

# INTELLIGENT INTERACTIVE SYNTHESIZER

## SURFACE MOUNT MODEL: FSW80150-10

### WIDE BANDWIDTH

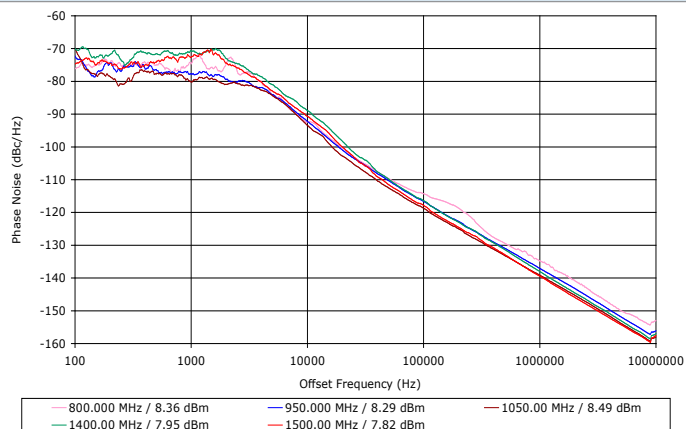
800 - 1500 MHz

#### FEATURES:

- ▶ Exceptionally Low Phase Noise
- ▶ Interactive Communication
- ▶ Standard Programming Interface
- ▶ Ultra Wide Tuning Range
- ▶ Lead Free - RoHS Compliant
- ▶ Patent Pending REL-PRO® Technology
- ▶ Small Size, Surface Mount
- ▶ Buffered Output



#### Phase Noise



#### SPECIFICATIONS (Rev. B 06/02/08)

|                             |                              |             |             |
|-----------------------------|------------------------------|-------------|-------------|
| Frequency                   | 800 - 1500 MHz               |             |             |
| Step Size                   | 100 kHz                      |             |             |
| 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          |
|                             | VCO                          | +5          | 55          |
|                             | Tune                         | +15         | 10          |
| Output Power                | +5 dBm (Min.)                |             |             |
| Spurious Suppression        | 70 dB (Typ.)                 |             |             |
| Harmonic Suppression        | 15 dB (Typ.)                 |             |             |
| Settling Time               | 20 mSec (Max.) **            |             |             |
| Output Impedance            | 50 Ohms (Nom.)               |             |             |
| Typical Phase Noise         | Offset                       | Phase Noise |             |
|                             | @ 1 kHz                      | -75 dbc/Hz  |             |
|                             | @ 10 kHz                     | -92 dbc/Hz  |             |
|                             | @ 100 kHz                    | -118 dbc/Hz |             |
| Operating Temperature Range | -40 to +85 °C                |             |             |
| Programming                 | See Application Note: AN7100 |             |             |

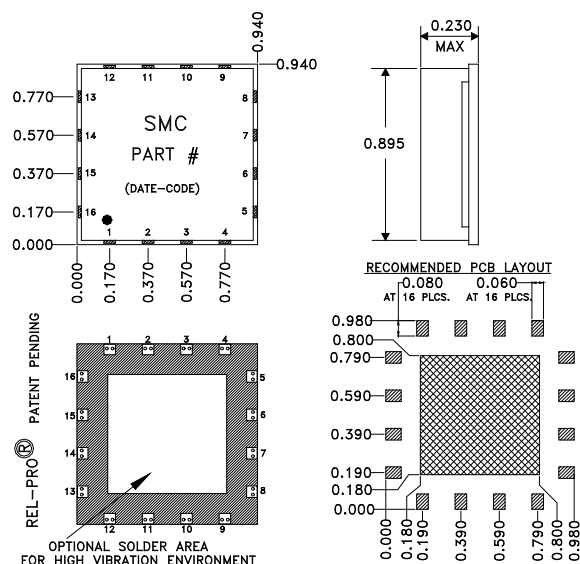
\* Reference input frequency is programmable in multiples of the step size, 10 MHz is the default setting. 150 MHz (Max.)

\*\* 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)          | +17 V          |
| Bias Voltage (VCO)           | +5.5 V         |
| DC Voltage Applied to RF Out | ±25 V          |

#### Package # 273LF



PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200

#### Pin-Out

|                         |                            |                     |
|-------------------------|----------------------------|---------------------|
| Pin 1 - Reset **        | Pin 7 - Vcc (Digital)      | Pin 15 - Data In    |
| Pin 2,3 - NC            | Pin 8 - Vcc (Tune)         | Pin 16 - Clock In   |
| Pin 4 - Error flag      | Pin 9 - Vcc (VCO)          | All Others - Ground |
| Pin 5 - Latch Enable In | Pin 13 - RF Out            |                     |
| Pin 6 - Ref. In         | Pin 14 - Lock Detect Out * | NC - No Connection  |

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

\*\* A low on this input will reset the internal controller. Leave unconnected for normal operation.

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,330,346; 5,416,446; 5,650,754; 5,805,431; 6,325,622; 6,056,573; 7,088,189; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113  
 Pending: 6,648,307; 6,950,137; 6,958,179; 6,959,757; 6,963,675; 6,963,681; 6,964,173; 6,965,083; 6,965,182; 6,965,579; 6,973,263; 6,973,264; 6,973,265; 6,973,266; 6,973,267; 6,973,268; 6,973,269; 6,973,270; 6,973,271; 6,973,272; 6,973,273; 6,973,274; 6,973,275; 6,973,276; 6,973,277; 6,973,278; 6,973,279; 6,973,280; 6,973,281; 6,973,282; 6,973,283; 6,973,284; 6,973,285; 6,973,286; 6,973,287; 6,973,288; 6,973,289; 6,973,290; 6,973,291; 6,973,292; 6,973,293; 6,973,294; 6,973,295; 6,973,296; 6,973,297; 6,973,298; 6,973,299; 6,973,300; 6,973,301; 6,973,302; 6,973,303; 6,973,304; 6,973,305; 6,973,306; 6,973,307; 6,973,308; 6,973,309; 6,973,310; 6,973,311; 6,973,312; 6,973,313; 6,973,314; 6,973,315; 6,973,316; 6,973,317; 6,973,318; 6,973,319; 6,973,320; 6,973,321; 6,973,322; 6,973,323; 6,973,324; 6,973,325; 6,973,326; 6,973,327; 6,973,328; 6,973,329; 6,973,330; 6,973,331; 6,973,332; 6,973,333; 6,973,334; 6,973,335; 6,973,336; 6,973,337; 6,973,338; 6,973,339; 6,973,340; 6,973,341; 6,973,342; 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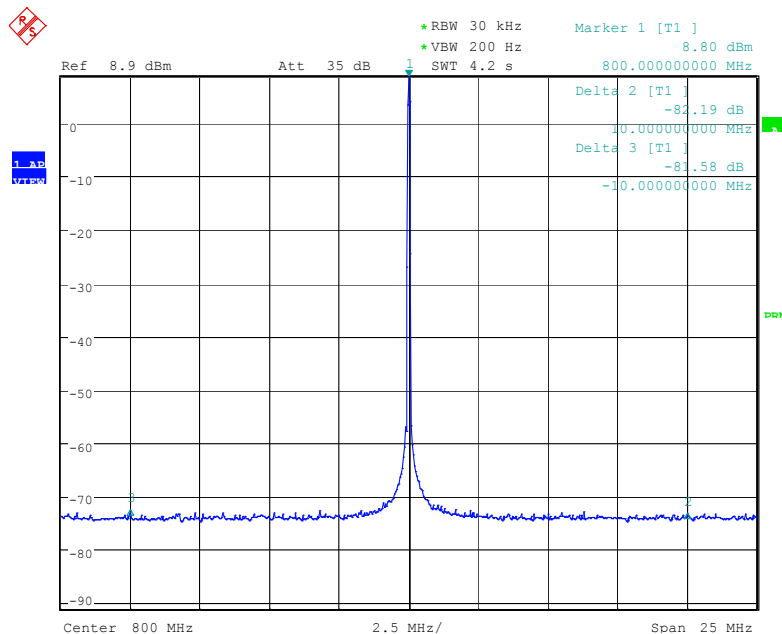
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WIDE BANDWIDTH

800 - 1500 MHz

REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,330,346; 5,416,446; 5,650,754; 5,805,431; 6,325,623; 6,856,573; 7,088,189; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113  
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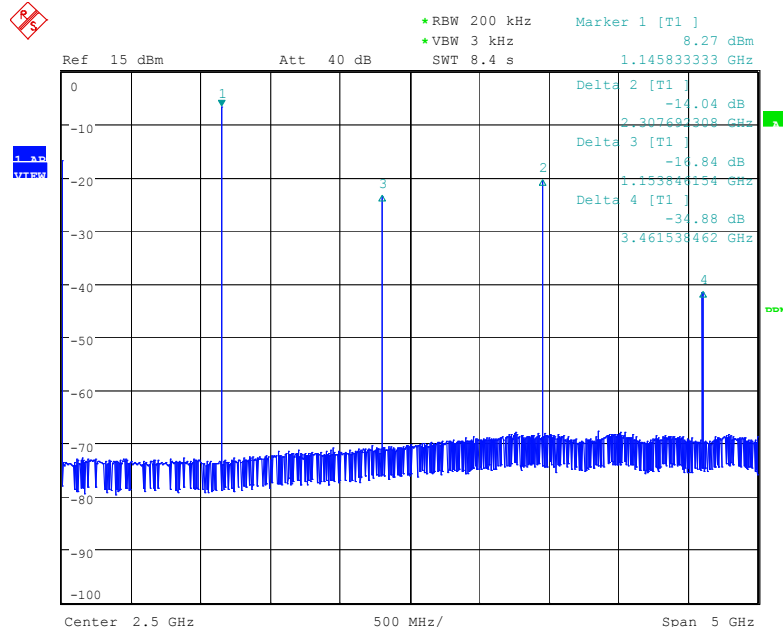
# INTELLIGENT INTERACTIVE SYNTHESIZER

## SURFACE MOUNT MODEL: FSW80150-10

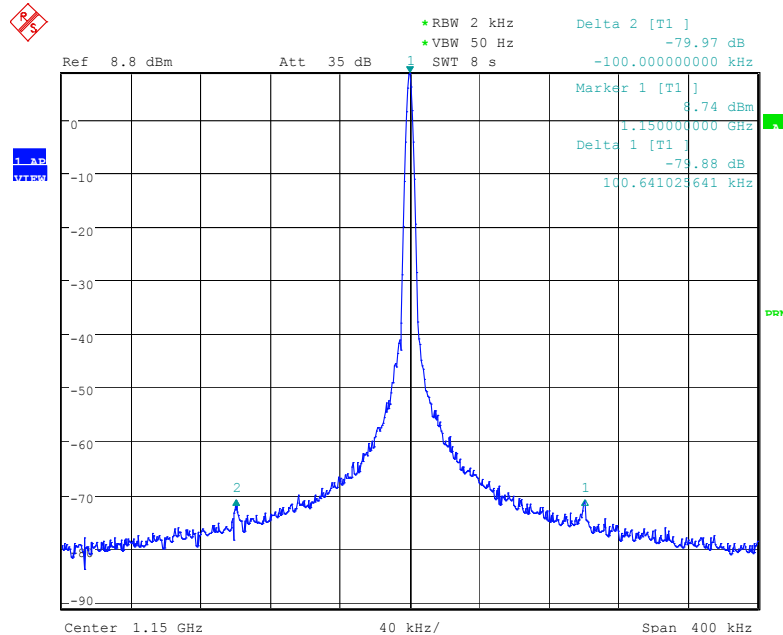
WIDE BANDWIDTH

800 - 1500 MHz

### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,380,346; 5,416,446; 5,630,754; 5,805,431; 6,325,623; 6,856,573; 7,088,189; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113  
 Pending: 6,648,307; 6,650,137; 6,658,179; 6,657,957; 6,653,675; 6,656,348; 6,656,417; 6,658,083; 6,661,822; 6,660,579; 6,673,603; 6,673,768; 6,662,485 & 6,671,031; 6,667,325; 6,673,601; 6,673,787

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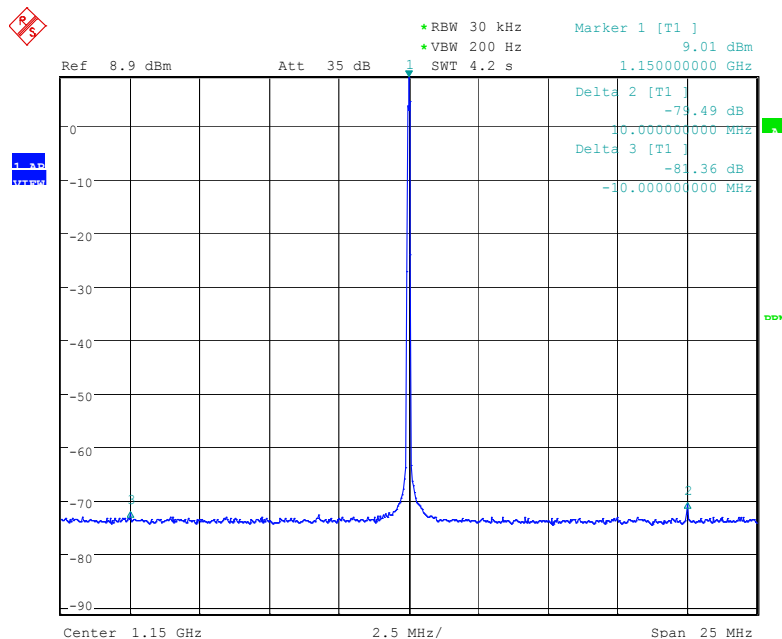
# INTELLIGENT INTERACTIVE SYNTHESIZER

## SURFACE MOUNT MODEL: FSW80150-10

WIDE BANDWIDTH

800 - 1500 MHz

REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

This product is manufactured under one or more of the following patents: Approved: 5,180,810; 5,122,621; 5,330,346; 5,416,446; 5,650,754; 5,805,431; 6,325,623; 6,856,573; 7,088,189; 7,180,381; 7,185,591; 7,262,670; 7,265,642; 7,292,113  
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11,259,768; 6,662,485; 6,671,031; 6,673,256; 6,673,691; 6,673,737

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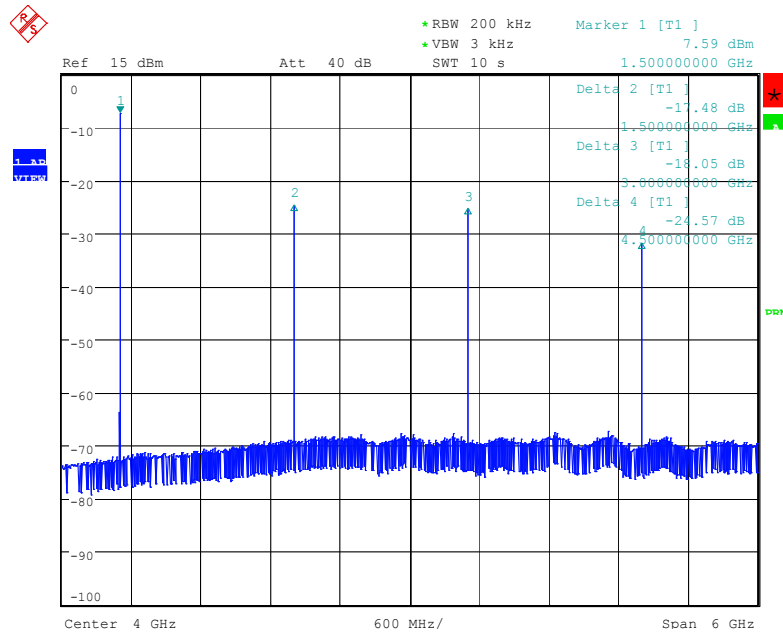
# INTELLIGENT INTERACTIVE SYNTHESIZER

## SURFACE MOUNT MODEL: FSW80150-10

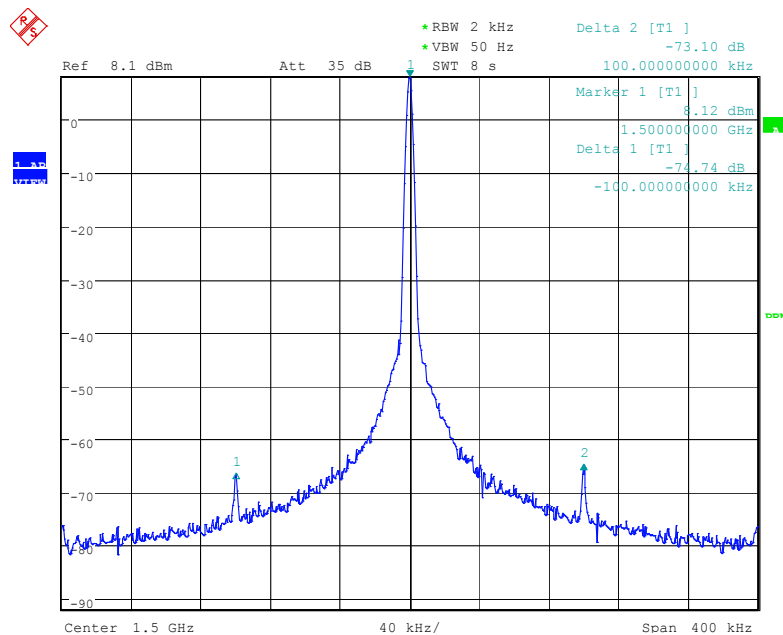
WIDE BANDWIDTH

800 - 1500 MHz

### HARMONIC SUPPRESSION



### REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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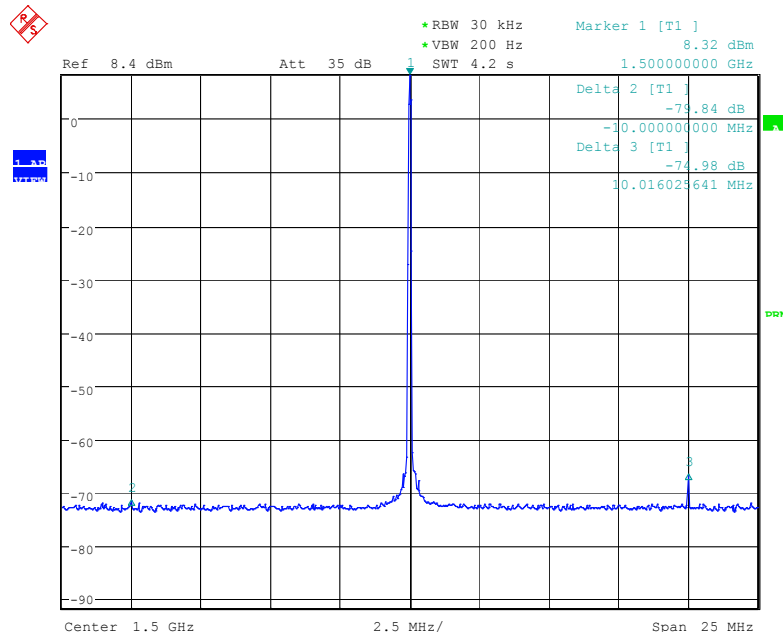
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## SURFACE MOUNT MODEL: FSW80150-10

WIDE BANDWIDTH

800 - 1500 MHz

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RU258768; 6,662,485; 6,671,031; RU60732560736901; 6,673,0787

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