

# REFERENCE PHASE LOCKED TRANSLATOR

## SURFACE MOUNT MODEL: FCTS800-10-5

**FIXED FREQUENCY**

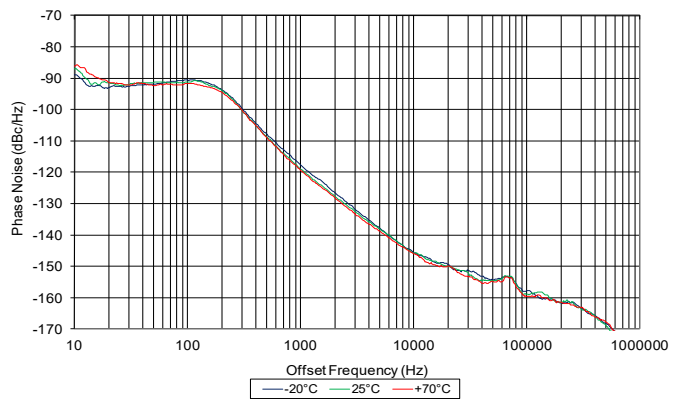
**800 MHz**

**FEATURES:**

- ▶ Ultra-Low Phase Noise
- ▶ No Programming Required
- ▶ Lead Free - RoHs Compliant
- ▶ Patented REL-PRO Technology
- ▶ Small Size, Surface Mount



Phase Noise ( Measured with Agilent E5052A or R&S FSUP-26/27 )



**SPECIFICATIONS**

Frequency	800 MHz	
Reference Input Frequency	10 MHz <sup>1</sup>	
Reference Input Voltage	1.0 to 3.3 V p-p	
Bias Voltage	<b>Vcc</b>	<b>V (Vdc)</b>
	Digital	+5
	Tune	+12
	VCO	+5
	<b>I (mA Max.)</b>	
	Digital	25
	Tune	10
	VCO	30
Output Power	0 dBm (Min.)	
Spurious Suppression	80 dB (Typ.)	
Harmonic Suppression	18 dB (Typ.)	
Output Impedance	50 Ohms (Nom.)	
Lock Detect Indicator	CMOS 3.3 V	
Typical Phase Noise	<b>Offset</b>	<b>Phase Noise</b>
	@ 100 Hz	-87 dBc/Hz
	@ 1 kHz	-116 dBc/Hz
	@ 10 kHz	-144 dBc/Hz
	@ 100 kHz	-158 dBc/Hz
Operating Temperature Range	-20 to +70 °C	

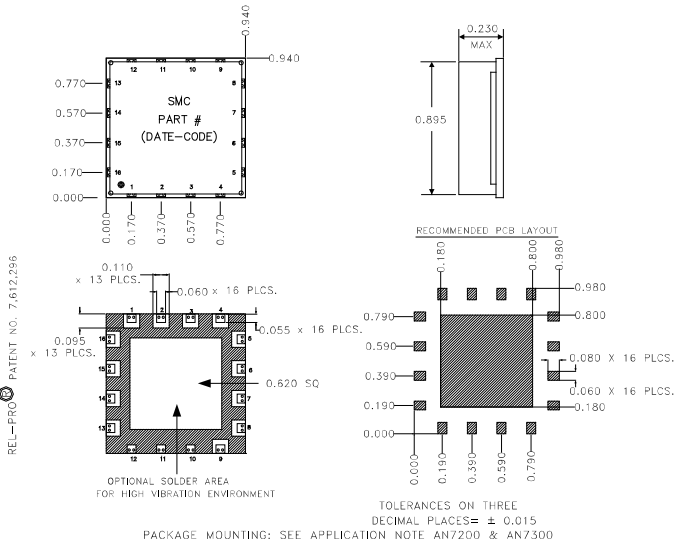
<sup>1</sup> External 10 MHz reference sources should have phase noise better than -138 dBc/Hz @ 50 Hz offset to achieve published specifications.

**Absolute Maximum Ratings**

Storage Temp. Range	-40 to +85 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (Tune)	+13.0 V
Bias Voltage (VCO)	+5.5 V

Patent : <http://www.synergymwave.com/patents>

Package # 273LF



**PORT CONFIGURATION**

Pin 6 - Ref. Input	Pin 13 - RF Out	NC - Not Connected
Pin 7 - Vcc 1 (Digital)	Pin 14 - Lock Detect *	
Pin 8 - Vcc 2 (Tune)	Pin 1,2,3,4,5,15,16 - NC	
Pin 9 - Vcc 3 (VCO)	Pin 10,11,12 - GND.	

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

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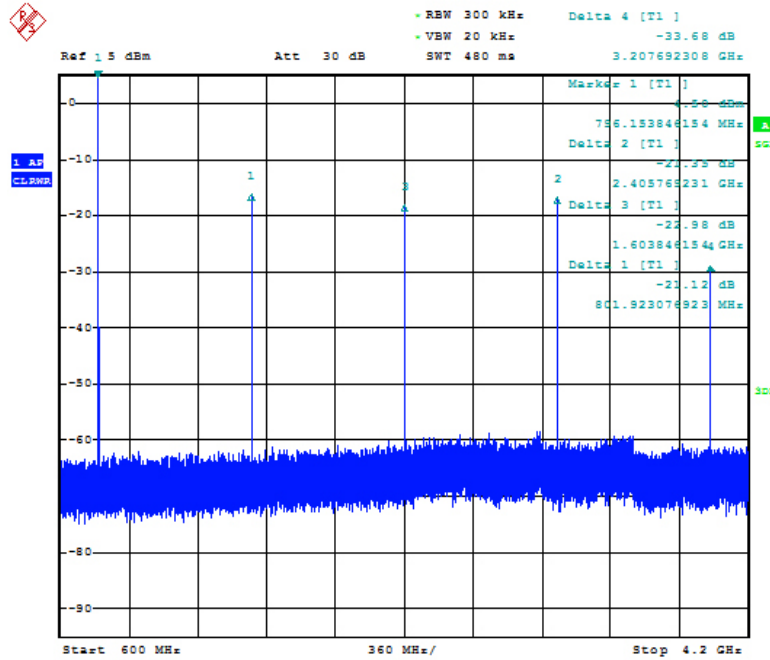
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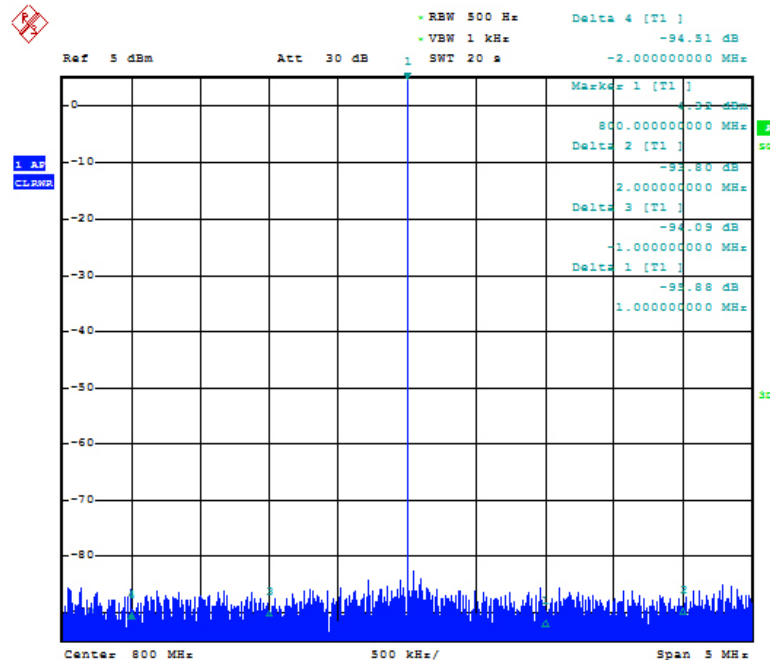
@ -20 °C

PERFORMANCE PLOTS

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



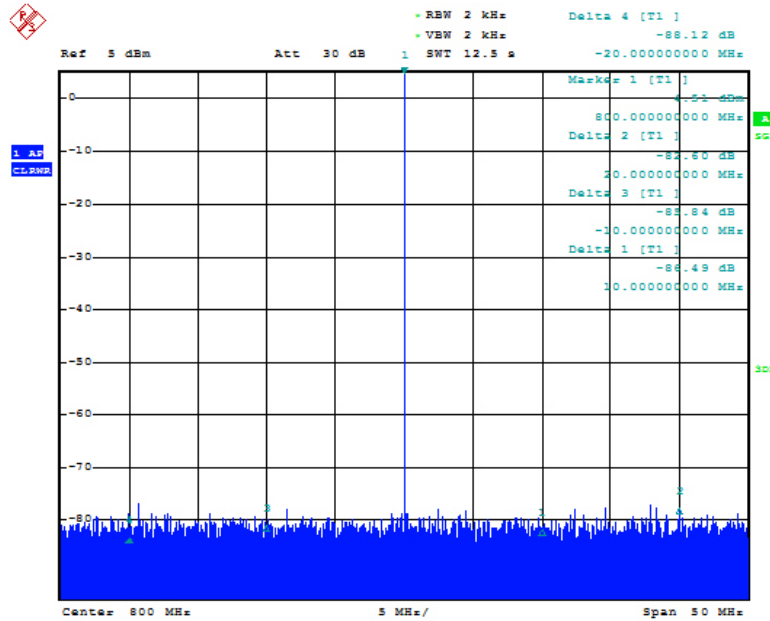
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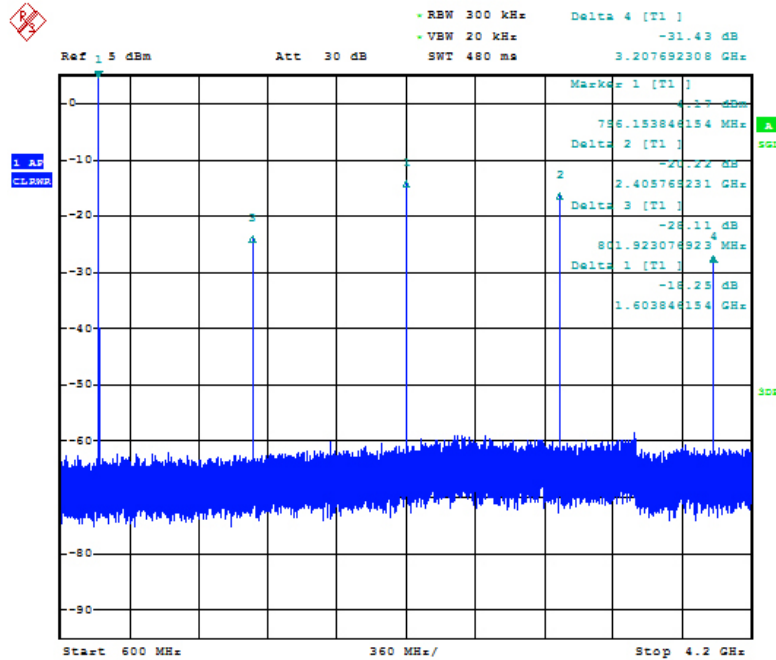
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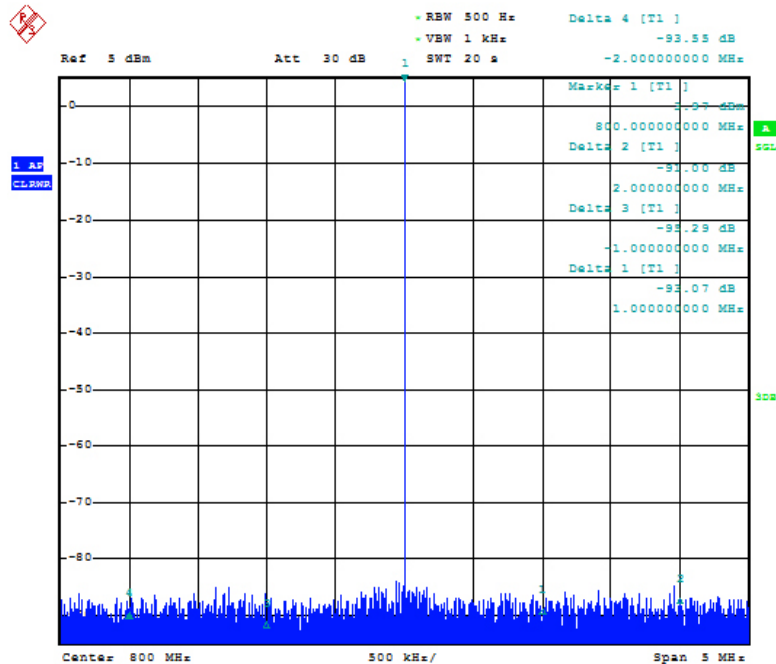
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PERFORMANCE PLOTS

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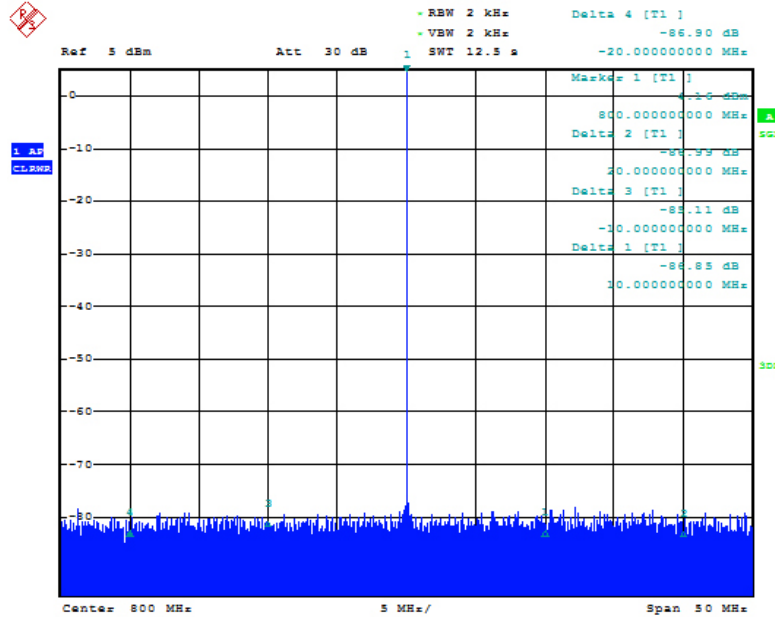
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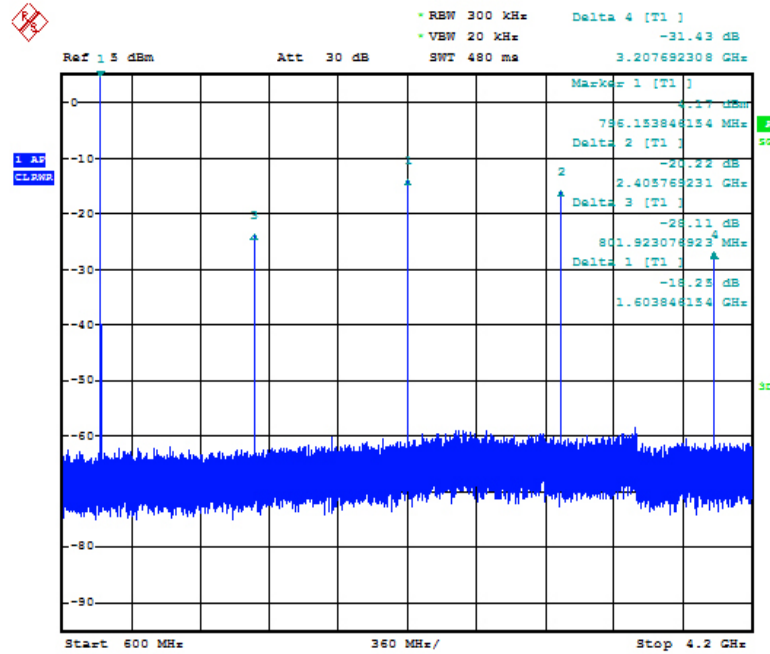
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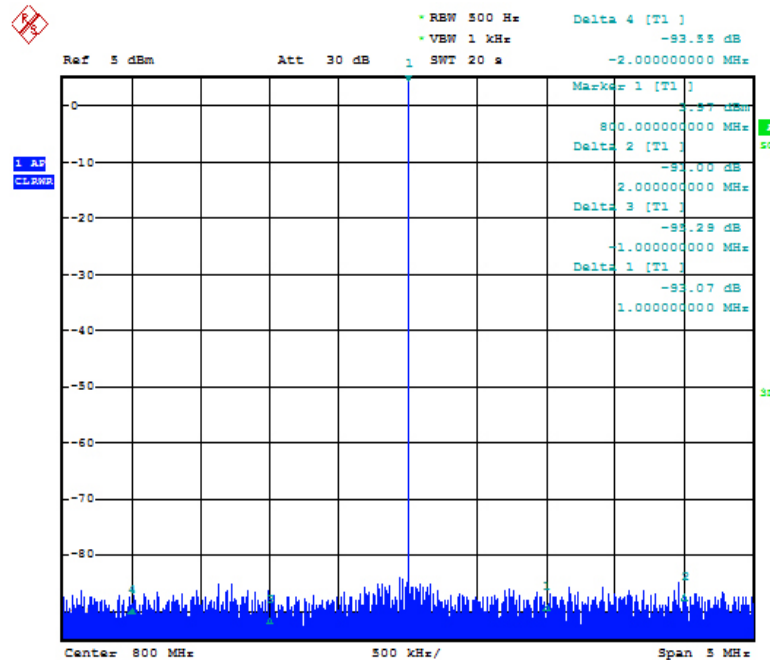
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PERFORMANCE PLOTS

HARMONIC SUPPRESSION



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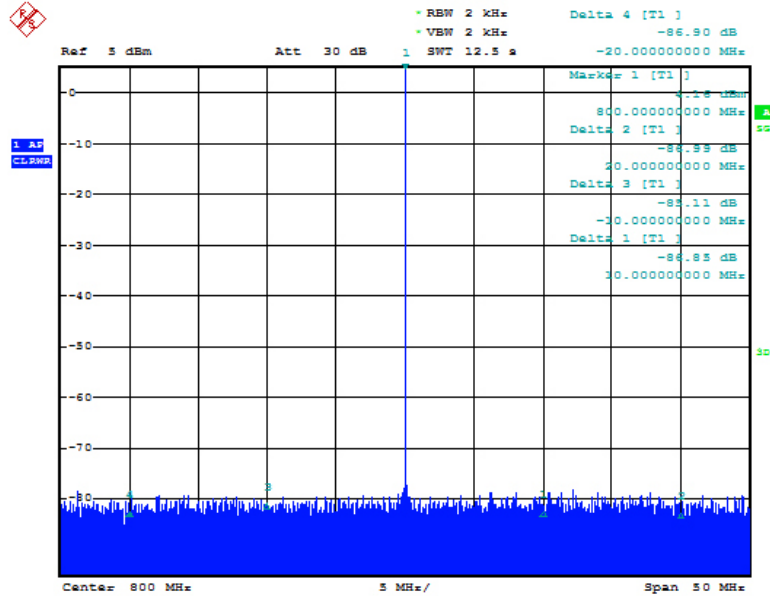
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