

INTELLIGENT INTERACTIVE SYNTHESIZER

SURFACE MOUNT MODEL: MFSH170340-50

OPTIMIZED LOOP PARAMETER

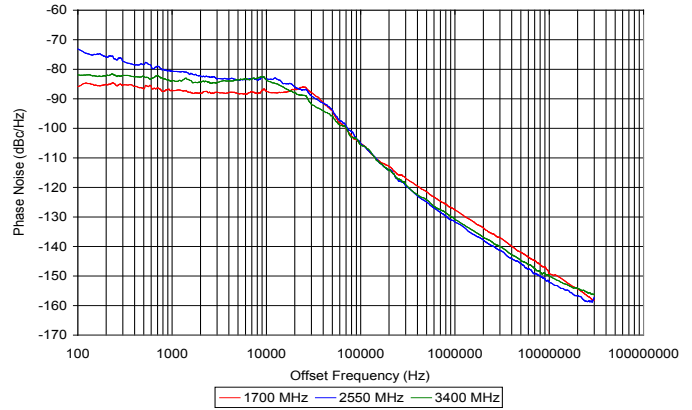
1700 - 3400 MHz

FEATURES:

- ▶ Small Size, Surface Mount (0.6" x 0.6")
- ▶ Exceptionally Low Phase Noise
- ▶ Interactive Communication
- ▶ Standard Programming Interface
- ▶ Ultra Wide Tuning Range
- ▶ Lead Free - RoHS Compliant
- ▶ Patented REL-PRO® Technology



Phase Noise



SPECIFICATIONS (Rev. B 04/22/11)

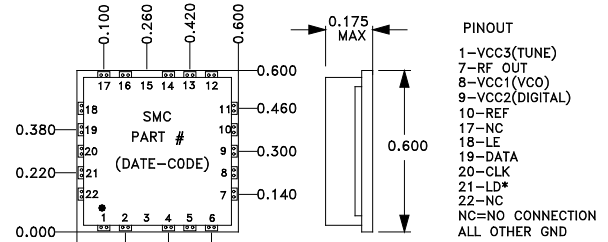
| | | | |
|-----------------------------|------------------------------|-------------|-------------|
| Frequency | 1700 - 3400 MHz | | |
| Step Size | 0.5 MHz | | |
| Reference Input Frequency | 10 MHz ¹ | | |
| Reference Input Voltage | 1.0 V p-p to 3.0 V p-p | | |
| Bias Voltage | Vcc | V (Vdc) | I (mA Max.) |
| | VCO | +5 | 35 |
| | Digital | +3 | 15 |
| | Tune | +24 | 10 |
| Output Power | 0 dBm (Min.) | | |
| Spurious Suppression | 75 dB (Typ.) | | |
| Harmonic Suppression | 12 dB (Typ.) | | |
| Settling Time | 5 mSec (Typ.) ² | | |
| Output Impedance | 50 Ohms (Nom.) | | |
| Lock Detect Indicator | CMOS 3 V | | |
| Typical Phase Noise | Offset | Phase Noise | |
| | @ 10 kHz | -85 dBc/Hz | |
| | @ 100 kHz | -108 dBc/Hz | |
| Operating Temperature Range | -40 to +85 °C | | |
| Programming | See Application Note: AN7500 | | |

¹ Reference input frequency is programmable (see AN7500) in multiples of the step size, 10 MHz is the factory default setting. 150 MHz (Max.)
² From the rising edge of LE to stable lock detect

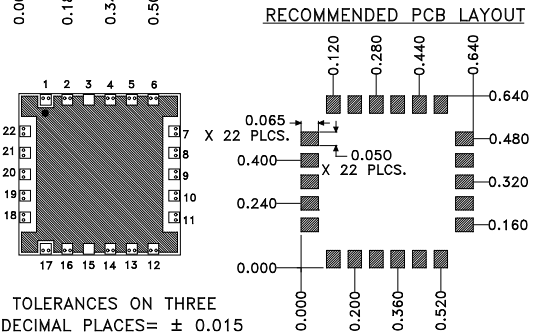
Absolute Maximum Ratings

| | |
|------------------------------|----------------|
| Storage Temp. Range | -55 to +125 °C |
| Bias Voltage (Digital) | +3.6 V |
| Bias Voltage (VCO) | +5.5 V |
| Bias Voltage (Tune) | +24.5 V |
| DC Voltage Applied to RF Out | ±25 V |

Package # 367



REL-PRO® PATENT NO. 7,612,296



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

This product is manufactured under one or more of the following patents: Approved: 5,160,810; 5,122,621; 5,390,349; 5,416,449; 5,650,754; 5,805,431; 6,525,623; 6,850,575; 7,088,189; 7,180,381; 7,196,591; 7,262,670; 7,265,642; 7,292,113; 7,365,612; 7,495,525; 2,548,311; 2,548,317; 7,545,229; 7,580,693; 7,586,381; 7,605,670; 7,636,021; 2,533,623 | Pending: 60/493075; 60/501371 & 60/501790; 60/527957 & 60/528670; 60/563481; 60/564173; 60/589090; 60/601823; 60/605791; EV31369834; 11/259766; 60/622485 & 60/710310; 10/937525/60/736901; 60/732787; 7,495,525; 2,548,311; 2,548,317; 7,545,229; 2,563,174; 7,580,693; 7,612,296; 2,524,751

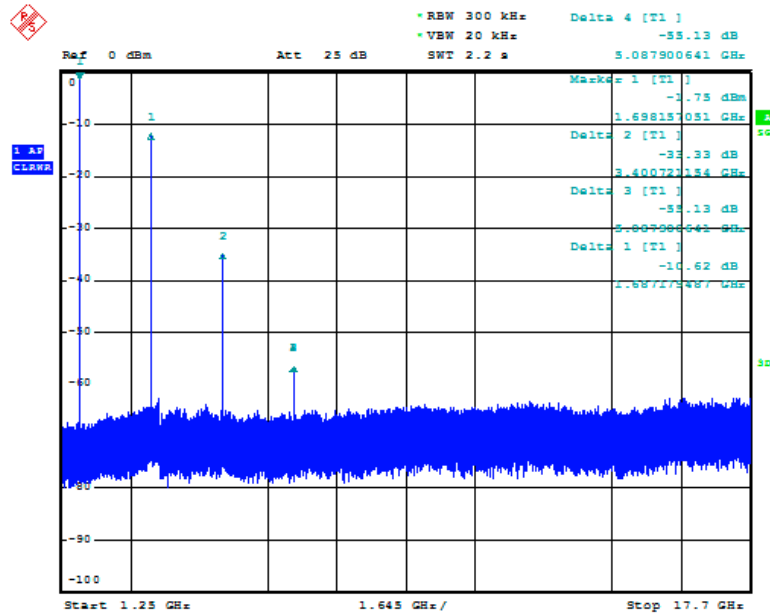
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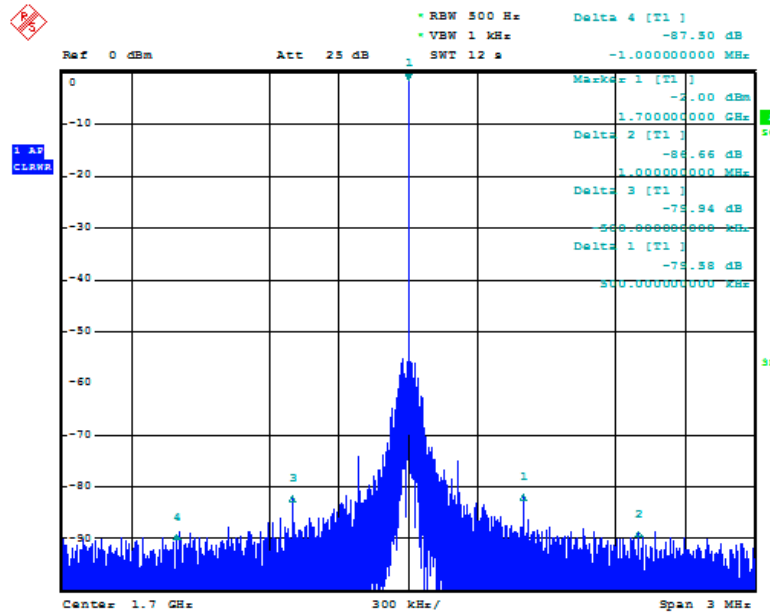
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1700 - 3400 MHz

HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



PERFORMANCE PLOTS

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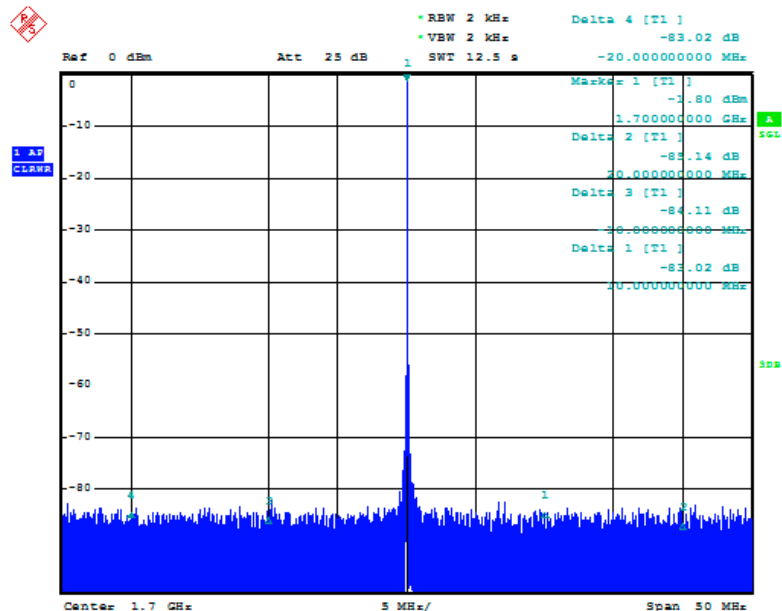
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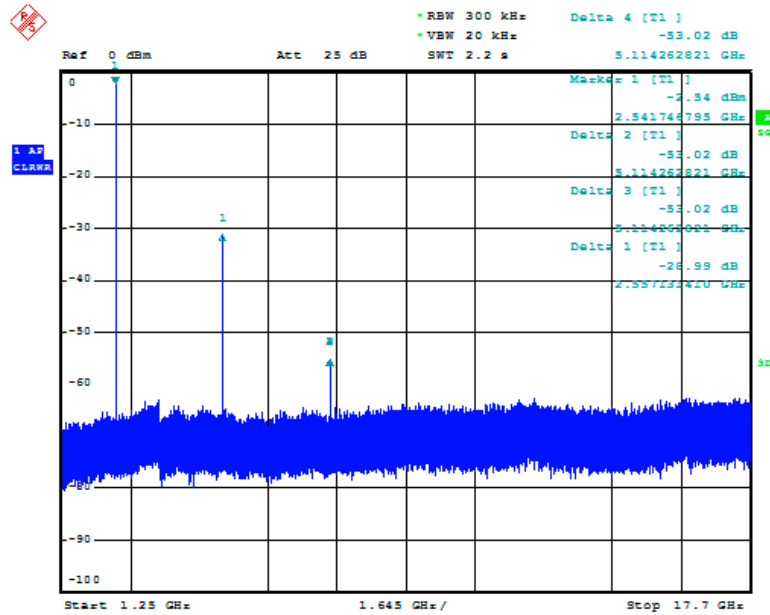
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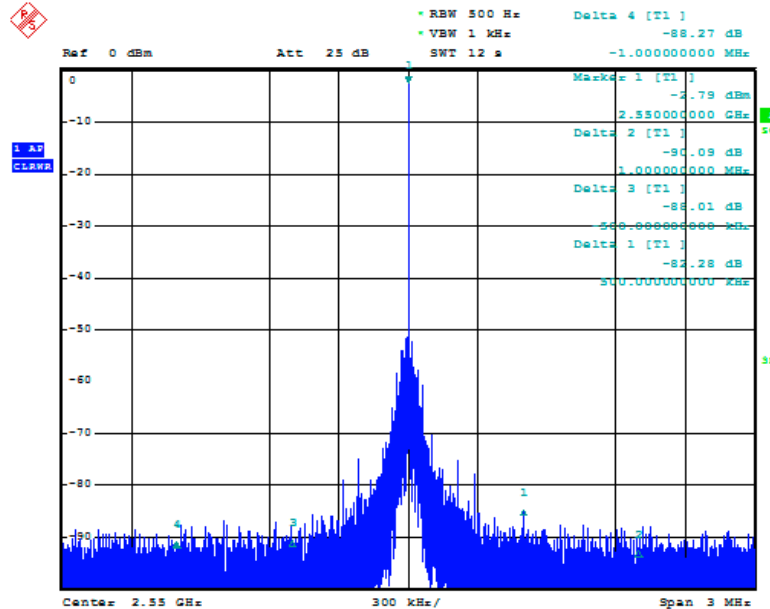
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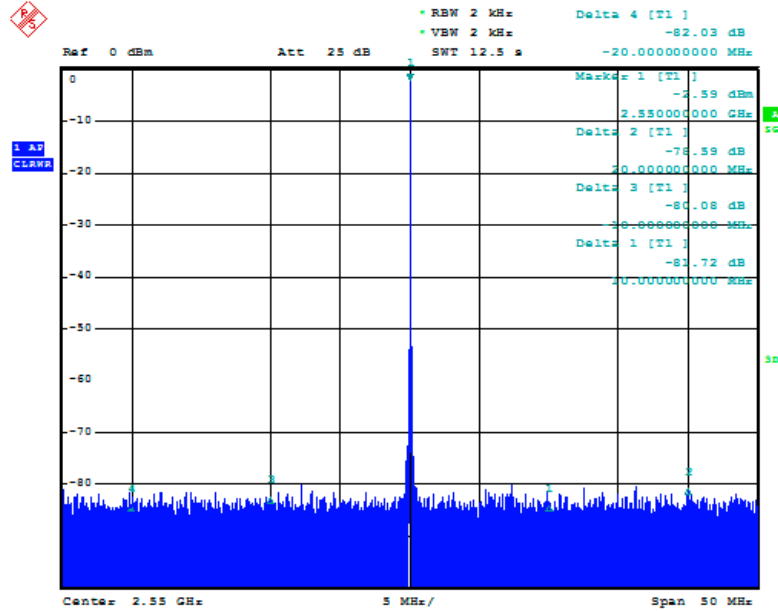
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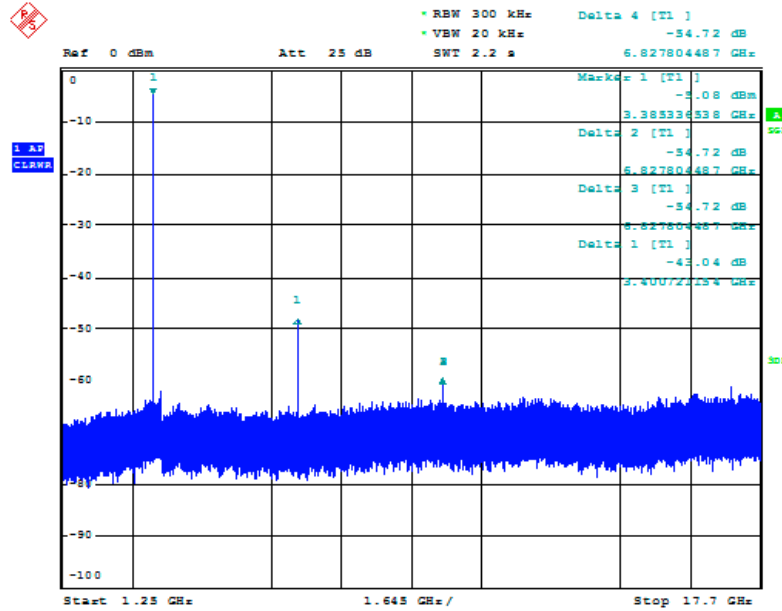
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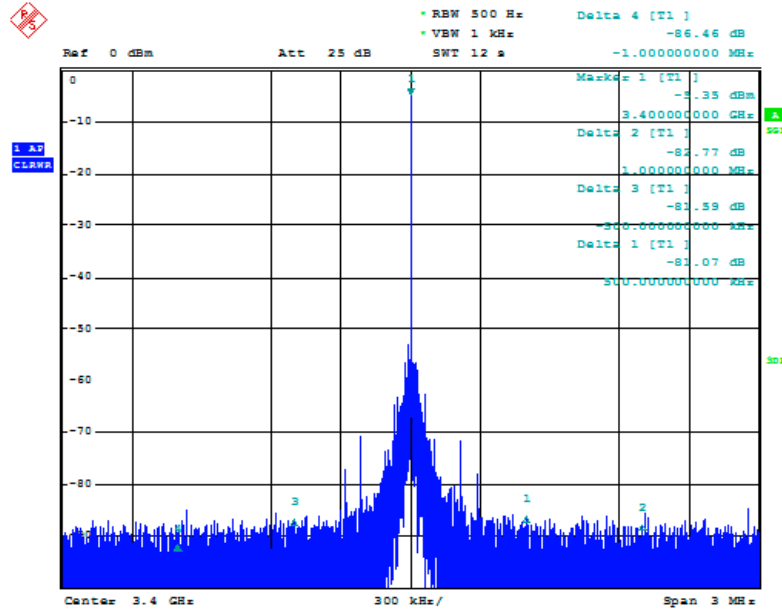
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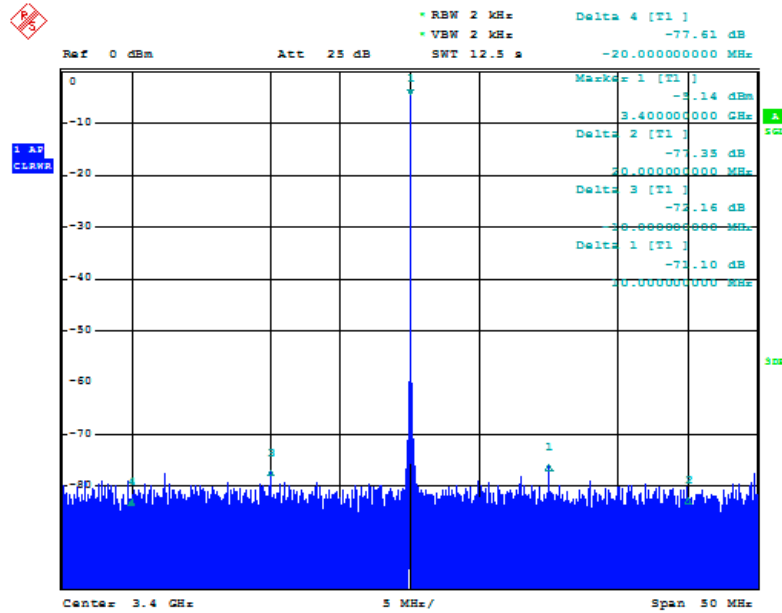
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