

REFERENCE PHASE LOCKED TRANSLATOR

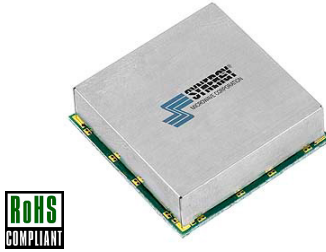
SURFACE MOUNT MODEL: FCTS1000-10-5

FIXED FREQUENCY

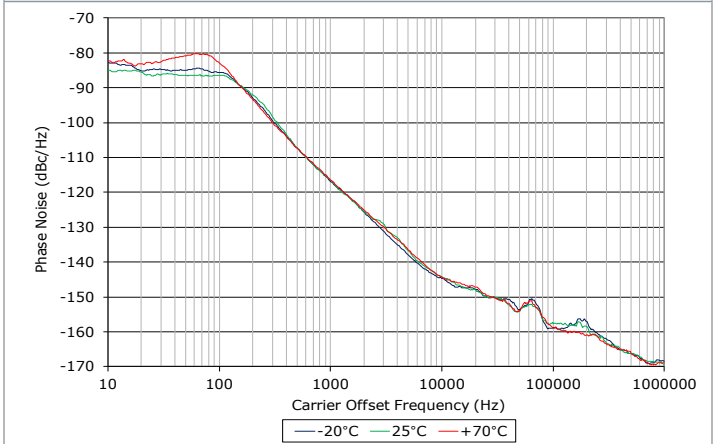
1000 MHz

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	1000 MHz		
Reference Input Frequency	10 MHz ¹		
Reference Input Voltage	1.0 to 3.3 V p-p		
Bias Voltage	Vcc	V (Vdc)	I (mA Max.)
	Digital	+5	25
	Tune	+12	10
	VCO	+5	35
Output Power	-3 dBm (Min.)		
Spurious Suppression	80 dB (Typ.)		
Harmonic Suppression	25 dB (Typ.)		
Output Impedance	50 Ohms (Nom.)		
Lock Detect Indicator	CMOS 3.3 V		
Typical Phase Noise	Offset	Phase Noise	
	@ 100 Hz	-80 dBc/Hz	
	@ 1 kHz	-115 dBc/Hz	
	@ 10 kHz	-141 dBc/Hz	
@ 100 kHz	-158 dBc/Hz		
Operating Temperature Range	-20 to +70 °C		

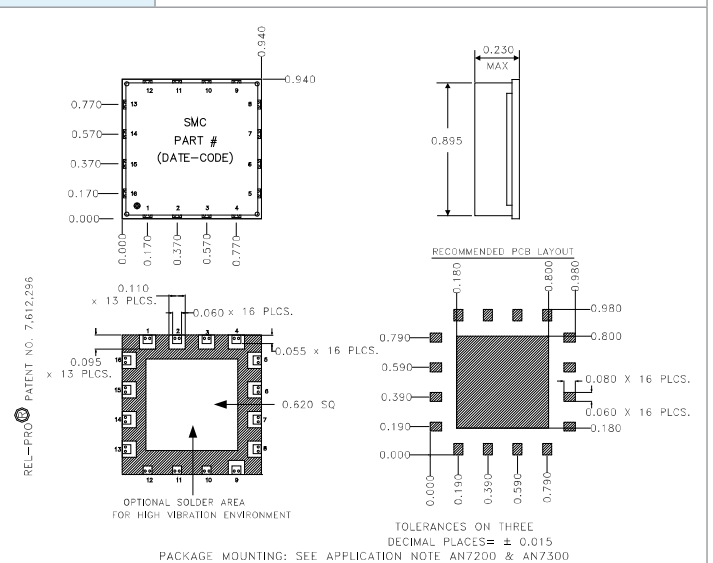
¹ External 10 MHz reference sources should have phase noise better than -138 dBc/Hz @ 50 Hz offset to achieve published specifications.

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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 201 McLean Boulevard • Paterson, New Jersey 07504 USA
 Tel: (973) 881-8800 • Fax: (973) 881-8361
 E-Mail: sales@synergymwave.com • Website: <http://www.synergymwave.com>
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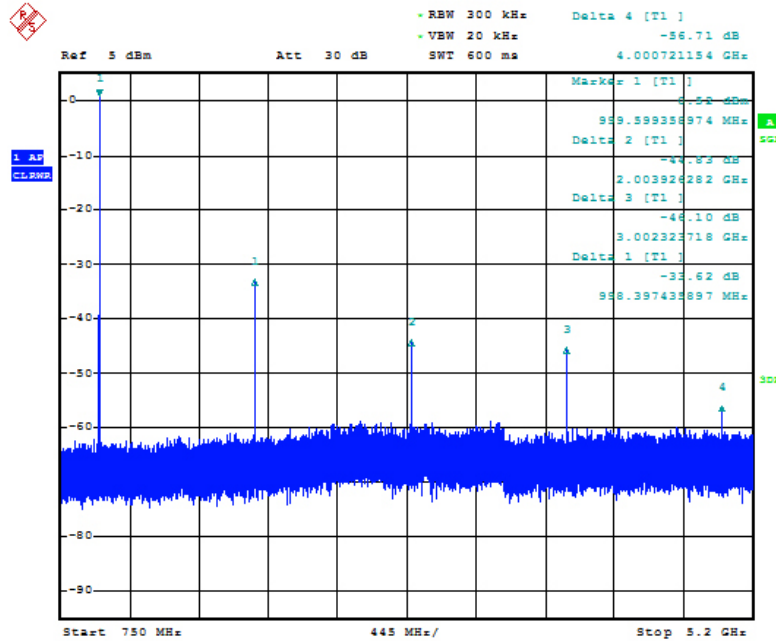
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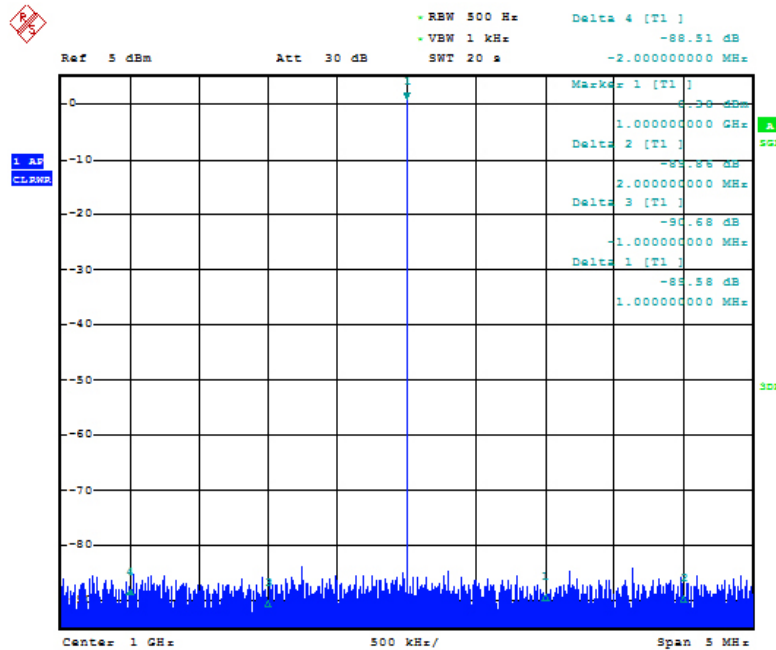
@ -20 °C

PERFORMANCE PLOTS

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



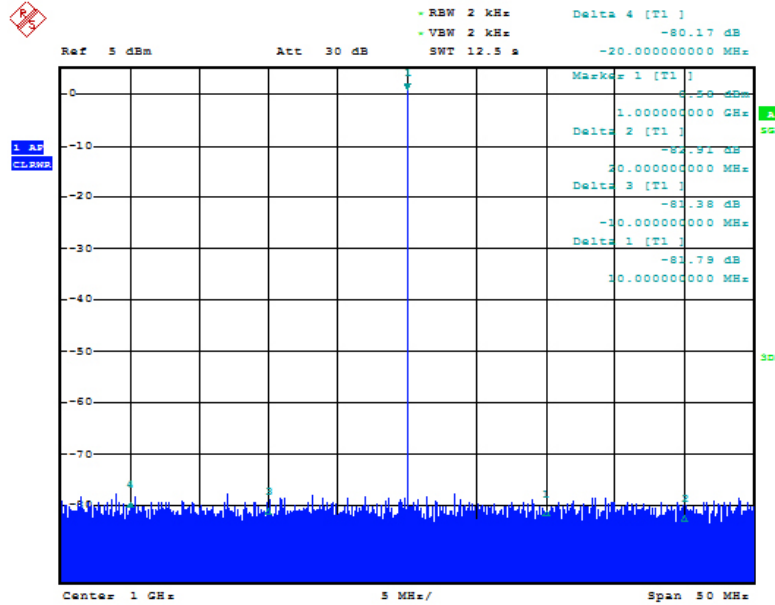
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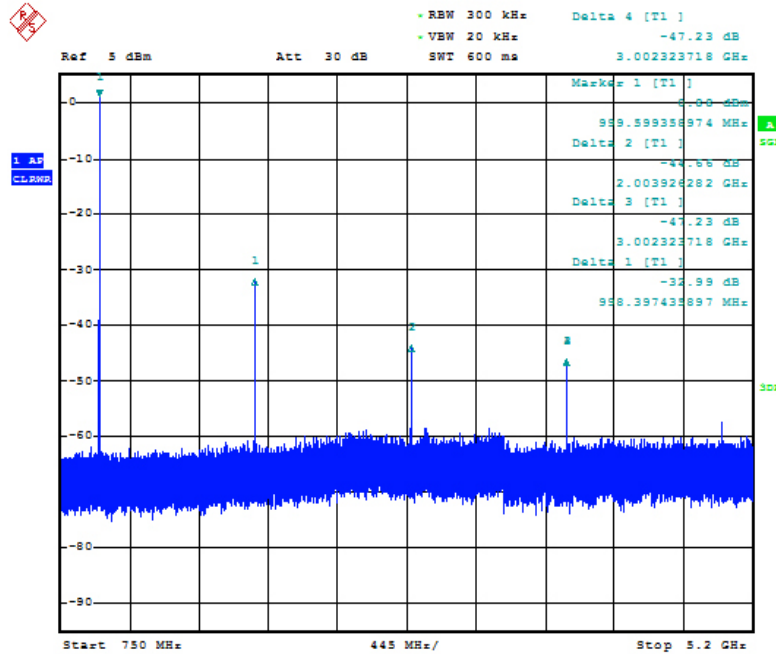
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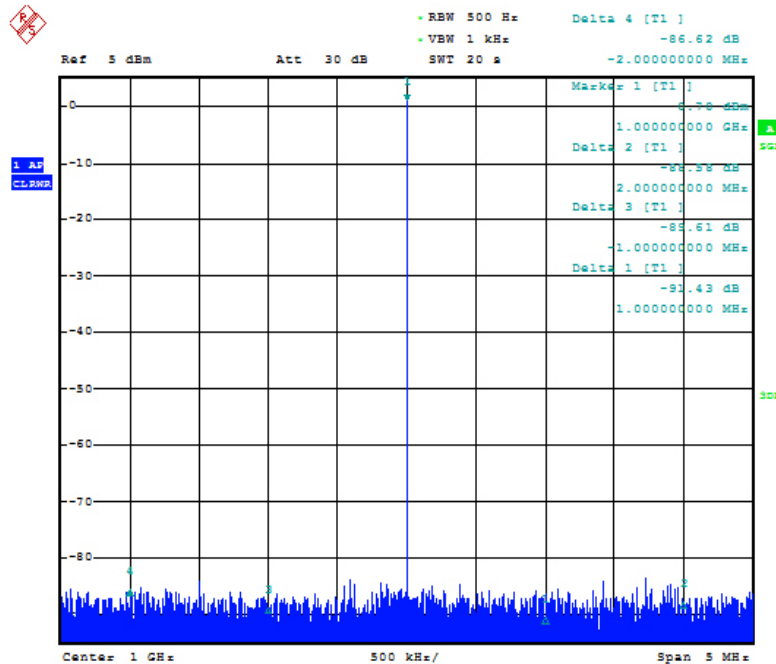
@ +25 °C

PERFORMANCE PLOTS

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



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201 McLean Boulevard • Paterson, New Jersey 07504 USA

Tel: (973) 881-8800 • Fax: (973) 881-8361

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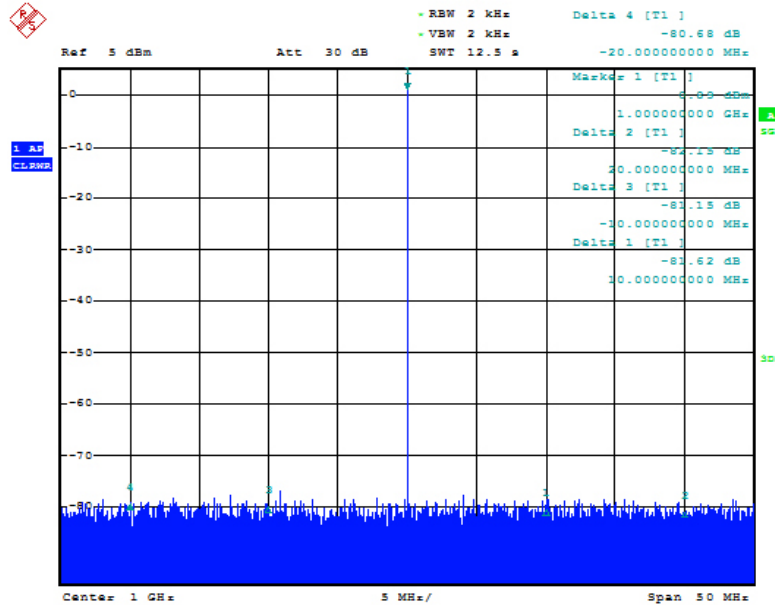
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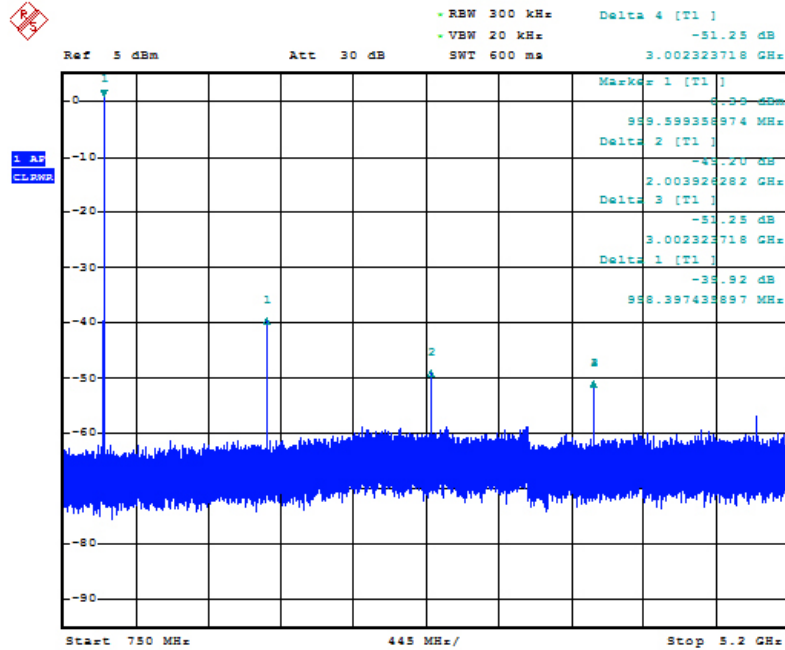
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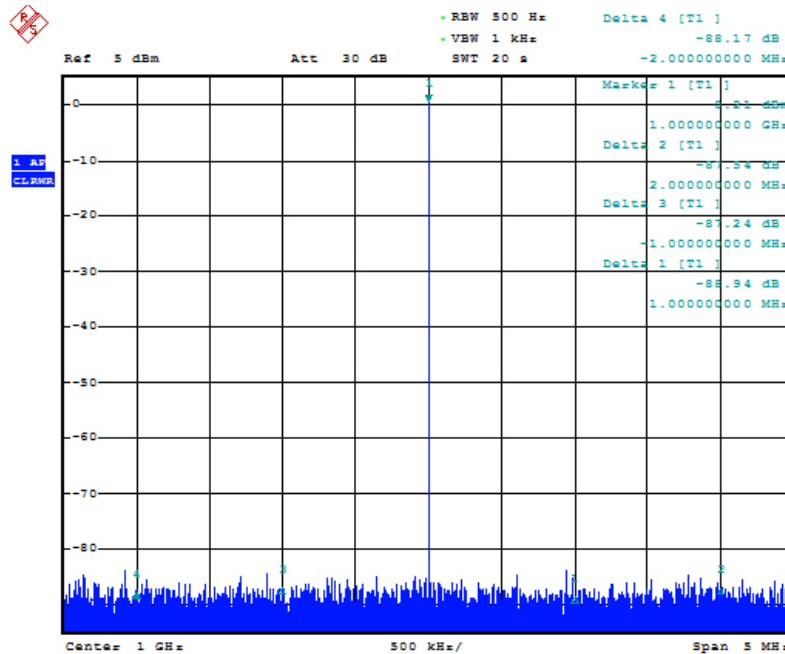
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HARMONIC SUPPRESSION

@ +70 °C



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PERFORMANCE PLOTS

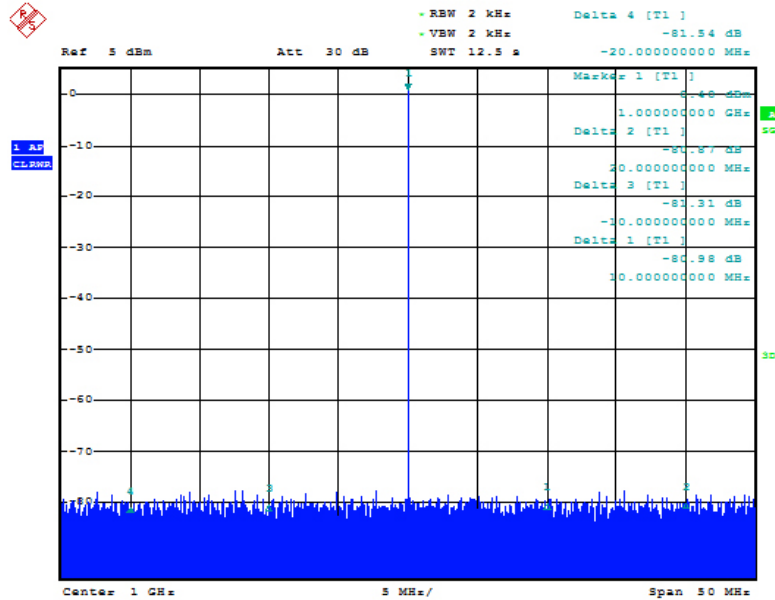
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