

# INTELLIGENT INTERACTIVE SYNTHESIZER

## CONNECTORIZED MODEL: KFSW200400-100

**WIDE BANDWIDTH**

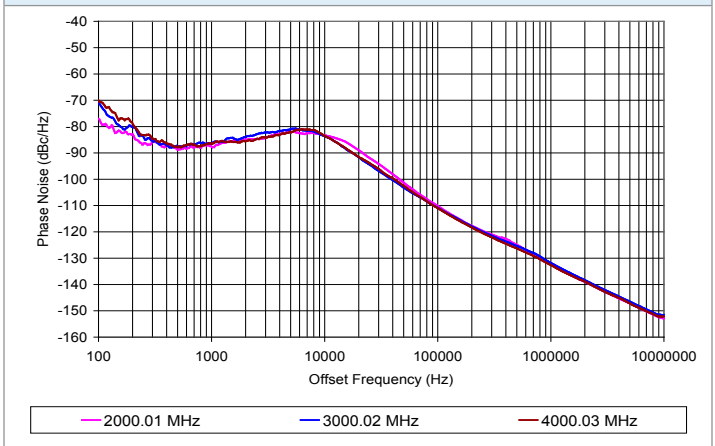
**2000 - 4000 MHz**

**FEATURES:**

- ▶ Exceptionally Low Phase Noise
- ▶ Interactive Communication
- ▶ Standard Programming Interface
- ▶ Ultra Wide Tuning Range
- ▶ Lead Free - RoHS Compliant
- ▶ Patented REL-PRO® Technology



**Phase Noise**

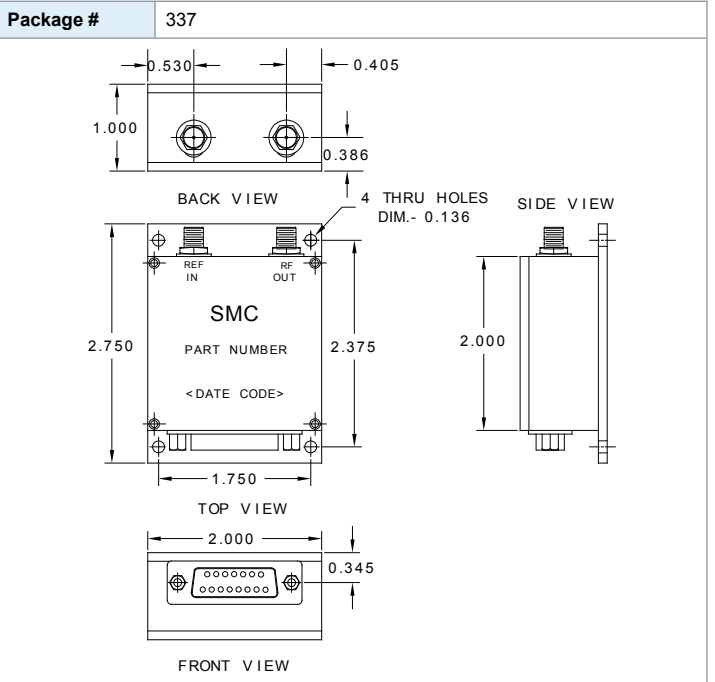


**SPECIFICATIONS**

|                             |                              |                    |                    |
|-----------------------------|------------------------------|--------------------|--------------------|
| Frequency                   | 2000 - 4000 MHz              |                    |                    |
| Step Size                   | 1000 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                 | 50                 |
|                             | Tune                         | +18                | 10                 |
| Output Power                | -3 dBm (Min.)                |                    |                    |
| Spurious Suppression        | 80 dB (Typ.)                 |                    |                    |
| Harmonic Suppression        | 10 dB (Typ.)                 |                    |                    |
| Settling Time               | 10 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                      | -85 dBc/Hz         |                    |
|                             | @ 10 kHz                     | -83 dBc/Hz         |                    |
|                             | @ 100 kHz                    | -110 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)          | +20 V          |
| Bias Voltage (VCO)           | +5.5 V         |
| DC Voltage Applied to RF Out | ±25 V          |

**DB15 Female Connector Configuration**

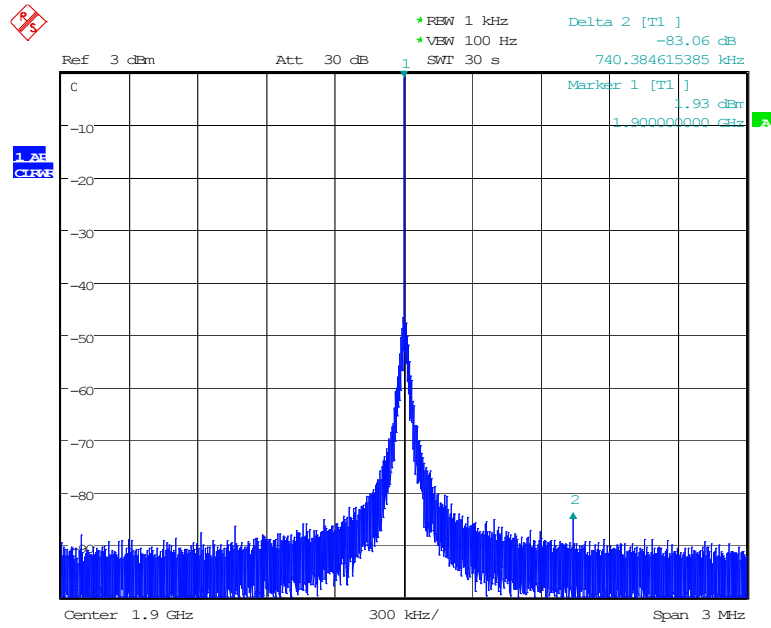
|                       |                      |                      |
|-----------------------|----------------------|----------------------|
| Pin 1 - Vcc (Digital) | Pin 5 - Error Flag   | Pin 10, 15 - Ground  |
| Pin 2 - Vcc (Tune)    | Pin 6 - Latch Enable | Pin 7, 11 to 14 - NC |
| Pin 3 - Clock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

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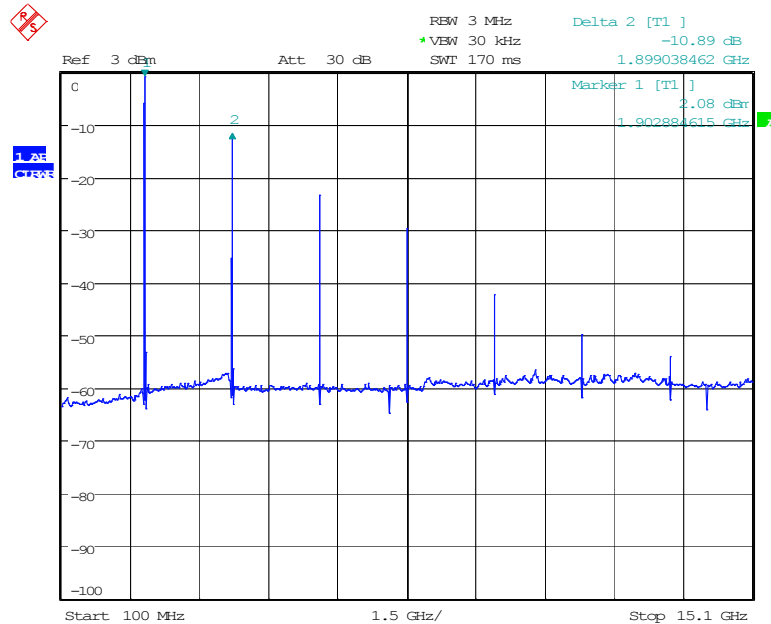
WIDE BANDWIDTH

2000 - 4000 MHz

REFERENCE SIDEBAND SUPPRESSION



TYPICAL HARMONIC REJECTION



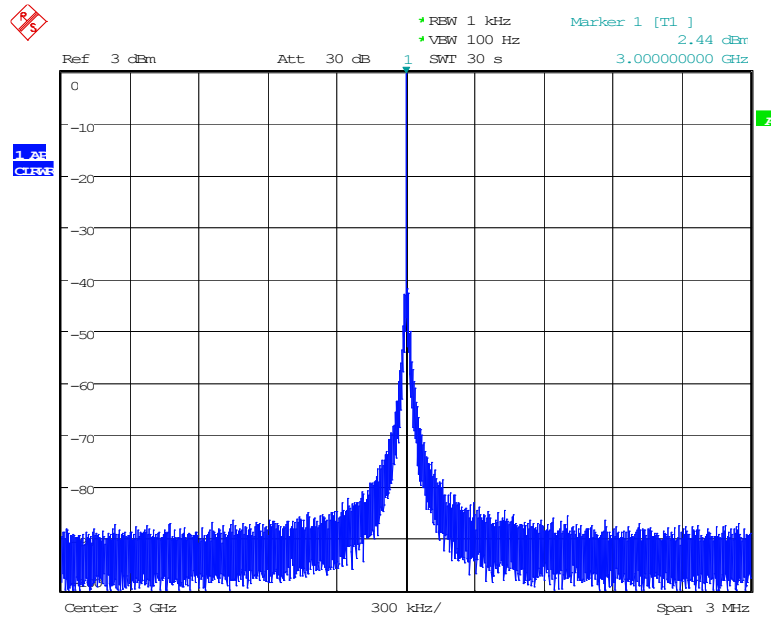
PERFORMANCE PLOTS

# INTELLIGENT INTERACTIVE SYNTHESIZER CONNECTORIZED MODEL: KFSW200400-100

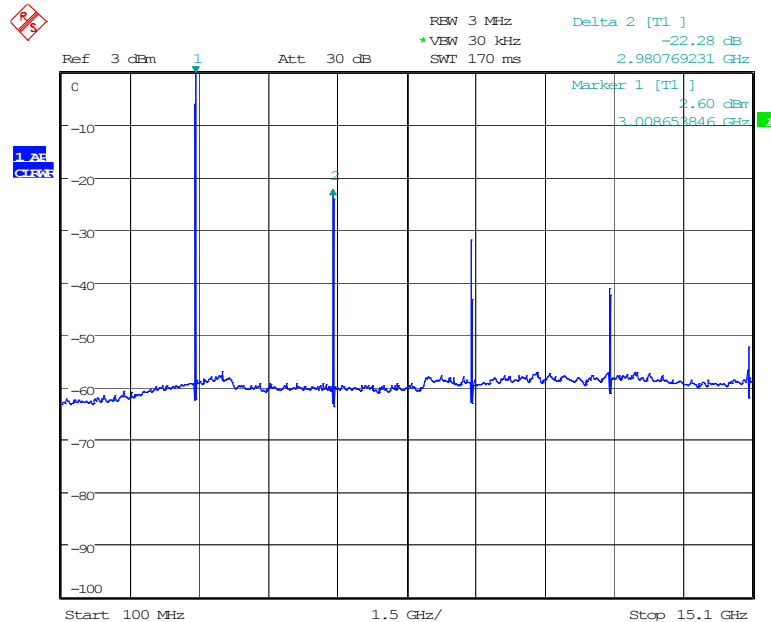
WIDE BANDWIDTH

2000 - 4000 MHz

### REFERENCE SIDEBAND SUPPRESSION



### TYPICAL HARMONIC REJECTION



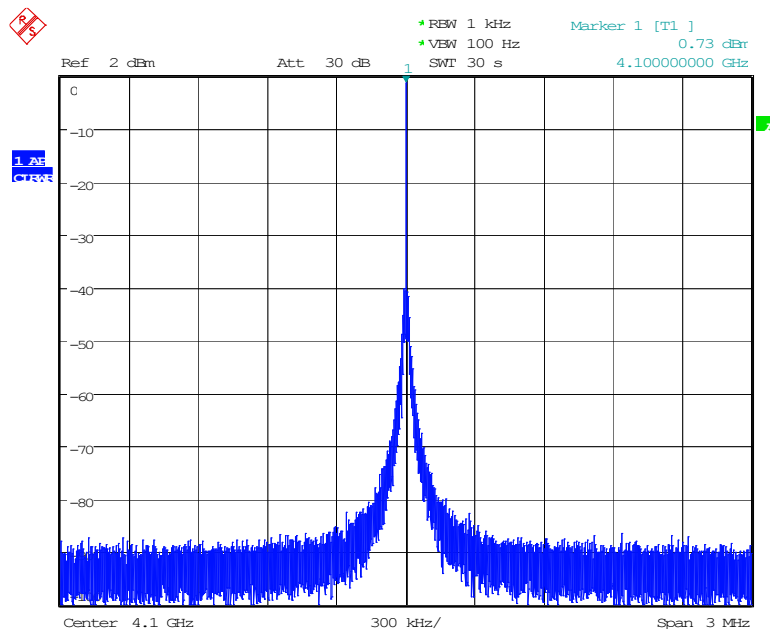
PERFORMANCE PLOTS

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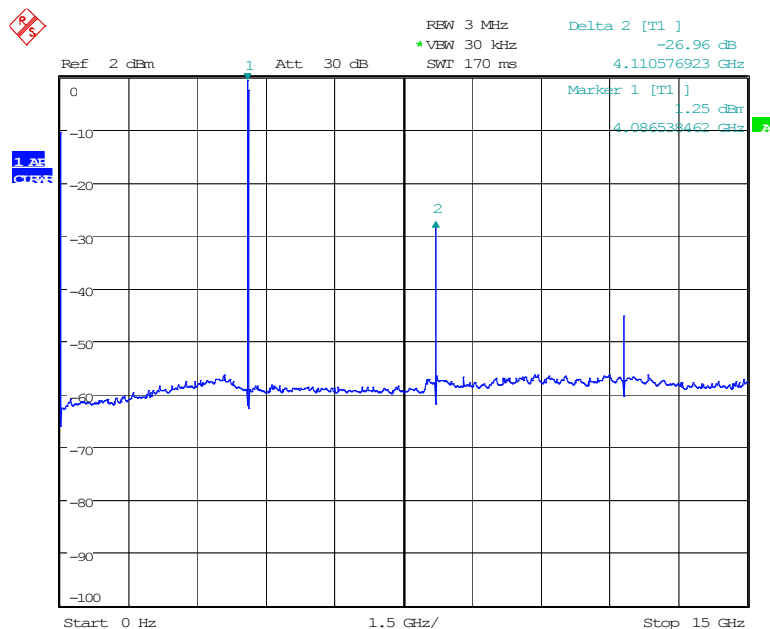
WIDE BANDWIDTH

2000 - 4000 MHz

### REFERENCE SIDEBAND SUPPRESSION



### TYPICAL HARMONIC REJECTION



PERFORMANCE PLOTS