

# INTELLIGENT INTERACTIVE SYNTHESIZER

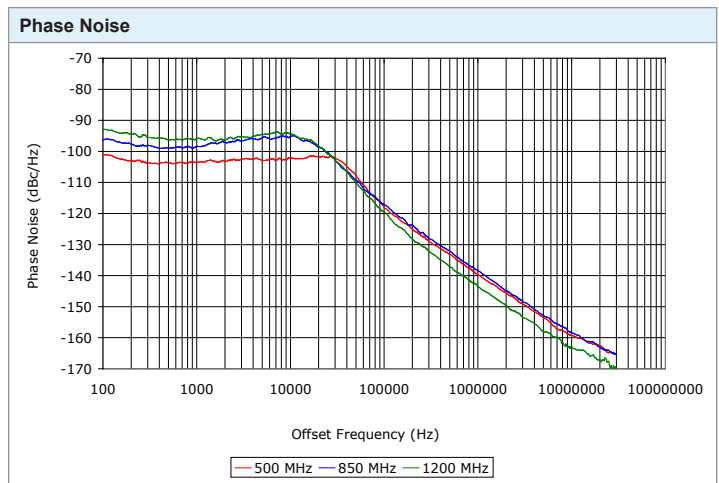
## CONNECTORIZED MODEL: KFSW50120-50

WIDE BANDWIDTH

500 - 1200 MHz

**FEATURES:**

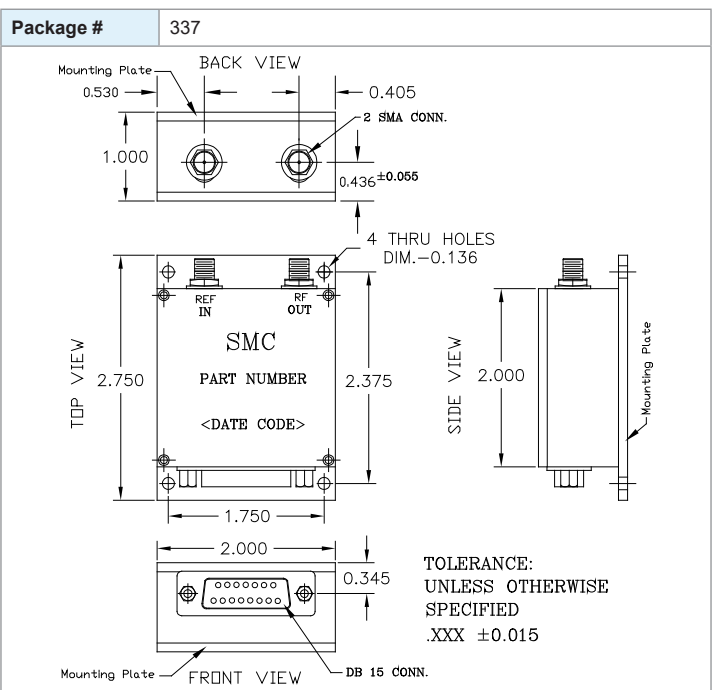
- ▶ Exceptionally Low Phase Noise
- ▶ Interactive Communication
- ▶ Standard Programming Interface
- ▶ Ultra Wide Tuning Range
- ▶ Lead Free - RoHS Compliant



**SPECIFICATIONS (Rev. B 09/08/21)**

Frequency	500 - 1200 MHz		
Step Size	500 kHz		
Reference Input Frequency	10 MHz <sup>1</sup>		
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>
	Digital	+5	15
	VCO	+5	45
	Tune	+25	10
Lock Detect Indicator	CMOS 3.3 V		
Output Power	0 dBm (Min.)		
Spurious Suppression	85 dB (Typ.)		
Harmonic Suppression	15 dB (Typ.)		
Settling Time	3 mSec (Typ.) <sup>2</sup>		
Output Impedance	50 Ohms (Nom.)		
Lock Detect Indicator	CMOS 3.3 V		
Typical Phase Noise	<b>Offset</b>	<b>Phase Noise</b>	
	@ 1 kHz	-96 dBc/Hz	
	@ 10 kHz	-94 dBc/Hz	
	@ 100 kHz	-118 dBc/Hz	
Operating Temperature Range	-40 to +85 °C		
Programming	See Application Note: AN7100		

<sup>1</sup> Reference input frequency is programmable (See AN7100) in multiples of the step size, 10 MHz is the factory default setting, 150 MHz (Max.)  
<sup>2</sup> From the rising edge of LE to stable lock detect



**Absolute Maximum Ratings**

Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (Tune)	+28 V
Bias Voltage (VCO)	+5.5 V
DC Voltage Applied to RF Out	±25 V

**DB15 Female Connector Configuration**

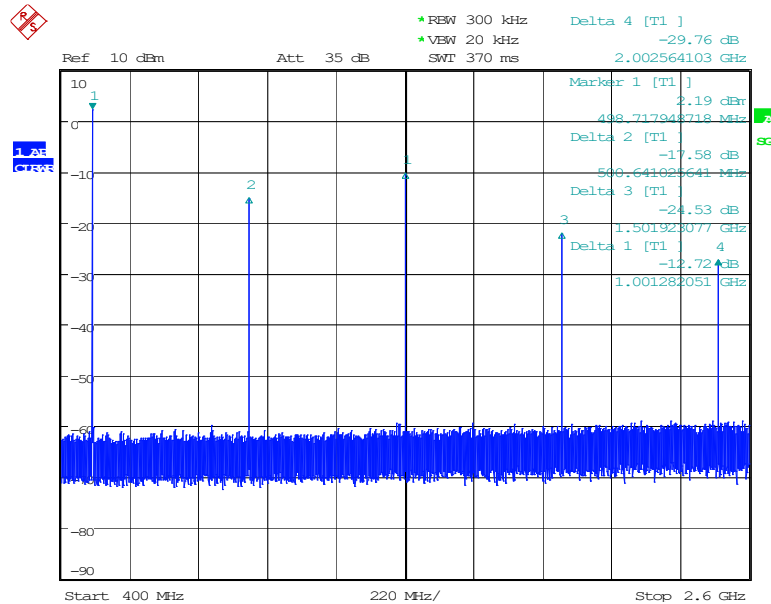
Pin 1 - Vcc (Digital)	Pin 5 - Error Flag	Pin 10, 15 - Ground
Pin 2 - Vcc (Tune)	Pin 6 - Latch Enable	Pin 7, 11 to 14 - NC
Pin 3 - Clock In	Pin 8 - Lock Detect	
Pin 4 - Data In	Pin 9 - Vcc (VCO)	NC - No Connection

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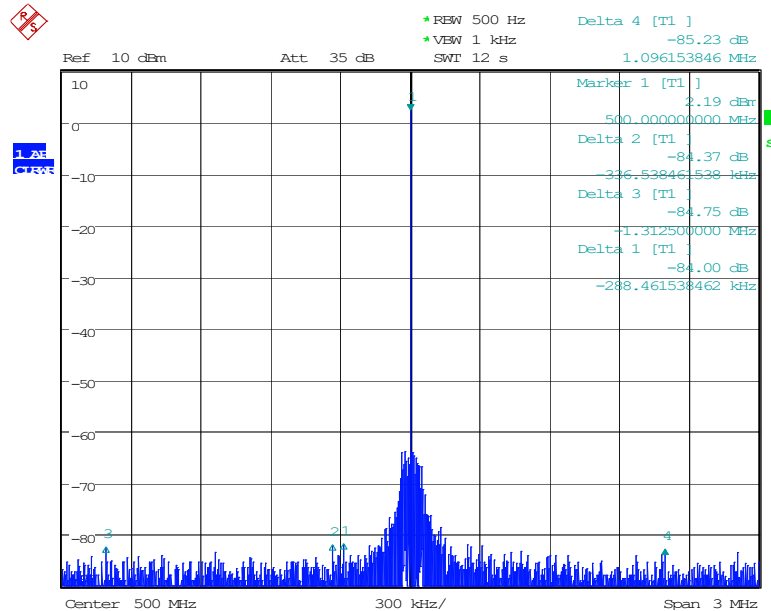
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## HARMONIC SUPPRESSION



## REFERENCE SIDEBAND SUPPRESSION



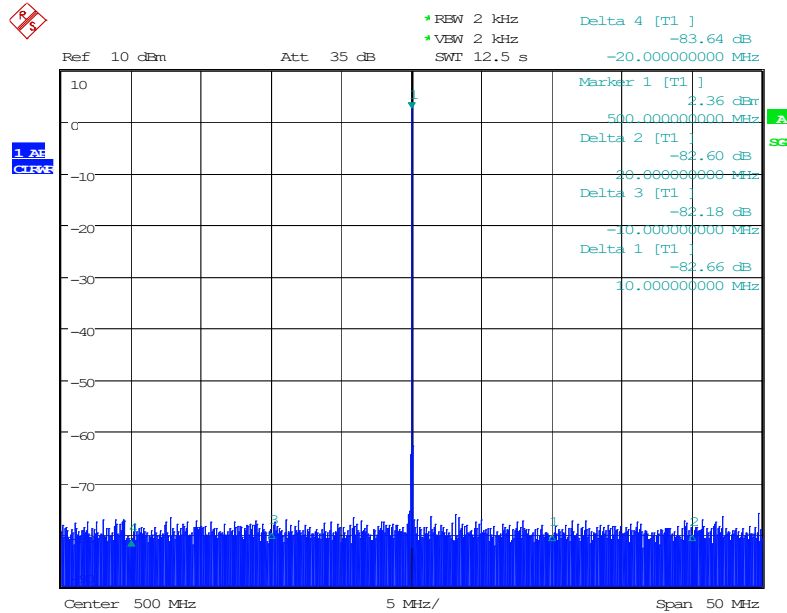
PERFORMANCE PLOTS

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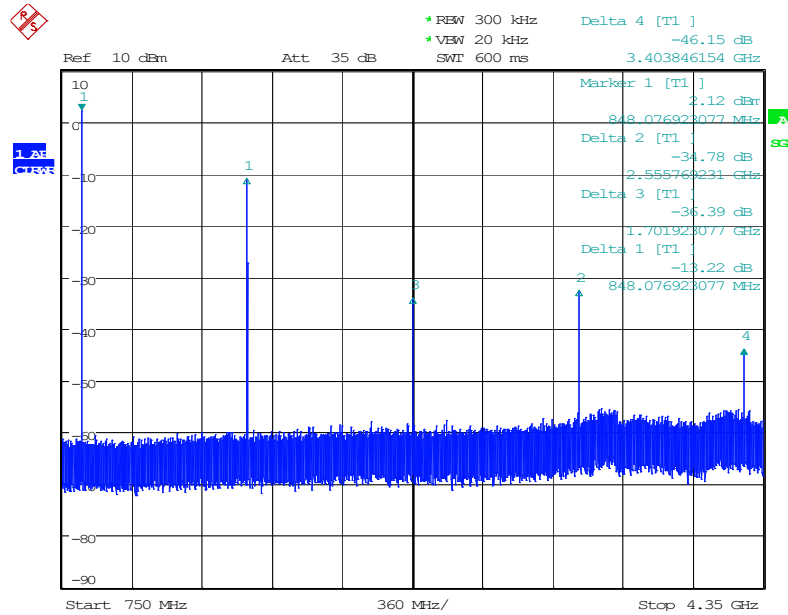
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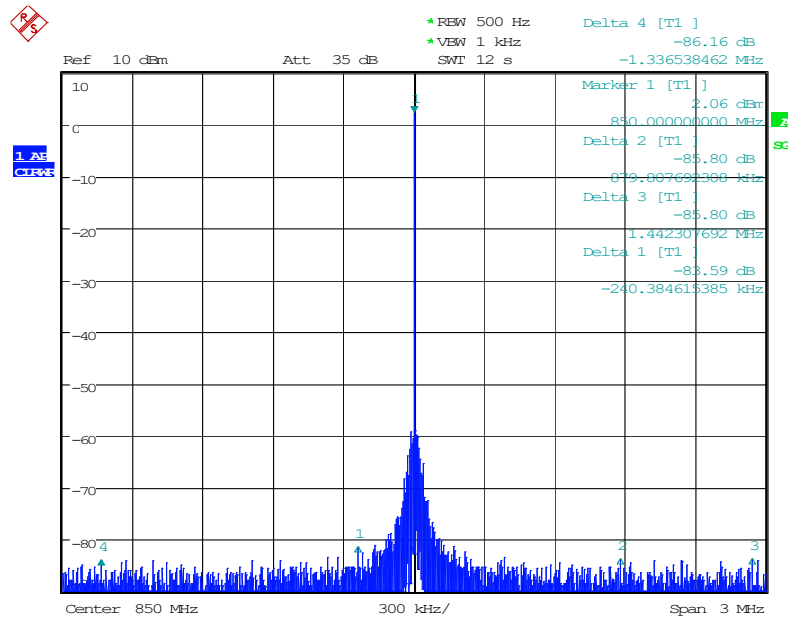
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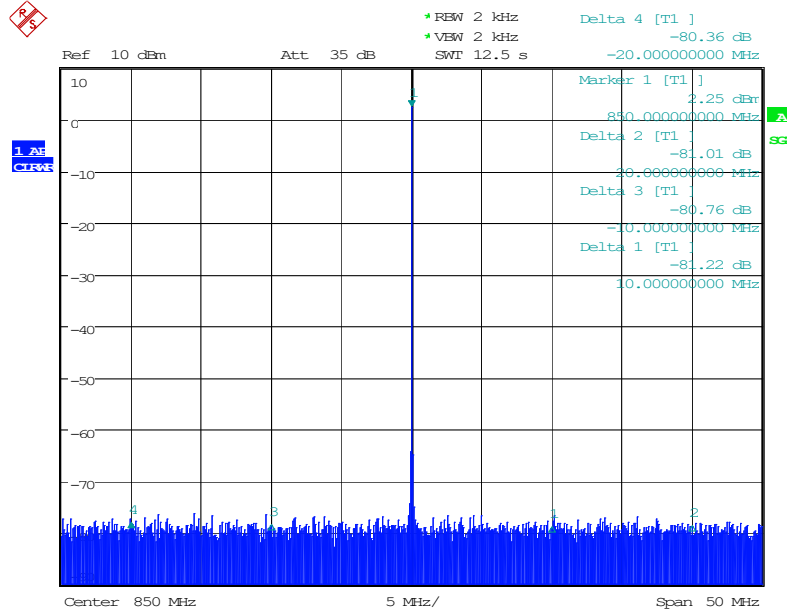
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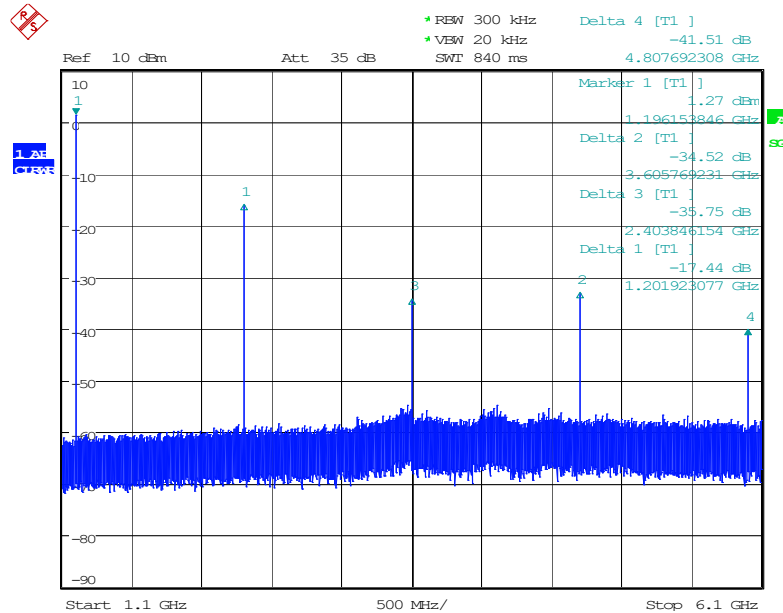
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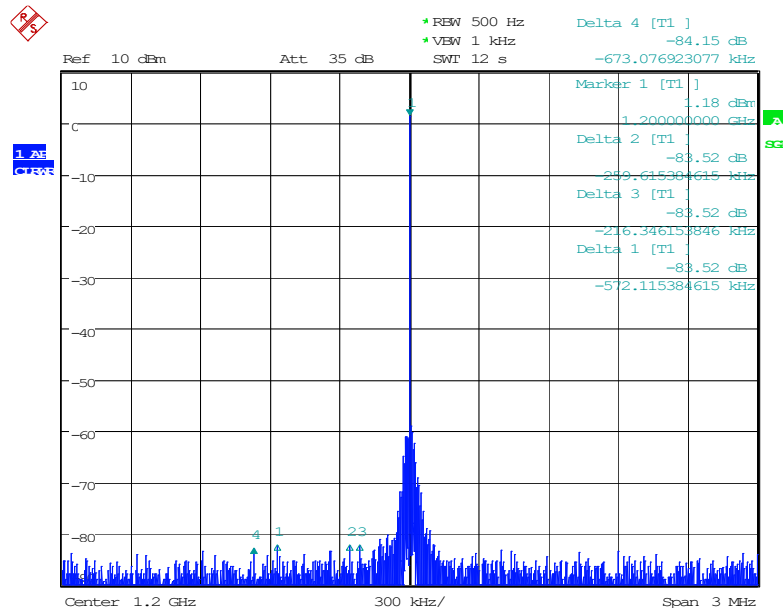
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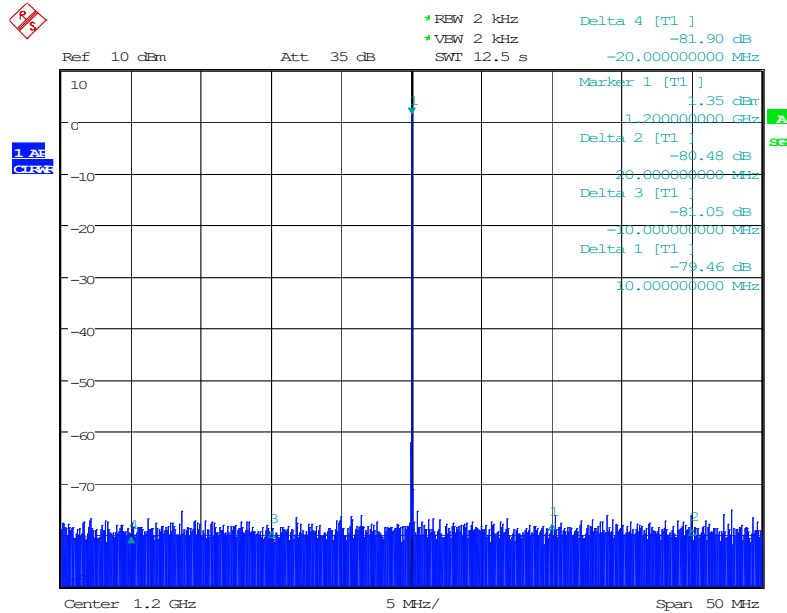
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