

# SELECTABLE FREQUENCY SYNTHESIZER

## SURFACE MOUNT MODEL: FCPL1215-25

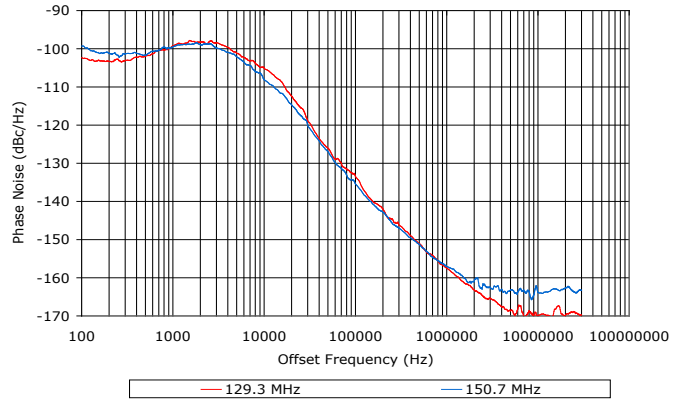
120 - 150 MHz

### 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. A 04/25/11)

Frequency	120 - 150 MHz		
Reference Input Frequency	25 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 5 V		
Output Power	5 dBm (Min.)		
Spurious Suppression	-75 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	-100 dBc/Hz	
	@ 100 kHz	-125 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	129.3
0	0	0	1	150.7
0	0	1	0	--
0	0	1	1	--
0	1	0	0	--
0	1	0	1	--
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 (Tune)	+5.5 V
Bias Voltage (VCO)	+5.5 V
DC Voltage Applied to RF Out	± 25 V

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; 60/604173; 60/689090; 60/601823; 60/605791; EV0136934; 11/263766; 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

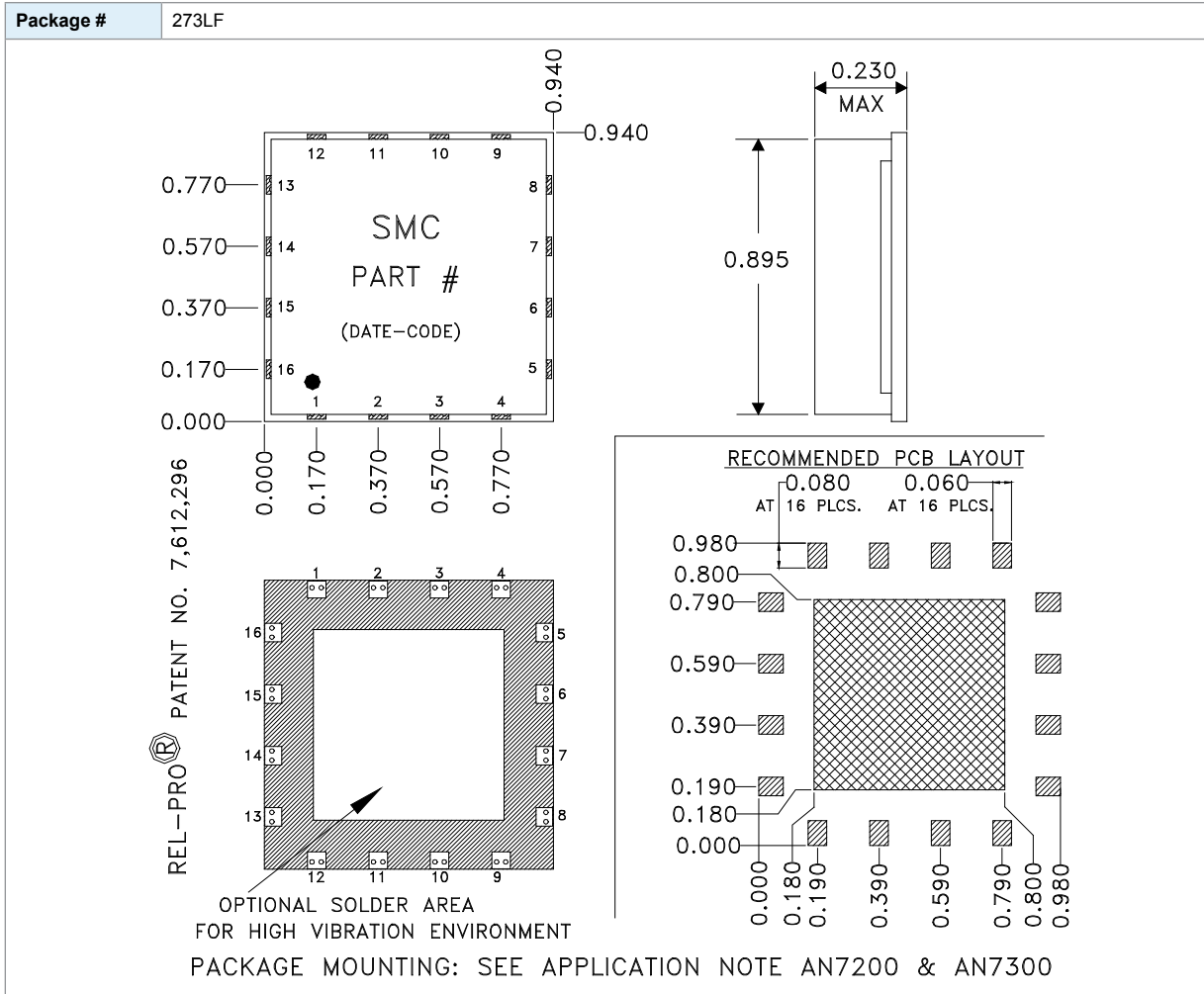


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120 - 150 MHz

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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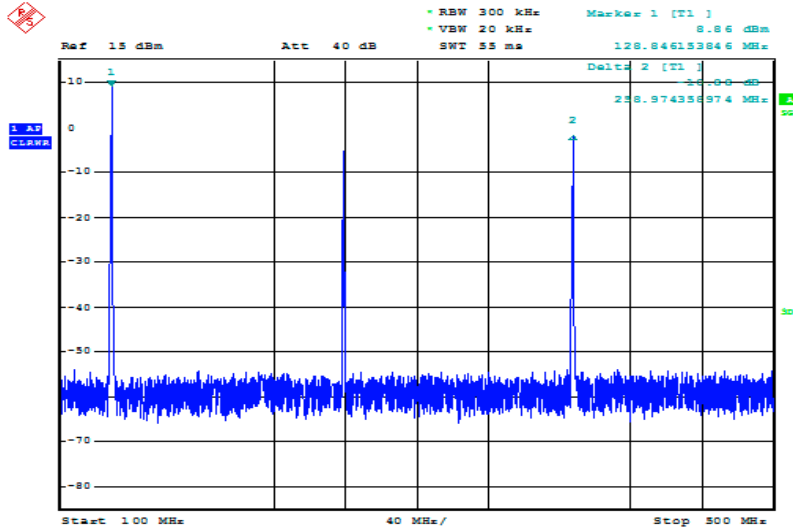


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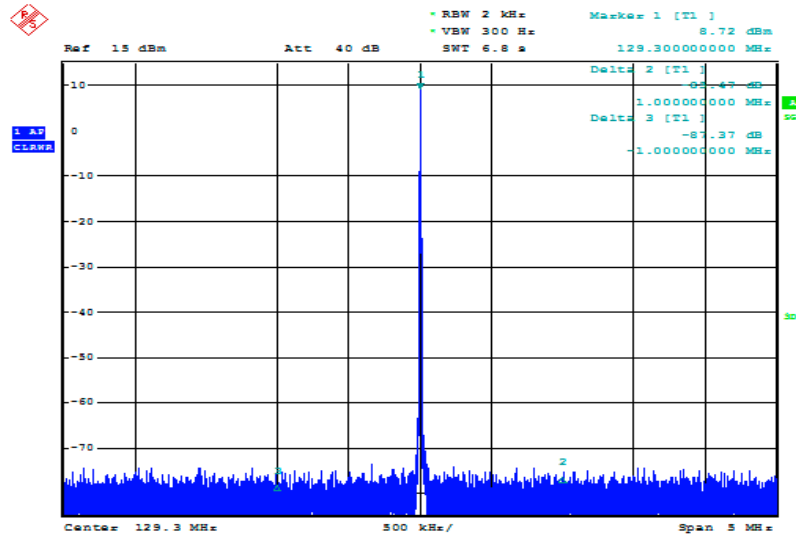
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### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



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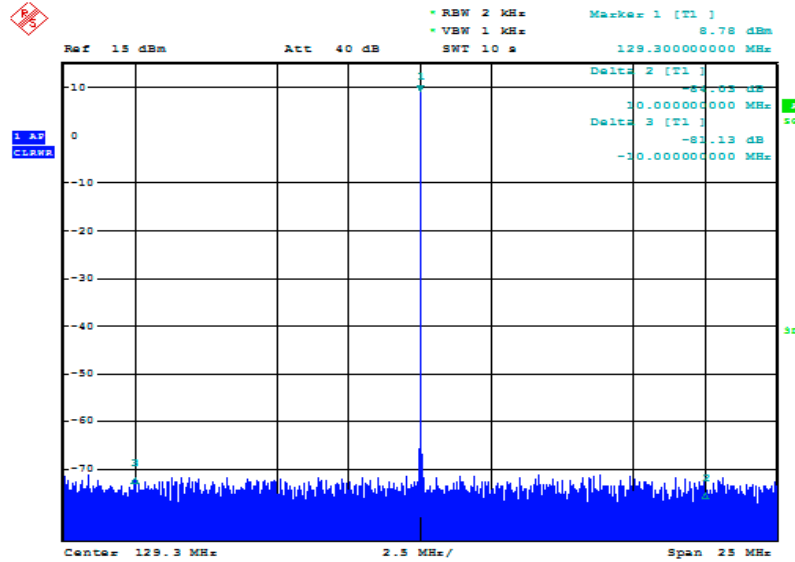
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# SELECTABLE FREQUENCY SYNTHESIZER SURFACE MOUNT MODEL: FCPL1215-25

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## CLOSE IN SPURIOUS SUPPRESSION



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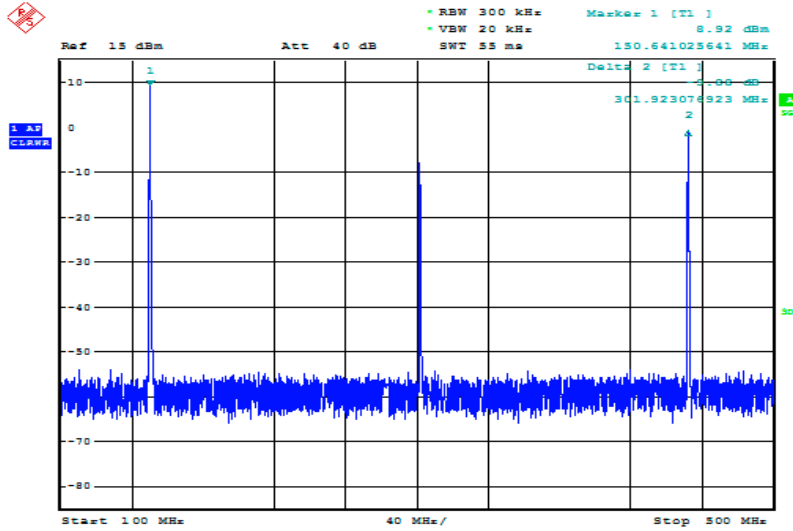


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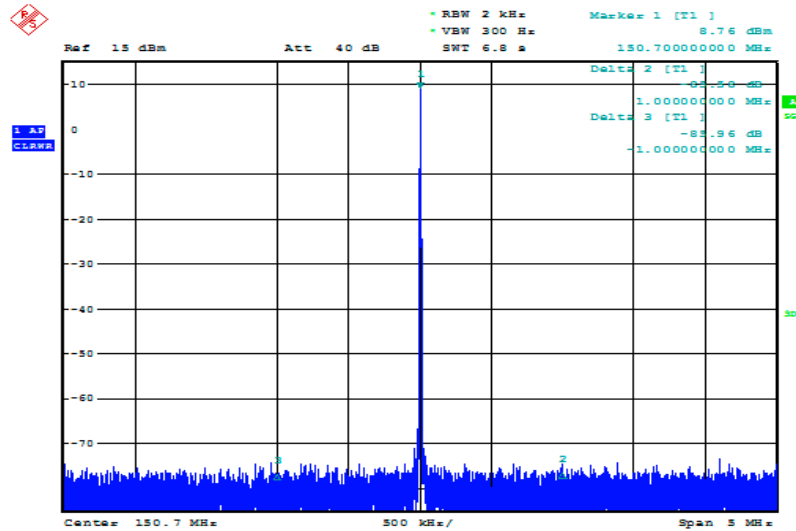
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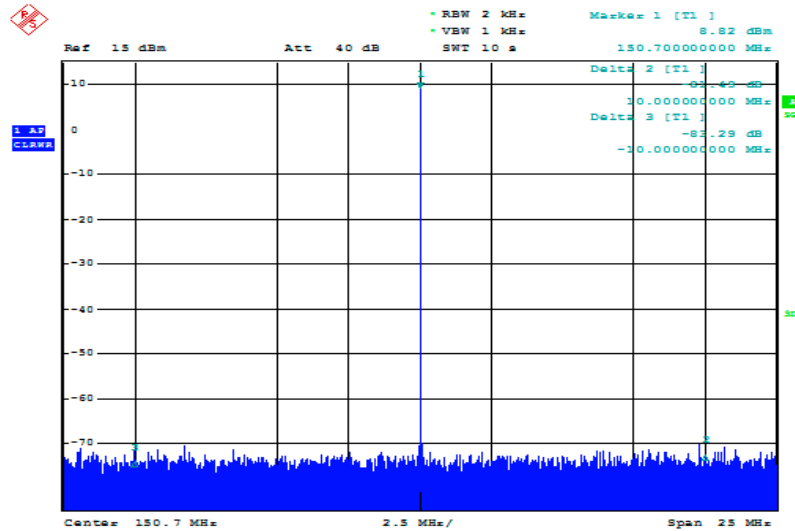
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