

# SELECTABLE FREQUENCY SYNTHESIZER

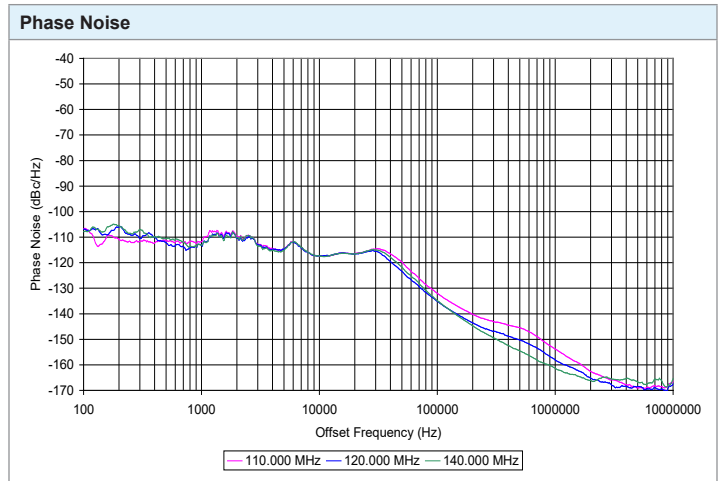
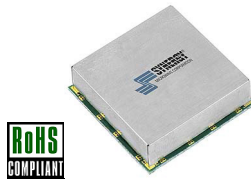
## SURFACE MOUNT MODEL: FCPL1114-5

OPTIMIZED LOOP PARAMETERS

112.5 - 140 MHz

**FEATURES:**

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



**SPECIFICATIONS (Rev. D 12/21/10)**

Frequency	112.5 - 140 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)	+5	10
	Vcc 3 (VCO)	+5	50
Lock Detect Indicator	CMOS 3.3 V		
Output Power	+5 dBm (Min.)		
Spurious Suppression	75 dB (Typ.)		
Harmonic Suppression	10 dB (Typ.)		
Power Up Time	90 mSec (Typ.) *		
Output Impedance	50 Ohms (Nom.)		
Typical Phase Noise	<b>Offset</b>	<b>Phase Noise</b>	
	@ 1 kHz	-110 dBc/Hz	
	@ 10 kHz	-117 dBc/Hz	
	@ 100 kHz	-132 dBc/Hz	
Operating Temperature Range	-40 to +85 °C		

\* From stable power on to stable lock detect.

**Binary Frequency Selection Table**

D3	D2	D1	D0	Freq. (MHz)
1	0	0	0	112.5
1	0	0	1	120
1	0	1	0	140
1	1	1	1	125

**Absolute Maximum Ratings**

Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (Vtune)	+8.0 V
Bias Voltage (VCO)	+5.5 V
DC Voltage Applied to RF Out	± 25 V

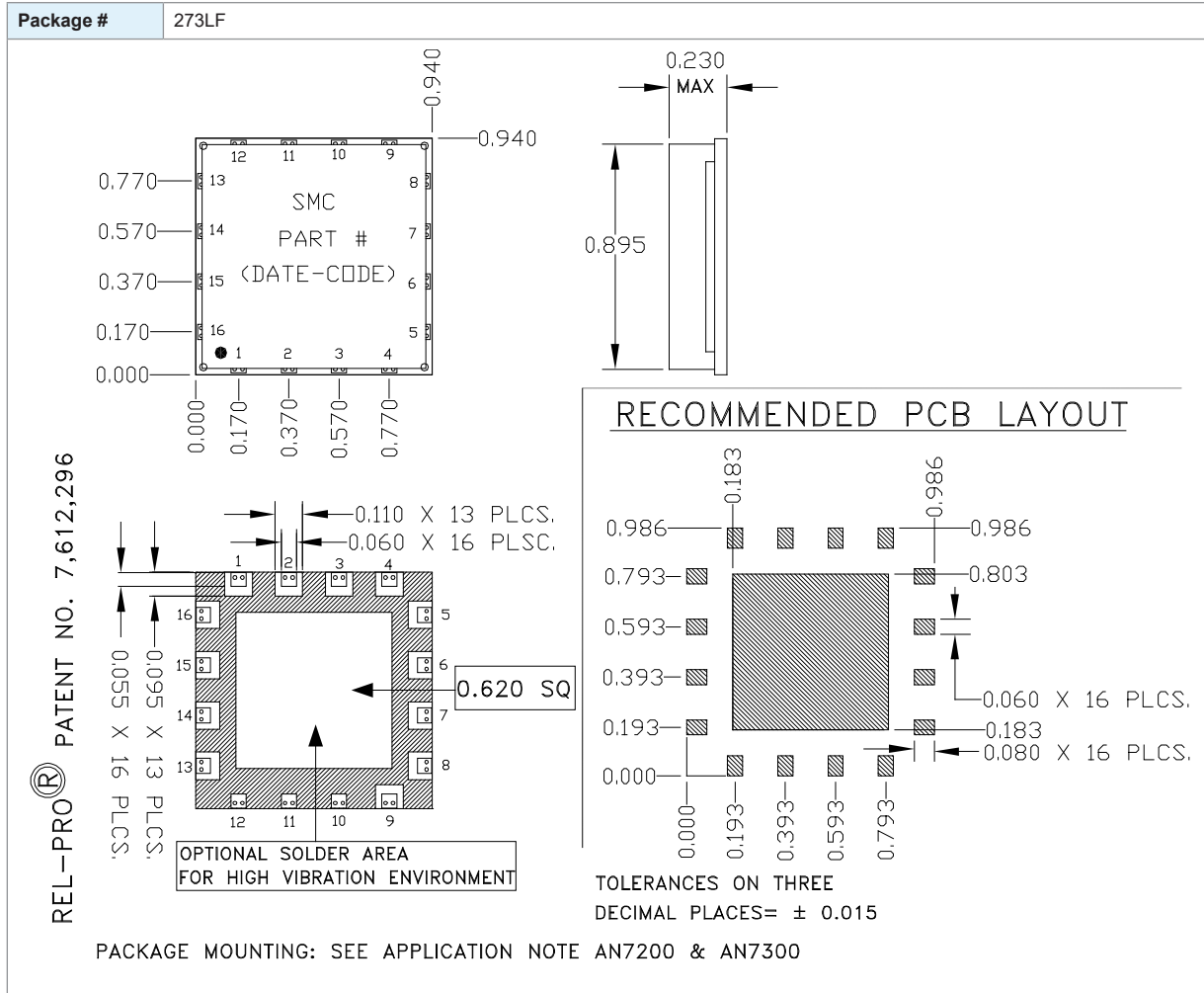
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PERFORMANCE PLOTS



### Port Configuration

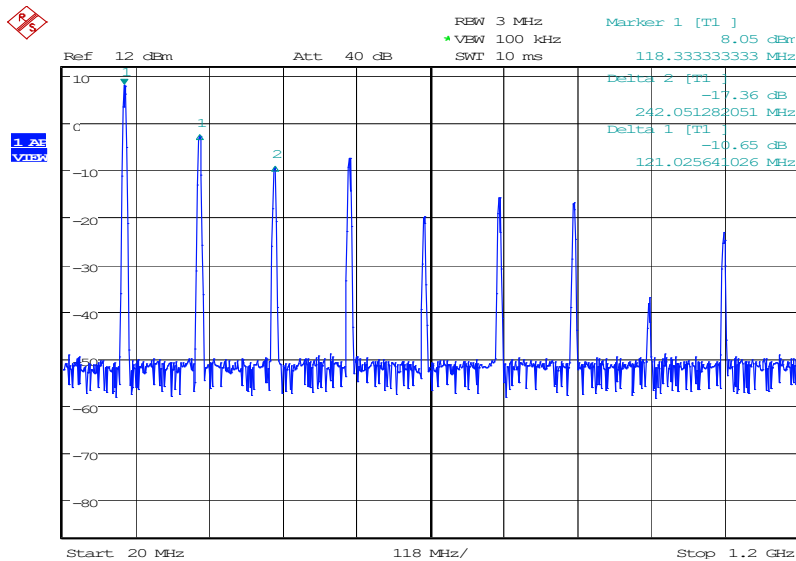
Pin 1 - NC	Pin 6 - Ref. Input	Pin 11 - Ground	Pin 16 - NC
Pin 2 - D0 (LSB)	Pin 7 - VCC1 (Digital)	Pin 12 - Ground	NC - Not Connected
Pin 3 - D1	Pin 8 - VCC2 (Vtune)	Pin 13 - RF Out	
Pin 4 - D2	Pin 9 - VCC3 (VCO)	Pin 14 - Lock Detect	
Pin 5 - D3 (MSB)	Pin 10 - Ground	Pin 15 - NC	

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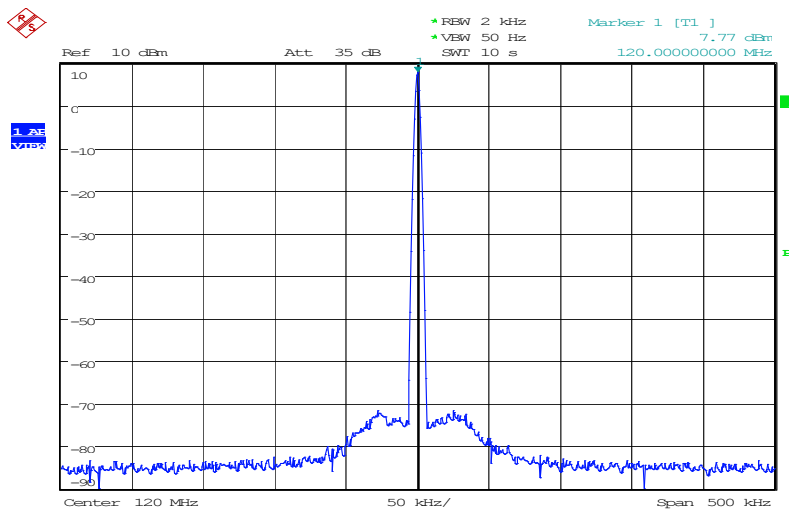
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## HARMONIC SUPPRESSION



## REFERENCE SIDEBAND SUPPRESSION



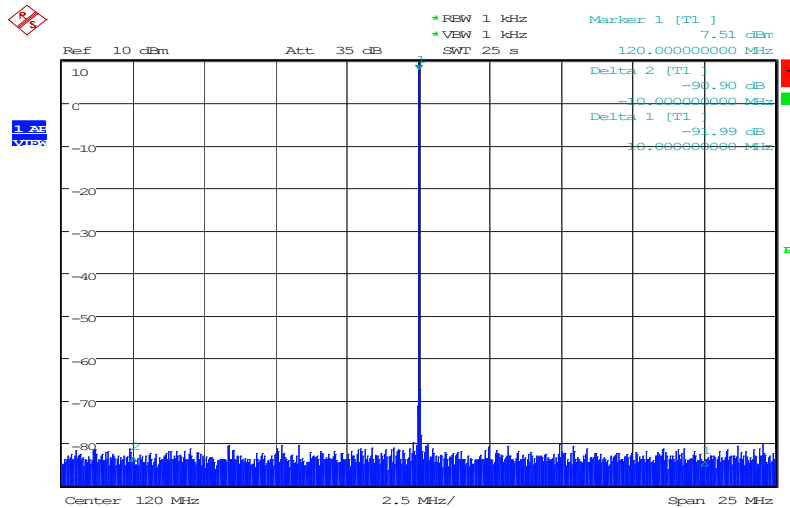
PERFORMANCE PLOTS

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CLOSE IN SPURIOUS SUPPRESSION



PERFORMANCE PLOTS