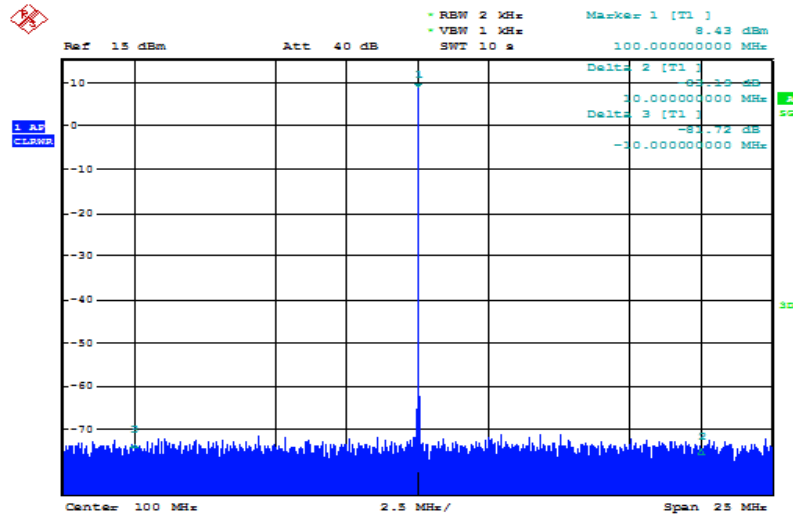


FORMAL 1.0

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