

# SELECTABLE FREQUENCY SYNTHESIZER

## SURFACE MOUNT MODEL: FCPH100125-10

**OPTIMIZED BANDWIDTH**

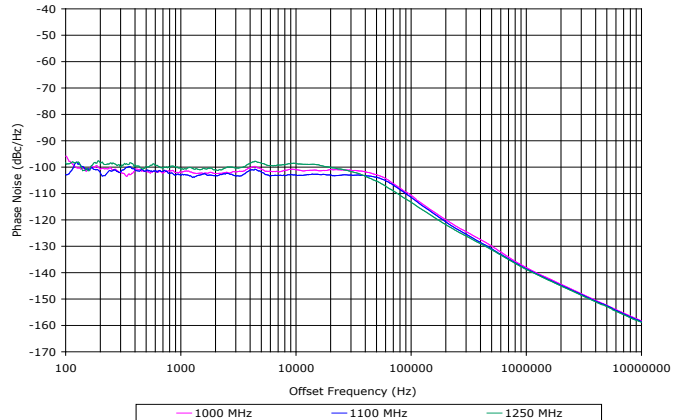
**1000 - 1250 MHz**

**FEATURES:**

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



**Phase Noise**



**SPECIFICATIONS (Rev. H 01/02/12)**

<b>Frequency</b>	1000 - 1250 MHz		
<b>Reference Input Frequency</b>	10 MHz		
<b>Reference Input Voltage</b>	1.0 V p-p to 3.3 V p-p		
<b>Bias Voltage</b>	<b>Vcc</b>	V (Vdc)	I (mA Max.)
	<b>Digital</b>	+5	15
	<b>Tune</b>	+5	10
	<b>VCO</b>	+5	55
<b>Lock Detect Indicator</b>	CMOS 3.3 V		
<b>Output Power</b>	+5 dBm (Min.)		
<b>Spurious Suppression</b>	80 dB (Typ.)		
<b>Harmonic Suppression</b>	15 dB (Typ.)		
<b>Power Up Time</b>	90 mSec (Typ.) <sup>1</sup>		
<b>Output Impedance</b>	50 Ohms (Nom.)		
<b>Typical Phase Noise</b>	Offset	Phase Noise	
	@ 10 kHz	-100 dBc/Hz	
	@ 100 kHz	-112 dBc/Hz	
<b>Operating Temperature Range</b>	-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	1000
0	0	0	1	1030
0	0	1	0	1045
0	0	1	1	1050
0	1	0	0	1065
0	1	0	1	1070
0	1	1	0	1095
0	1	1	1	1100
1	0	0	0	1175
1	0	0	1	1190
1	0	1	0	1195
1	0	1	1	1205
1	1	0	0	1210
1	1	0	1	1225
1	1	1	0	1245
1	1	1	1	1250

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

**Absolute Maximum Ratings**

<b>Storage Temp. Range</b>	-55 to +125 °C
<b>Bias Voltage (Digital)</b>	+5.25 V
<b>Bias Voltage (Tune)</b>	+28 V
<b>Bias Voltage (VCO)</b>	+5.5 V
<b>DC Voltage Applied to RF Out</b>	± 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; 60/564173; 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

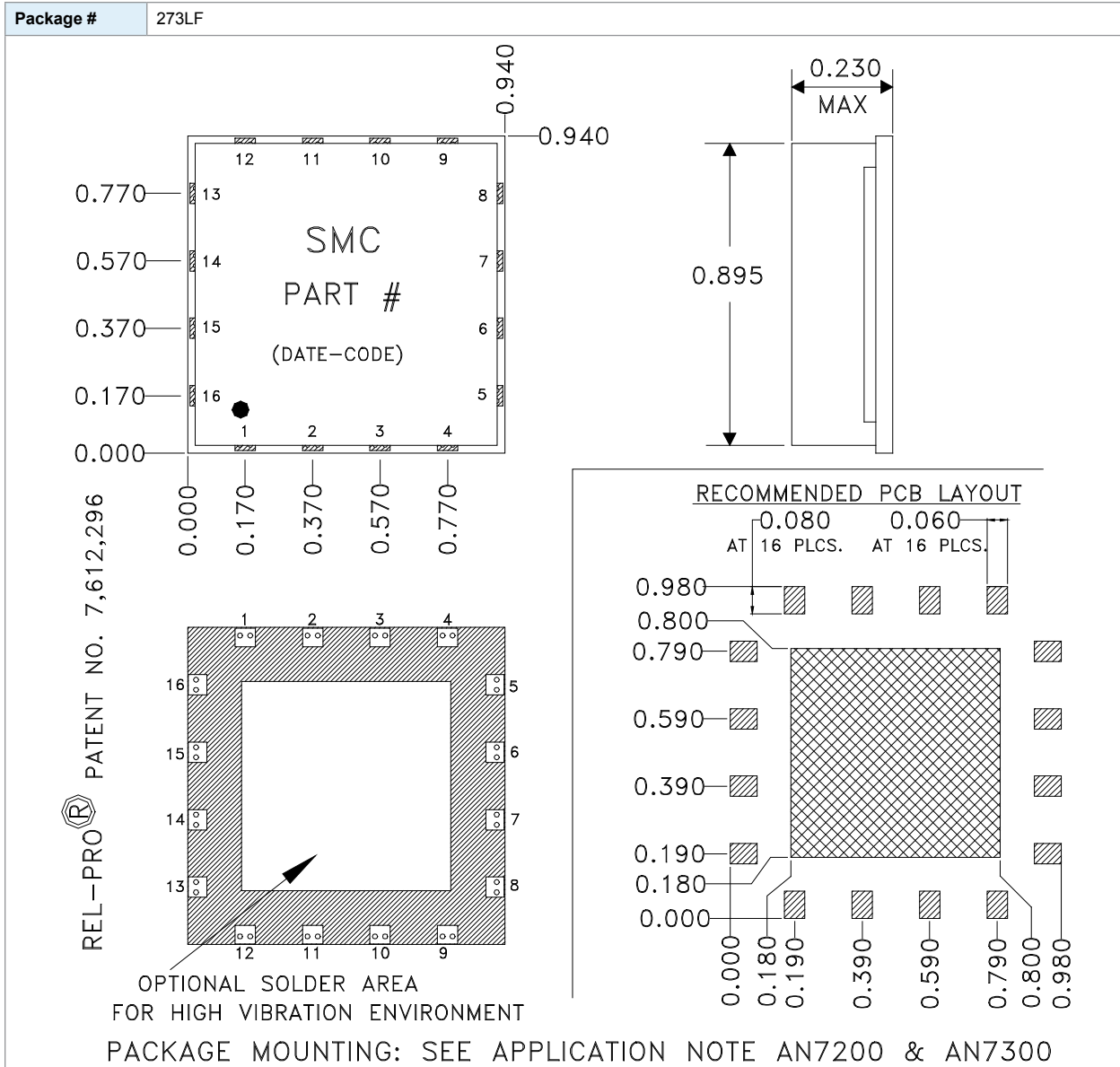
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PERFORMANCE PLOTS



**PORT CONFIGURATION**

Pin 1 - NC	Pin 6 - Ref. In	Pin 14 - Lock Detect *
Pin 2 - D0	Pin 7 - Vcc (Digital)	Pin 15, 16 - NC
Pin 3 - D1	Pin 8 - Vcc (Tune)	Pin 10, 11, 12 - Ground
Pin 4 - D2	Pin 9 - Vcc (VCO)	
Pin 5 - D3	Pin 13 - RF Out	NC - No Connection

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

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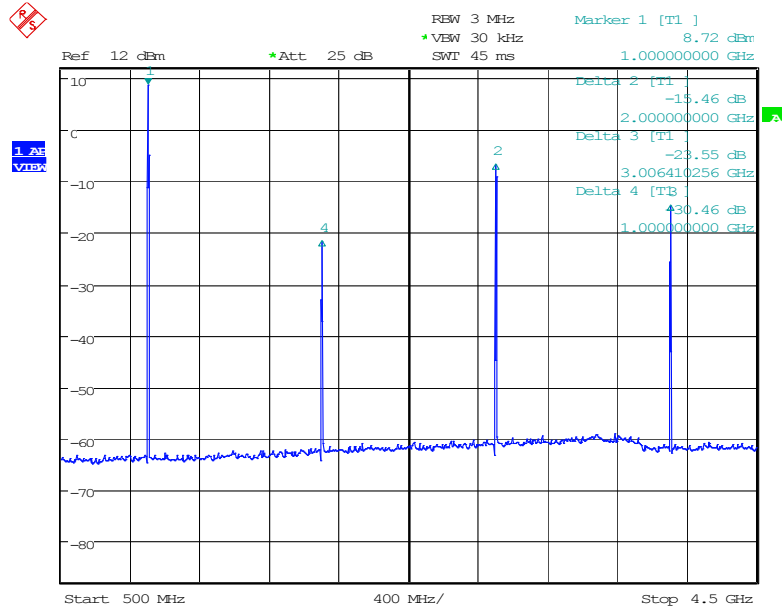
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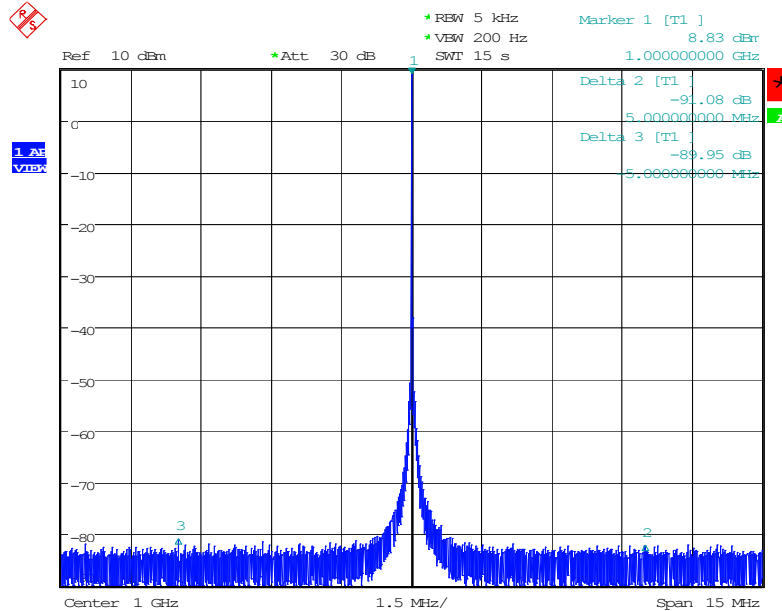
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### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



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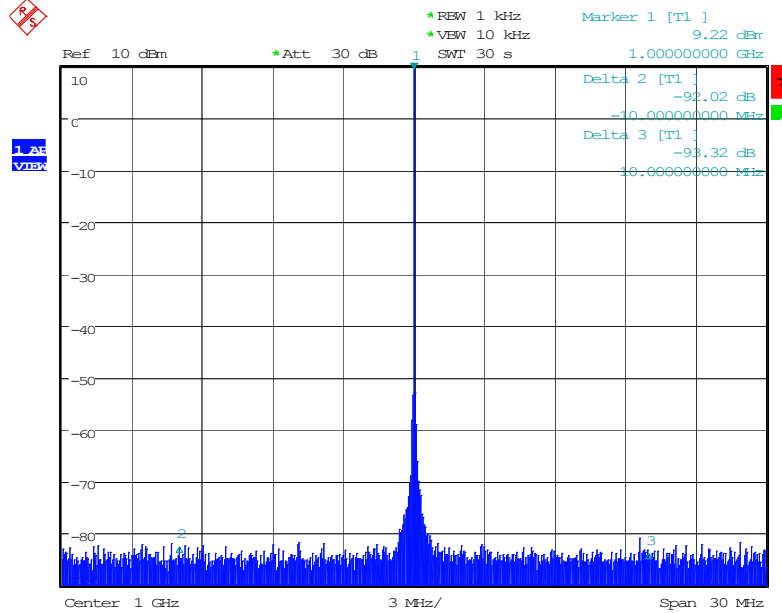
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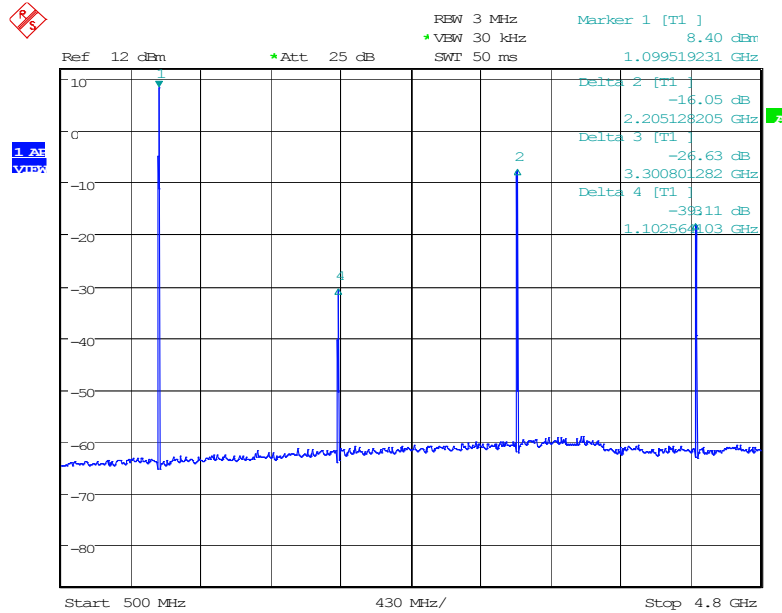
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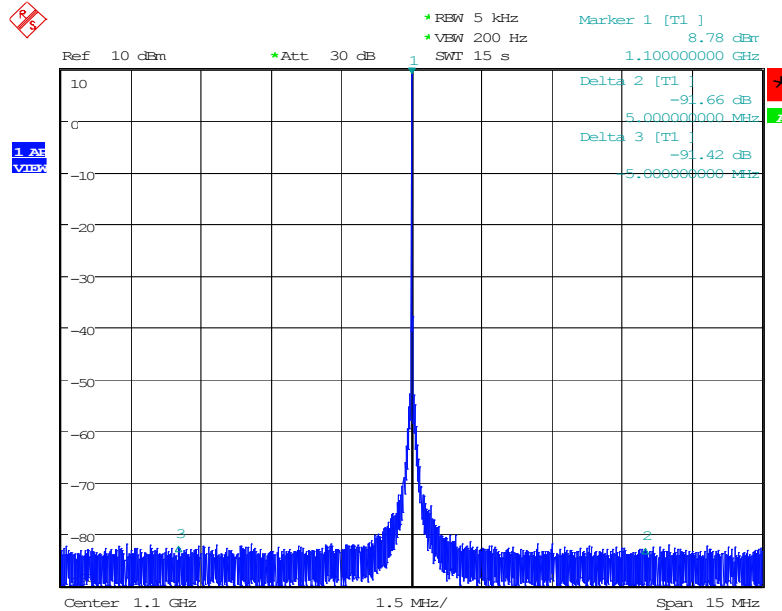
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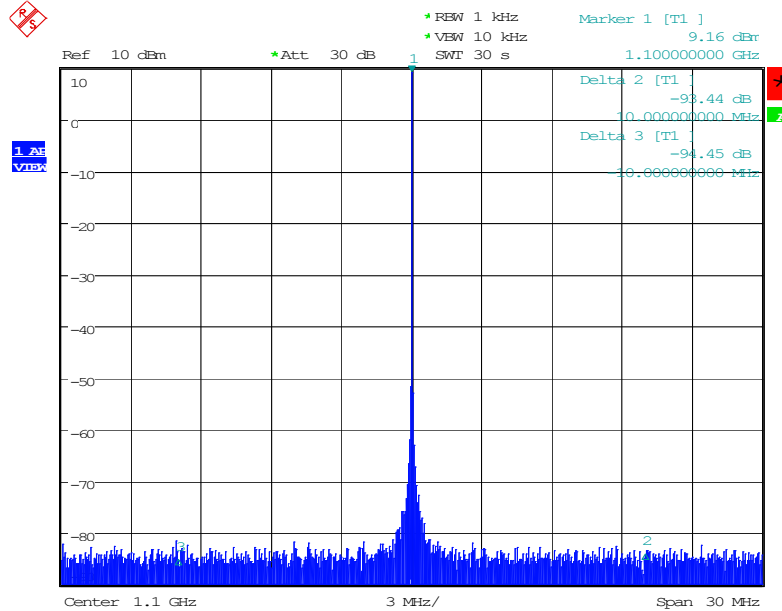


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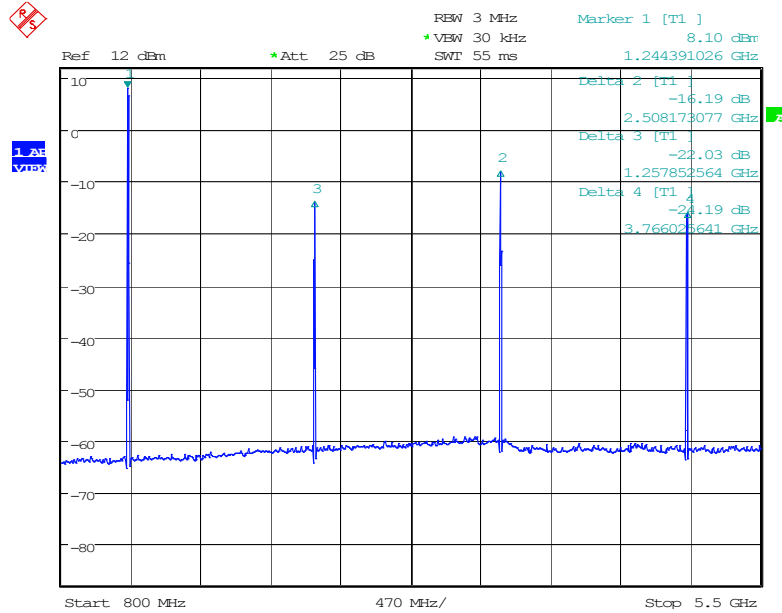
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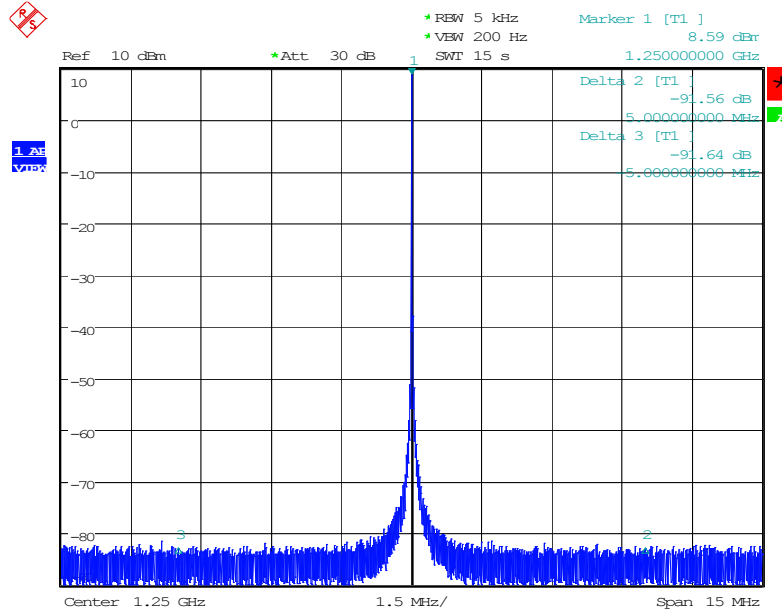
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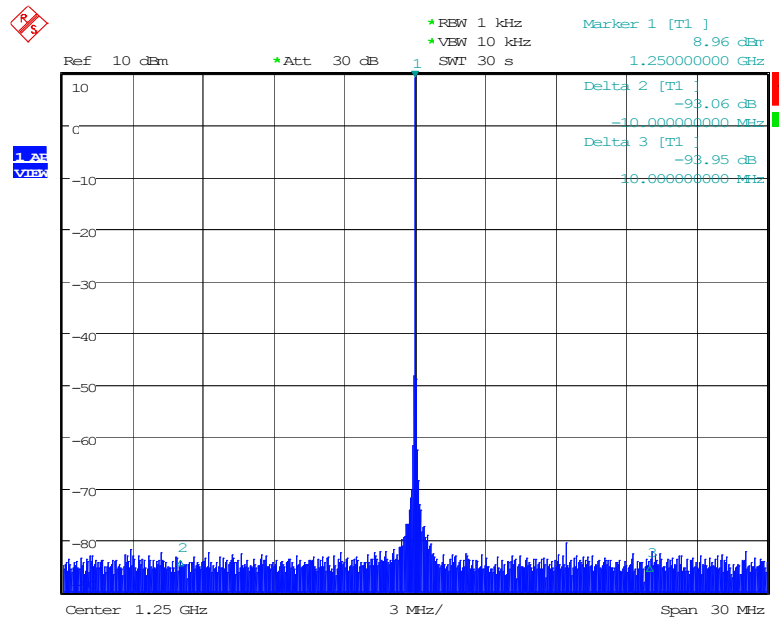
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