

# SELECTABLE FREQUENCY SYNTHESIZER

## SURFACE MOUNT MODEL: FCPH243250-100

**WIDE BANDWIDTH**

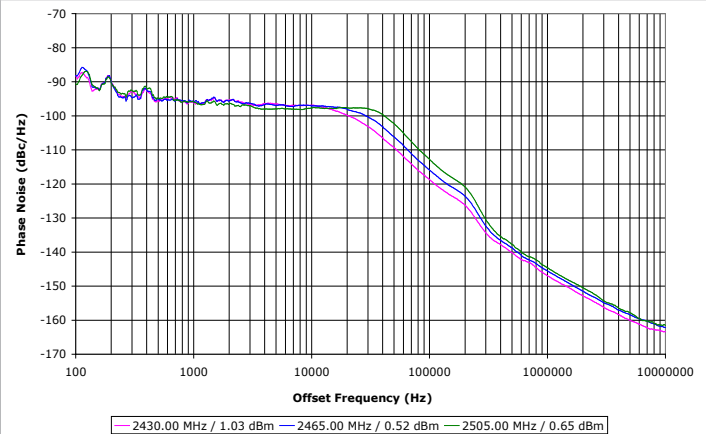
**2430 - 2505 MHz**

**FEATURES:**

- ▶ Exceptionally Low Phase Noise
- ▶ No Programming Required
- ▶ Lead Free - RoHS Compliant
- ▶ Patent Pending REL-PRO® Technology
- ▶ Small Size, Surface Mount
- ▶ Buffered Output



**Phase Noise**



**SPECIFICATIONS (Rev. D 02/15/07)**

<b>Frequency</b>	2430 - 2505 MHz		
<b>Reference Input Frequency</b>	100 MHz		
<b>Reference Input Voltage</b>	1.0 V p-p to 3.3 V p-p		
<b>Bias Voltage</b>	Vcc	V (Vdc)	I (mA Max.)
	Vcc 1 (Digital)	+5	15
	Vcc 2 (Vtune)	+5	10
	Vcc 3 (VCO)	+5	45
<b>Output Power</b>	-1 dBm (Min.)		
<b>Spurious Suppression</b>	100 dB (Typ.)		
<b>Harmonic Suppression</b>	30 dB (Typ.)		
<b>Power Up Time</b>	90 mSec (Max.)		
<b>Output Impedance</b>	50 Ohms (Nom.)		
<b>Typical Phase Noise</b>	Offset	Phase Noise	
	@ 1 kHz	-95 dBc/Hz	
	@ 10 kHz	-97 dBc/Hz	
	@ 100 kHz	-116 dBc/Hz	
<b>Operating Temperature Range</b>	-40 to +85 °C		

\* From stable power on to stable lock detect.

**Binary Frequency Selection Table**

D3	D2	D1	D0	Freq. (MHz)
0	0	0	0	2430
0	0	0	1	2435
0	0	1	0	2440
0	0	1	1	2445
0	1	0	0	2450
0	1	0	1	2455
0	1	1	0	2460
0	1	1	1	2465
1	0	0	0	2470
1	0	0	1	2475
1	0	1	0	2480
1	0	1	1	2485
1	1	0	0	2490
1	1	0	1	2495
1	1	1	0	2500
1	1	1	1	2505

-- Reserved for future use.  
 \* Voltage levels: 0V or gnd. / +5V or open.

**Absolute Maximum Ratings**

<b>Storage Temp. Range</b>	-55 to +125 °C
<b>Bias Voltage (Digital)</b>	+5.25 V
<b>Bias Voltage (Tune)</b>	+15 V
<b>Bias Voltage (VCO)</b>	+5.5 V
<b>DC Voltage Applied to RF Out</b>	± 25 V

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; 5,605,431; 6,525,623; 6,850,575; 7,088,189; 7,180,381; 7,196,591; 7,262,670; 7,265,642; 7,292,113  
**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

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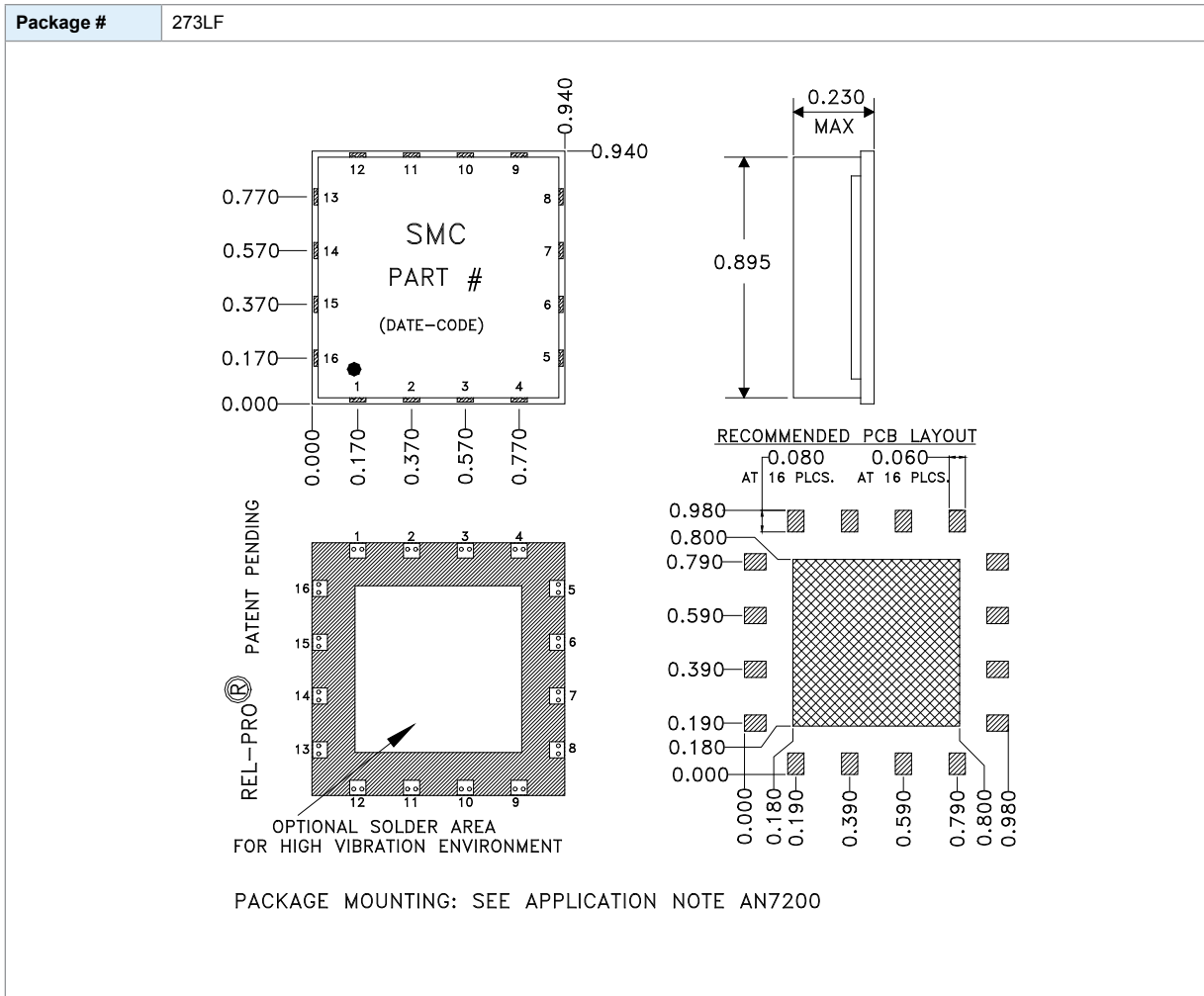
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PERFORMANCE PLOTS



Port Configuration		
PIN 1 - RESET (ACTIVE LOW)	PIN 7 - VCC 1	PIN 10, 11, 12 - GROUND
PIN 2 - D0	PIN 8 - VCC 2	
PIN 3 - D1	PIN 9 - VCC 3	NC - NO CONNECTION
PIN 4 - D2	PIN 13 - RF OUT	*HIGH WHEN LOCKED
PIN 5 - D3	PIN 14 - LOCK DETECT *	(SOURCE/SINK 500 UA)
PIN 6 - REF. IN	PIN 15, 16 - NC	

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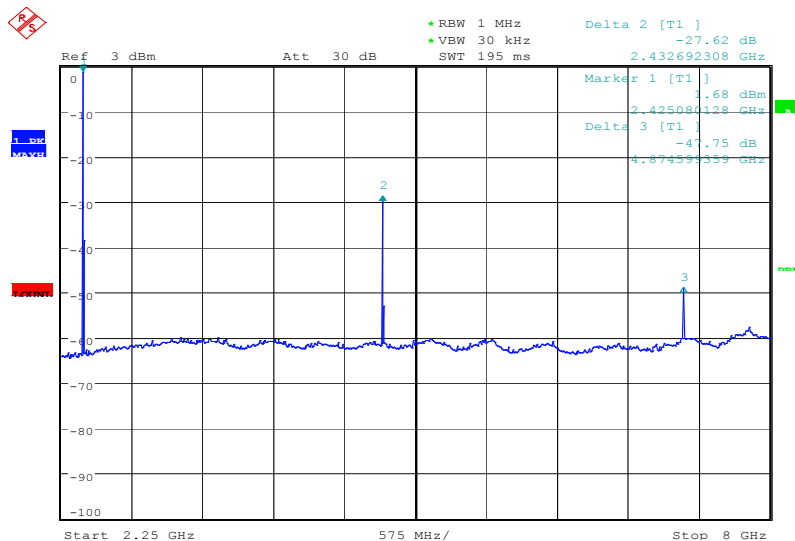
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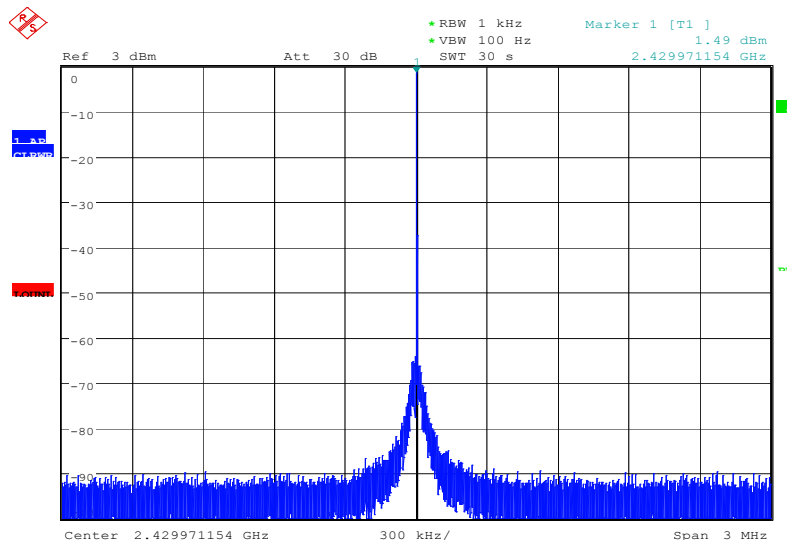
PERFORMANCE PLOTS

## HARMONIC SUPPRESSION



Date: 29.JAN.2007 21:21:23

## REFERENCE SIDEBAND SUPPRESSION



Date: 29.JAN.2007 20:52:45

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; 5,605,431; 6,525,623; 6,850,575; 7,088,189; 7,180,381; 7,196,591; 7,262,670; 7,265,642; 7,292,113  
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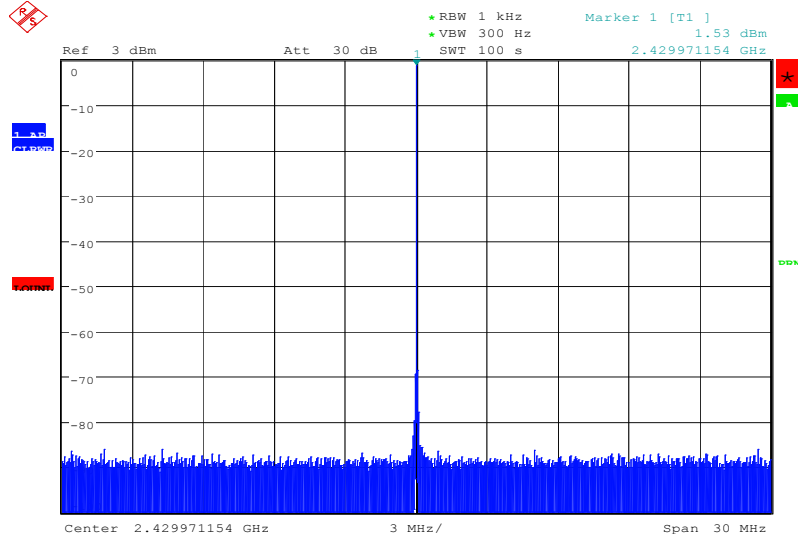


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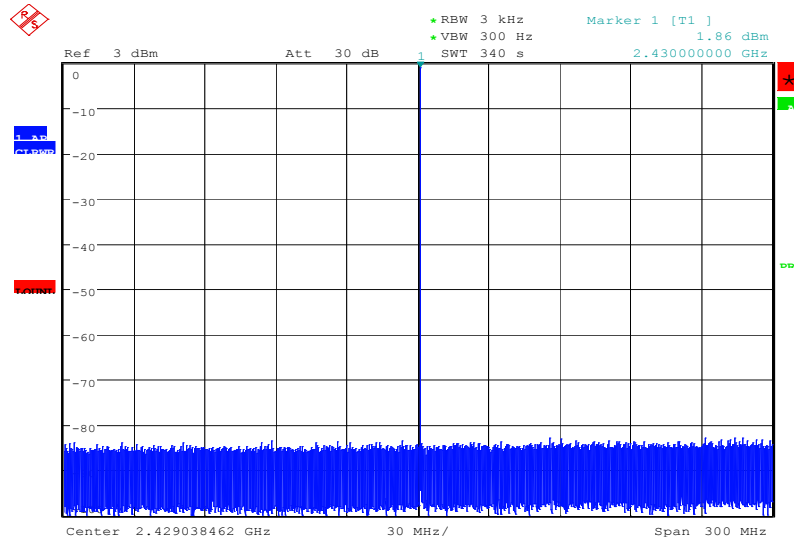
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## REFERENCE SIDEBAND SUPPRESSION



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PERFORMANCE PLOTS

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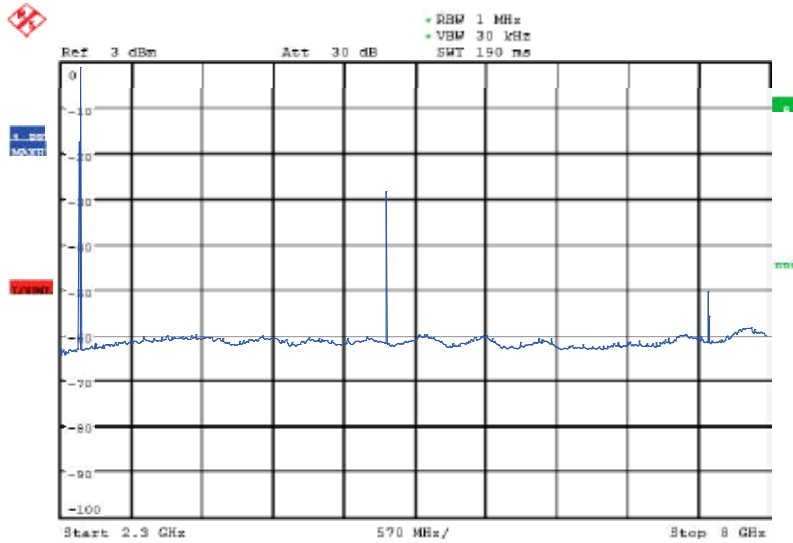


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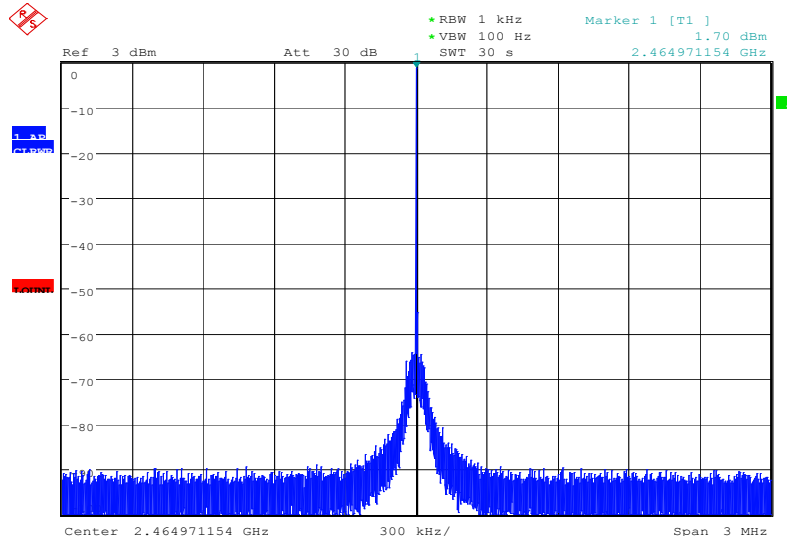
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HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



Date: 29.JAN.2007 20:49:54

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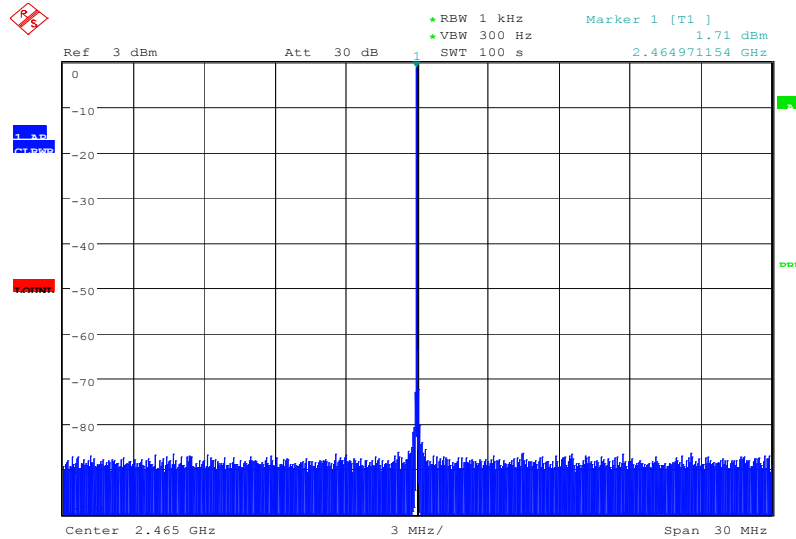


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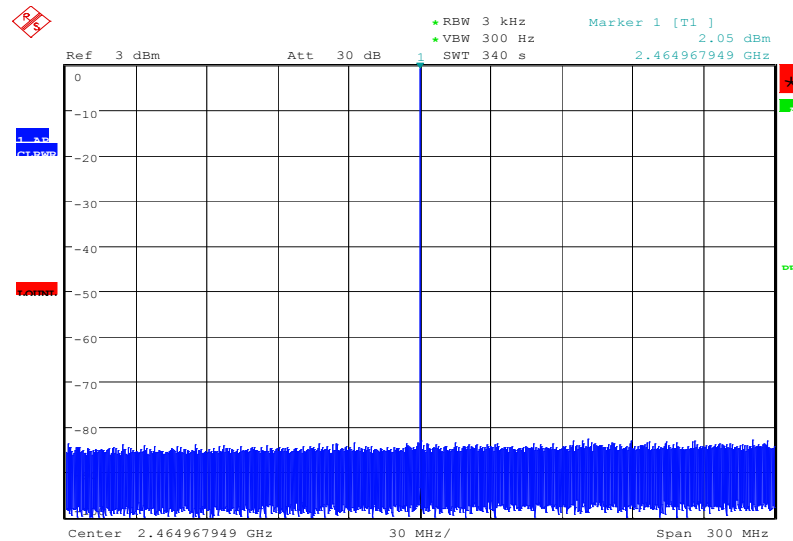
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2430 - 2505 MHz

## REFERENCE SIDEBAND SUPPRESSION



Date: 29.JAN.2007 20:40:41



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PERFORMANCE PLOTS

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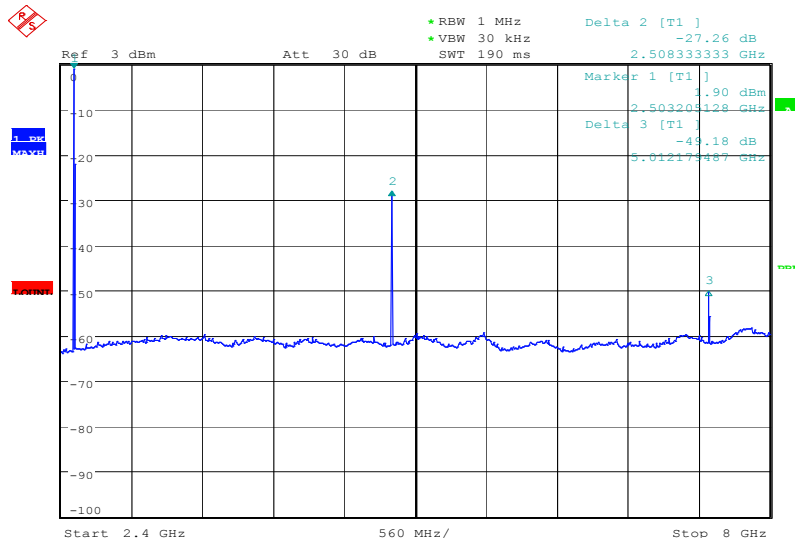
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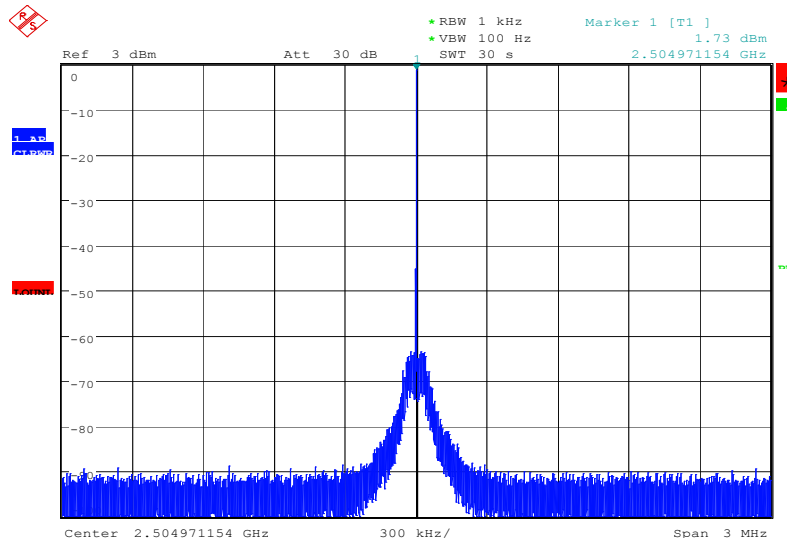
PERFORMANCE PLOTS

HARMONIC SUPPRESSION



Date: 29.JAN.2007 21:18:52

REFERENCE SIDEBAND SUPPRESSION



Date: 29.JAN.2007 20:46:51

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