

# SELECTABLE FREQUENCY SYNTHESIZER

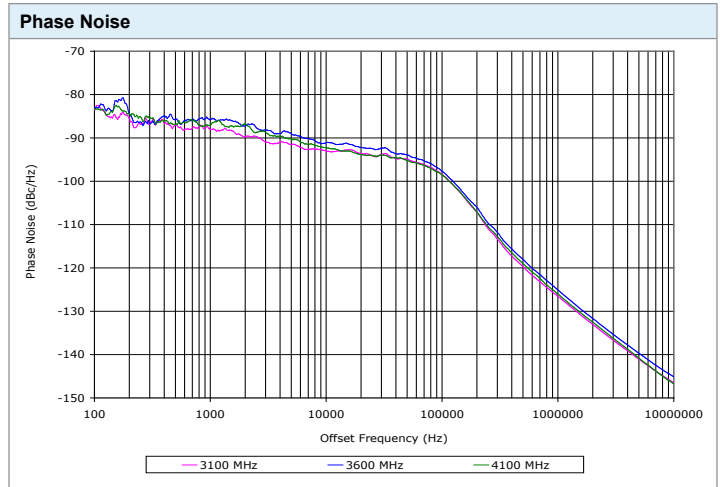
## SURFACE MOUNT MODEL: FCPH310410-10

**WIDE BANDWIDTH**

**3100 - 4100 MHz**

**FEATURES:**

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



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

Frequency	3100 - 4100 MHz		
Reference Input Frequency	10 MHz		
Reference Input Voltage	1.0 V p-p to 3.3 V p-p		
Bias Voltage	Vcc	V (Vdc)	I (mA Max.)
	Digital	+5	15
	Tune	+12	10
	VCO	+5	65
Lock Detect Indicator	CMOS 3.3 V		
Output Power	+5 dBm (Min.)		
Spurious Suppression	75 dB (Typ.)		
Harmonic Suppression	20 dB (Typ.)		
Power Up Time	90 mSec (Typ.) <sup>1</sup>		
Output Impedance	50 Ohms (Nom.)		
Typical Phase Noise	Offset	Phase Noise	
	@ 10 kHz	-92 dBc/Hz	
	@ 100 kHz	-98 dBc/Hz	
Operating Temperature Range	-40 to +85 °C		

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

**Absolute Maximum Ratings**

Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (Tune)	+16 V
Bias Voltage (VCO)	+5.5 V
DC Voltage Applied to RF Out	± 25 V

**Binary Frequency Selection Table**

D3*	D2*	D1*	D0*	Freq. (MHz)
0	0	0	0	3320
0	0	0	1	3480
0	0	1	0	3550
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.

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; 7,068,189; 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

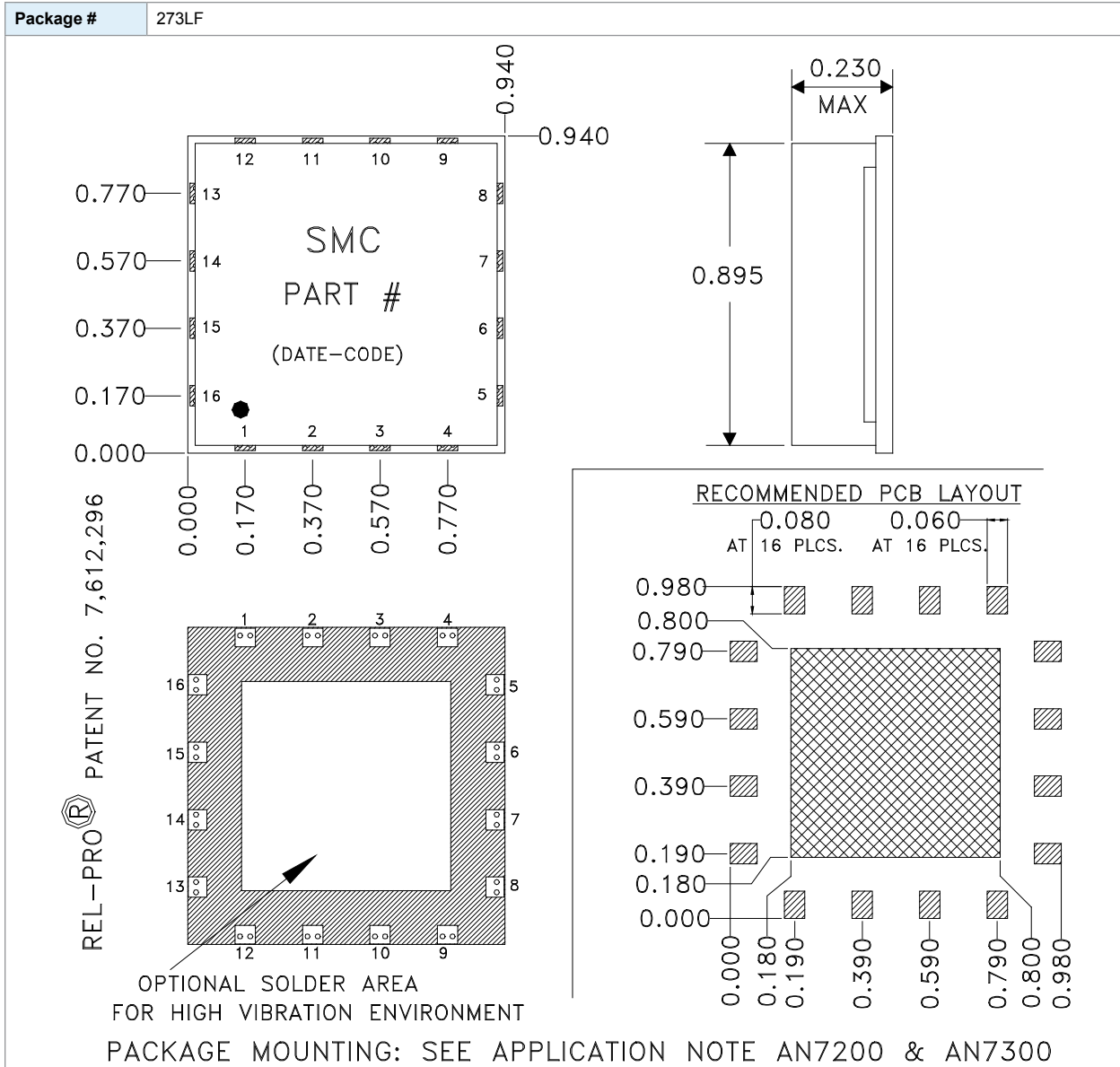
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PERFORMANCE PLOTS



### 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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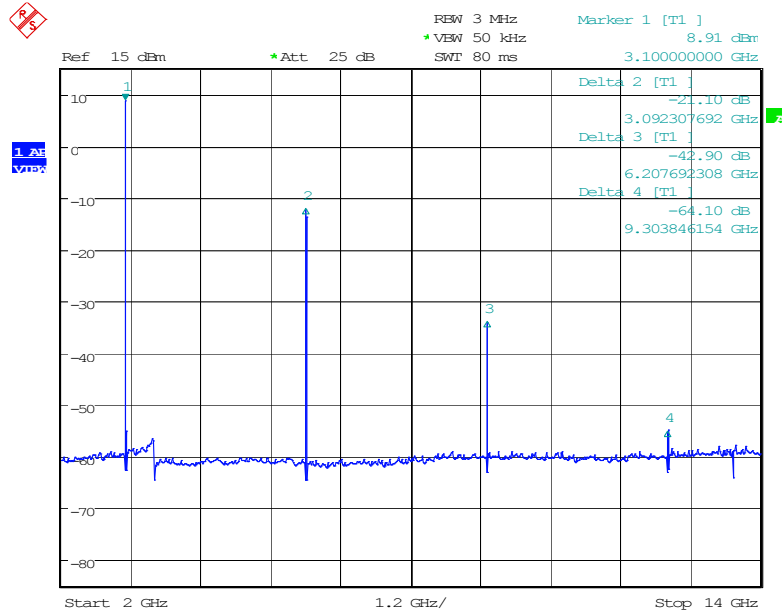
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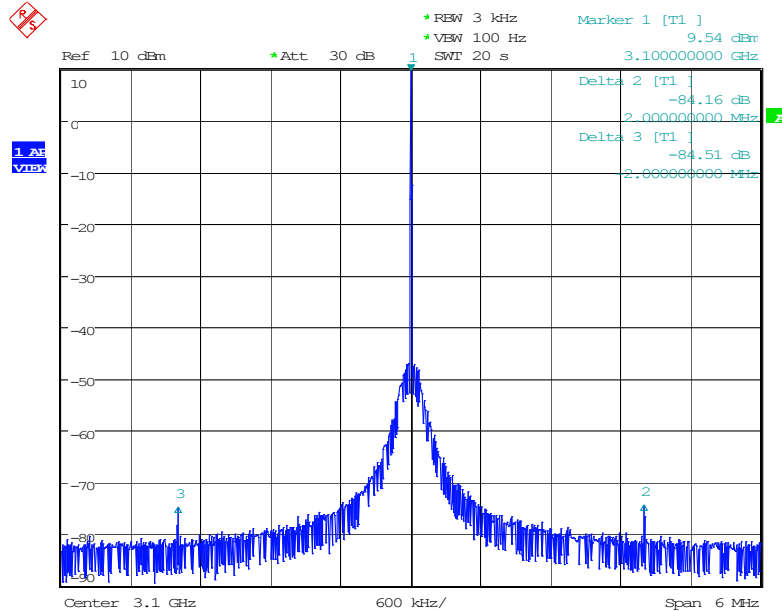
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### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



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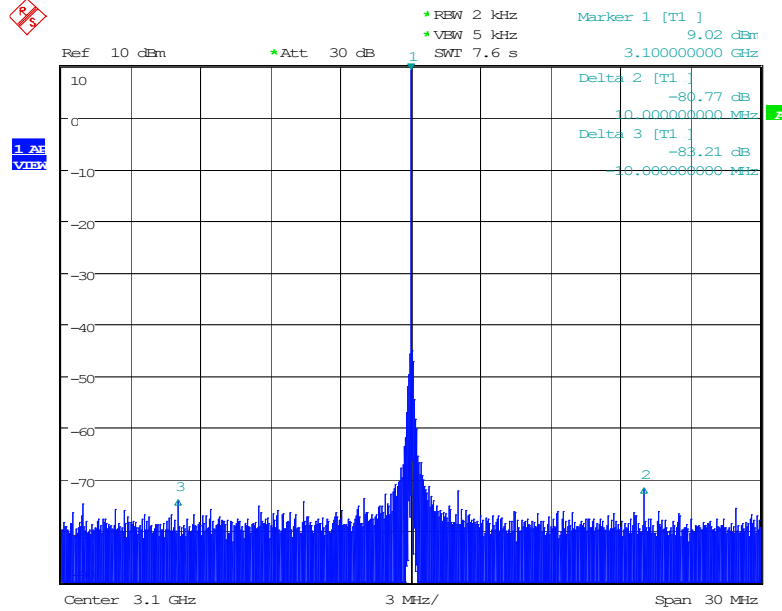


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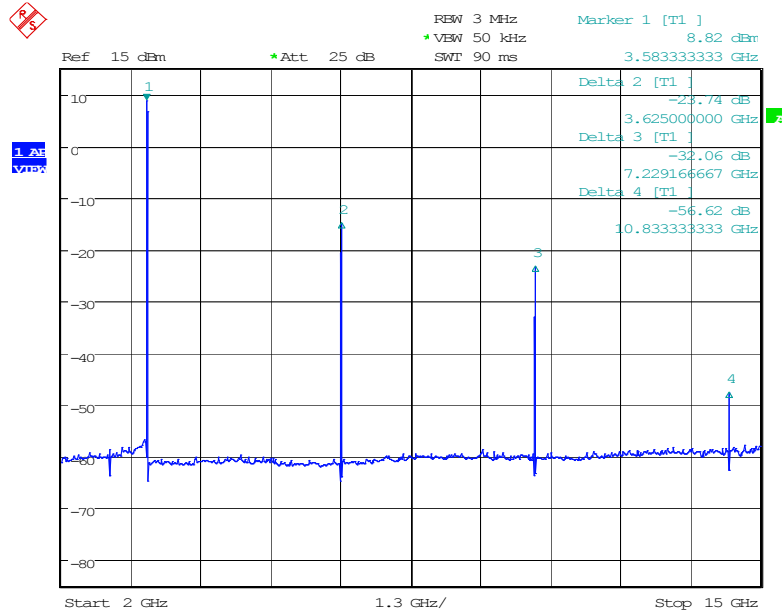


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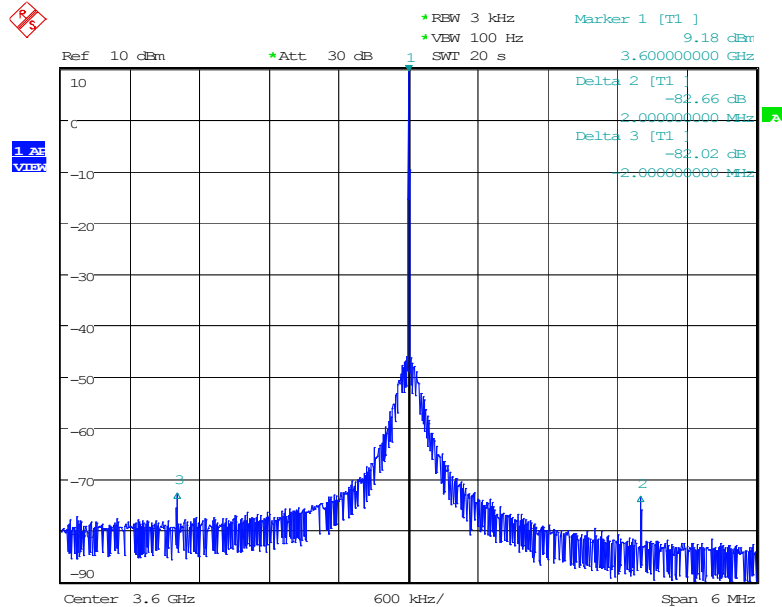
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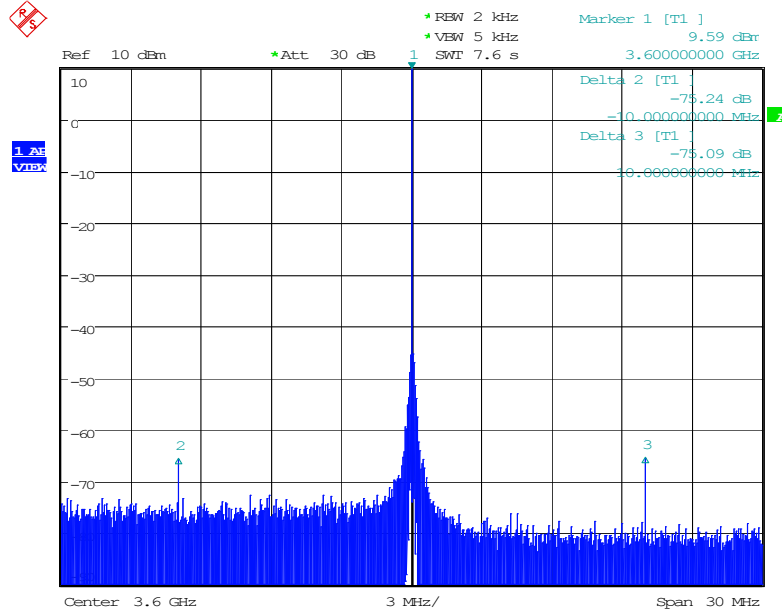


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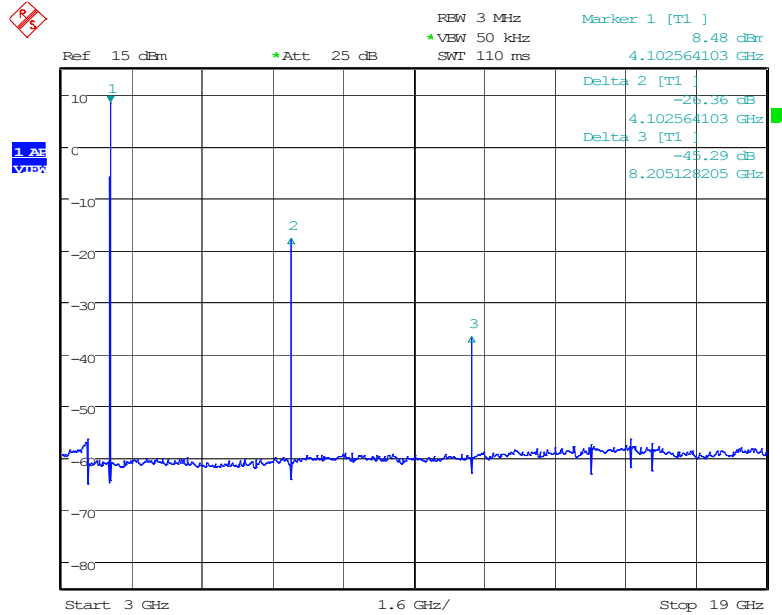
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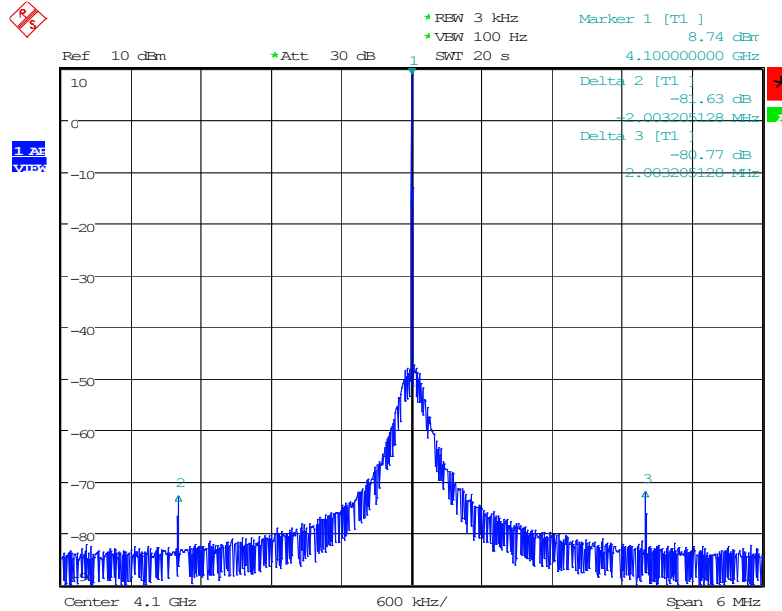
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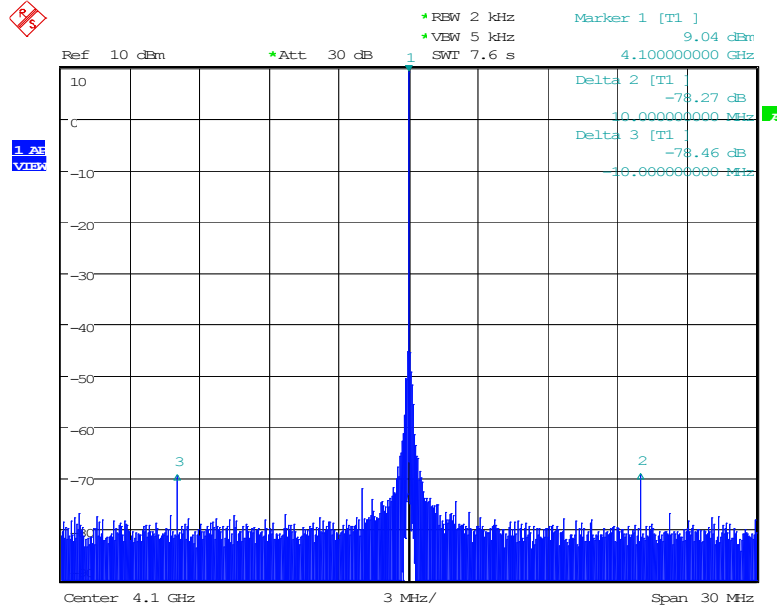


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