

INTELLIGENT INTERACTIVE SYNTHESIZER

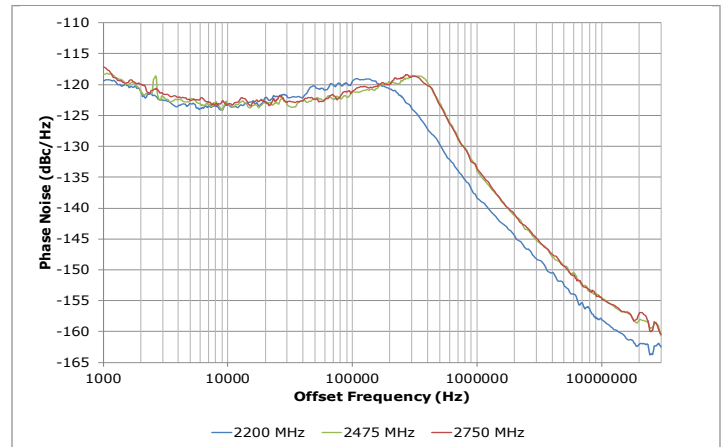
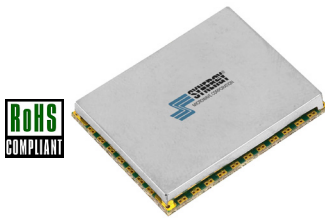
SURFACE MOUNT MODEL: LSSLO220275-625

FREQUENCY

2200 - 2750 MHz

FEATURES:

- ▶ Ultra-Low Phase Noise
- ▶ Small Size, Surface Mount
- ▶ Fast Settling Time
- ▶ Patented REL-PRO® Technology



SPECIFICATIONS (Rev. A 08/11/16)

Frequency	2200 - 2750 MHz	
Step Size	6.25 MHz	
Reference Input Frequency	100 MHz	
Reference Input Level	+5.0 dBm ±5 dB	
Bias Voltage	Vcc 1 (Digital)	+3.3 VDC @ 550 mA (Max.)
	Vcc 2 (Vtune)	+12 VDC @ 60 mA (Max.)
	Vcc 3 (VCO)	+5 VDC @ 100 mA (Max.)
Output Power	+8 dBm (Min.)	
Spurious & Reference Sideband Suppression	Adjacent integer boundary spur ¹	65 dBc (Typ.)
	All others	> 65 dBc (Min.)
Harmonic Suppression	23 dBc (Typ.)	
Output VSWR	2.0:1 (Max.)	
Typical Phase Noise	Offset	Phase Noise
	@ 1 kHz	-118 dBc/Hz
	@ 10 kHz	-123 dBc/Hz
	@ 100 kHz	-118 dBc/Hz
	@ 1 MHz	-135 dBc/Hz
@ 10 MHz	-155 dBc/Hz	

Settling Time	<100 uSec. (With SPI Fast Lock Mode) ²
Lock Detect	Complementary CMOS (Low indicator lock)
Programming	SPI
Operating Temperature Range	-30 to +70 °C (Baseplate)

Absolute Maximum Ratings

Storage Temp. Range	-55 to + 125 °C
Bias Voltage (Digital)	+3.50 V
Bias Voltage (Vtune)	+12.5 V
Bias Voltage (VCO)	+5.5V
DC Voltage Applied to RF Out	±25 V

¹ Adjacent integer boundary occurs when the output frequency $F_{out} = [N * F_{ref}]$. The fractional spurs decay at higher step offsets.

² From rising edge of LE to within 1/2 channel spacing.

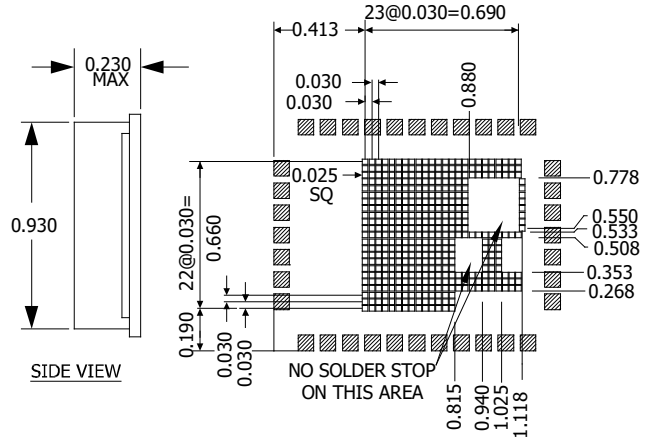
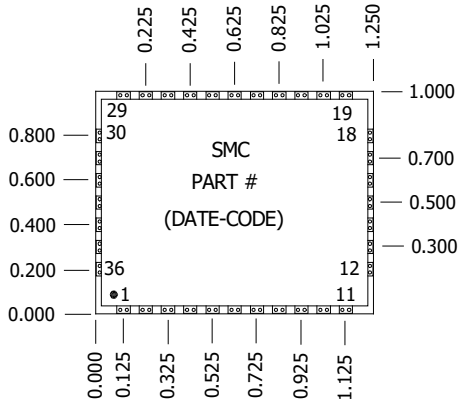
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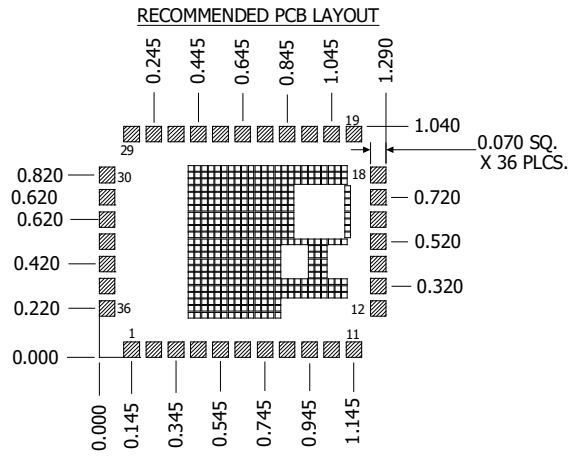
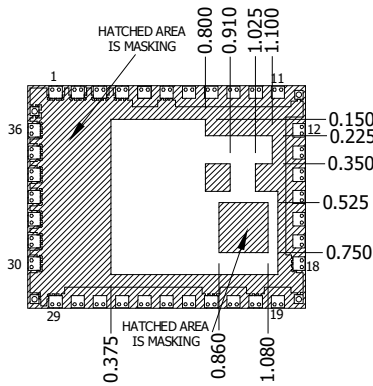
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Package # 407



REL-PRO PATENT NO. 7,612,296



TOLERANCES ON THREE DECIMAL PLACES = ± 0.015

PACKAGE MOUNTING: SEE APPLICATION NOTES AN7200 & AN7300

Port Configuration

Pin 1 to 4 - GND	Pin 13 - D6 / (NC)	Pin 24 - GND
Pin 5 - RF Out	Pin 14 to 15 - GND	Pin 25 - Vcc 3 (VCO)
Pin 6 - GND	Pin 16 - RESET B	Pin 26 - NC
Pin 7 - Lock Detect Out *	Pin 17 to 18 - GND	Pin 27 - Vcc 2 (Vtune)
Pin 8 - D1 / (NC)	Pin 19 - D2 / LE	Pin 28 - NC
Pin 9 - D3 / MOSI	Pin 20 - GND	Pin 29 to 36 - GND
Pin 10 - D4 / MISO	Pin 21 - REF In	
Pin 11 - D5 / SCLK	Pin 22 - GND	NC - No Connection
Pin 12 - D0 / (NC)	Pin 23 - Vcc 1 (Digital)	

* Low when locked

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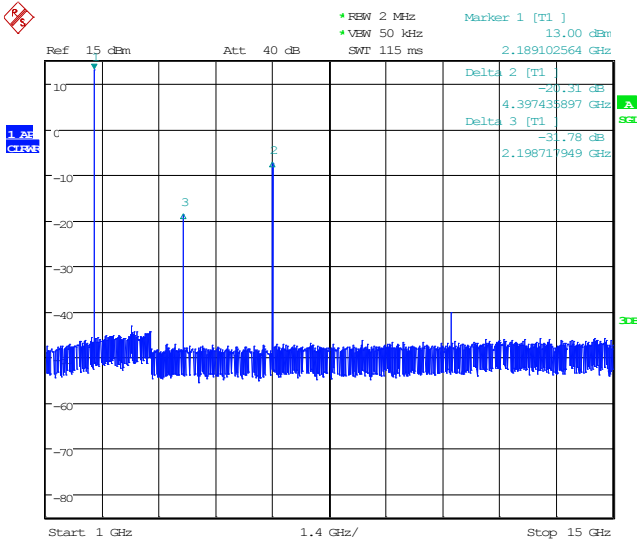
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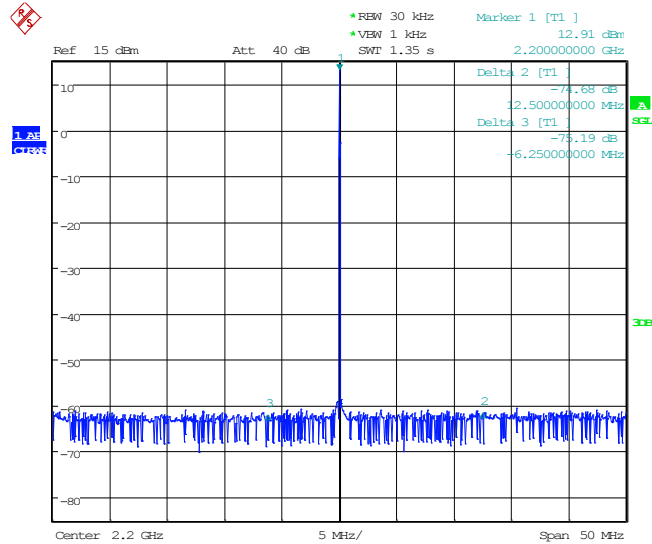
Low Band Integer Operating Condition

@ 25 °C

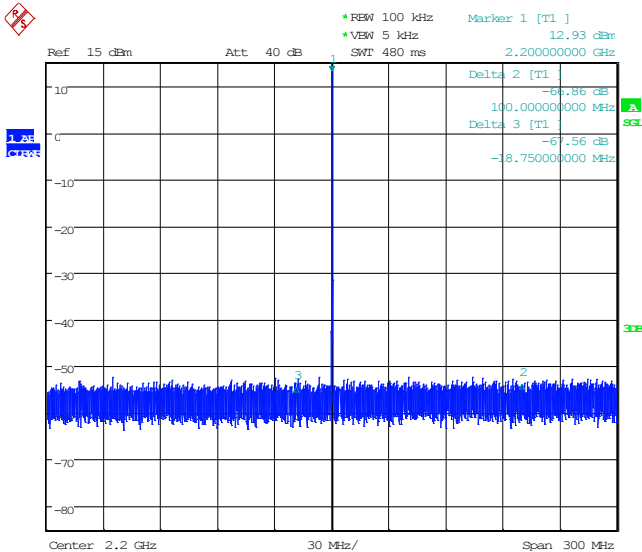
HARMONIC SUPPRESSION



REFERENCE SIDEBAND SUPPRESSION



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PERFORMANCE PLOTS

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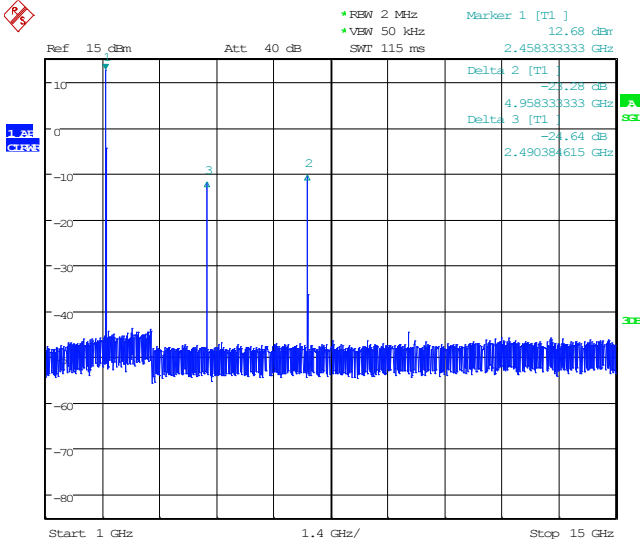
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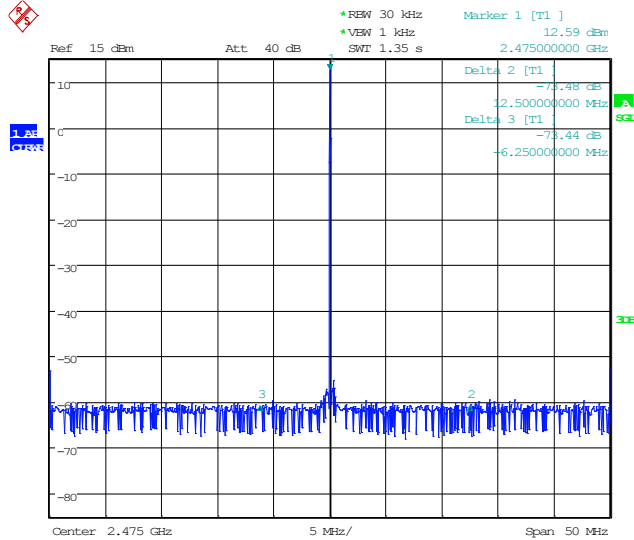
Mid Band Integer Operating Condition

@ 25 °C

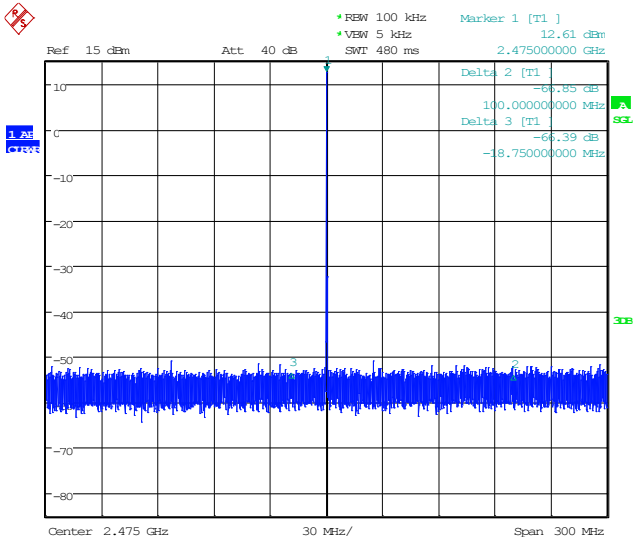
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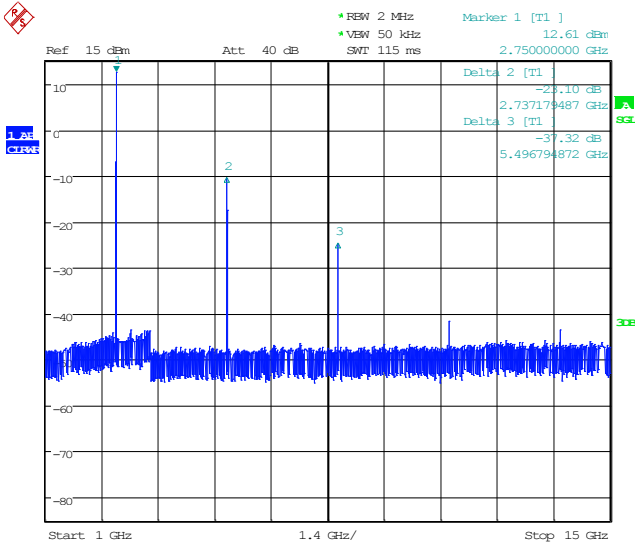
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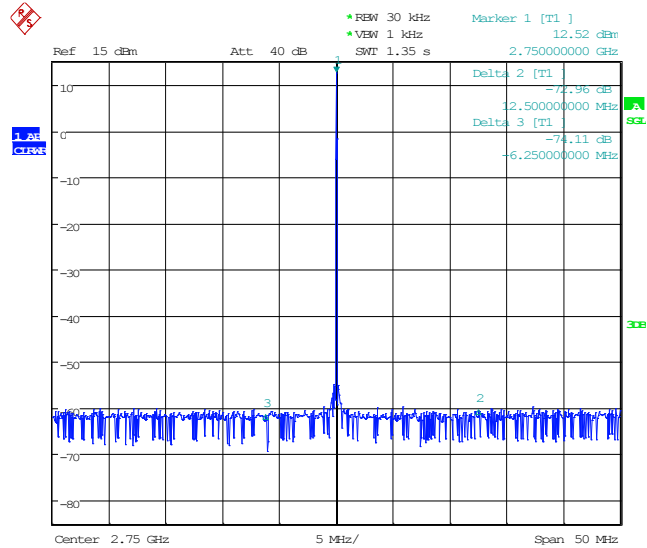
High Band Integer Operating Condition

@ 25 °C

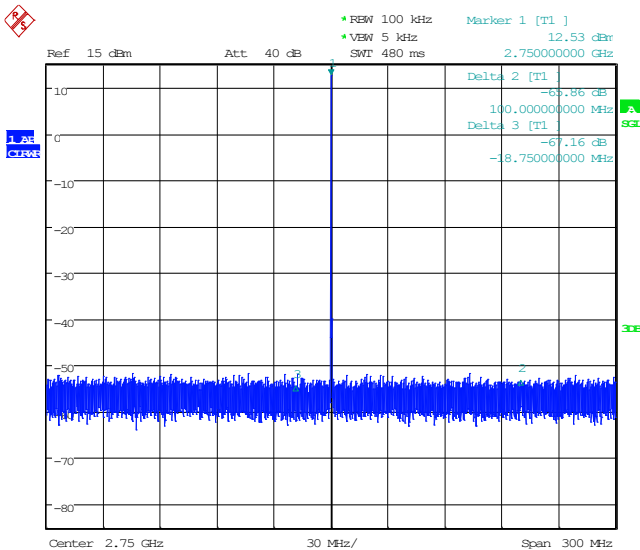
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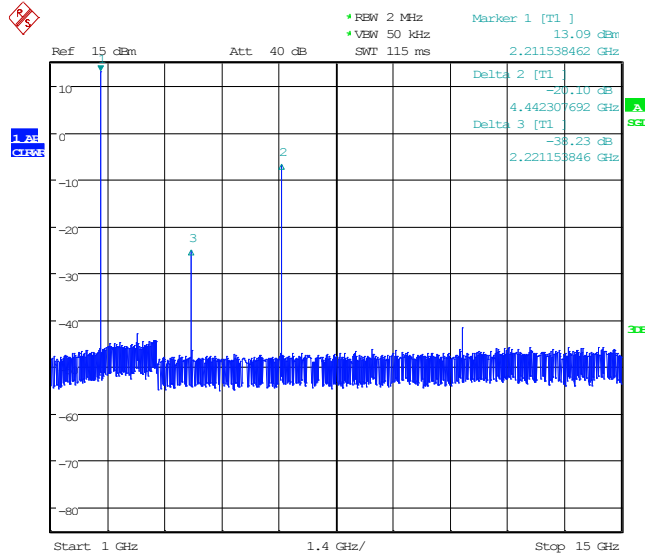
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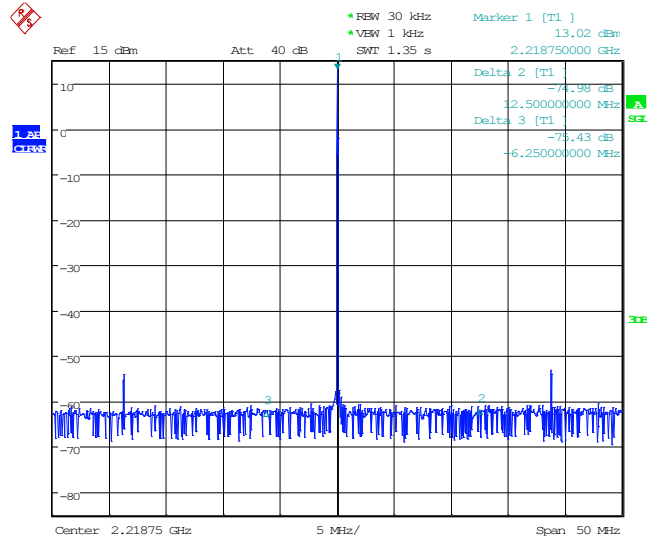
Low Band Fractional Boundary Operating Condition

@ 25 °C

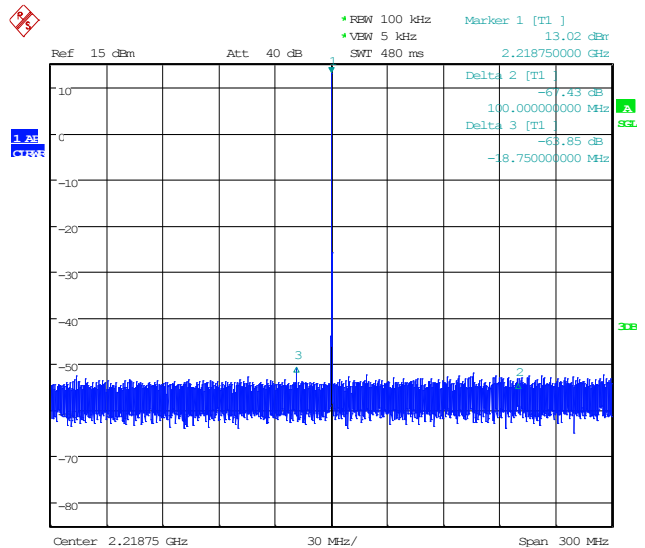
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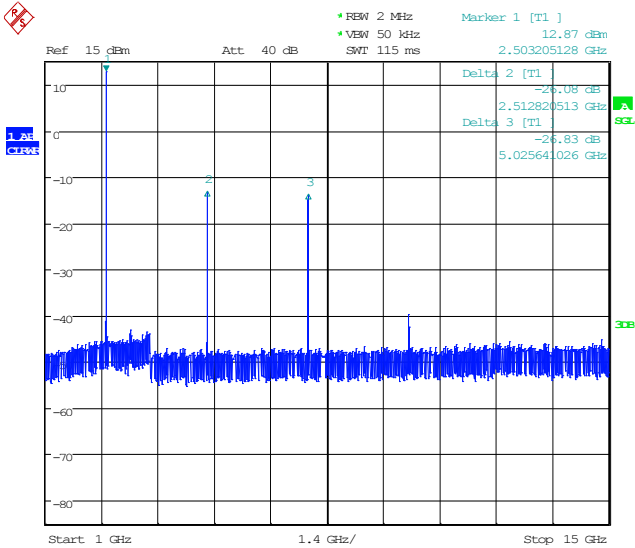
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Mid Band Fractional Boundary Operating Condition

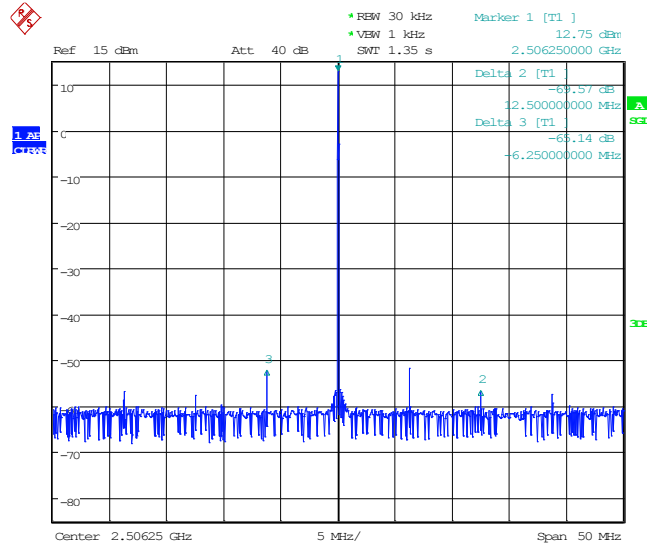
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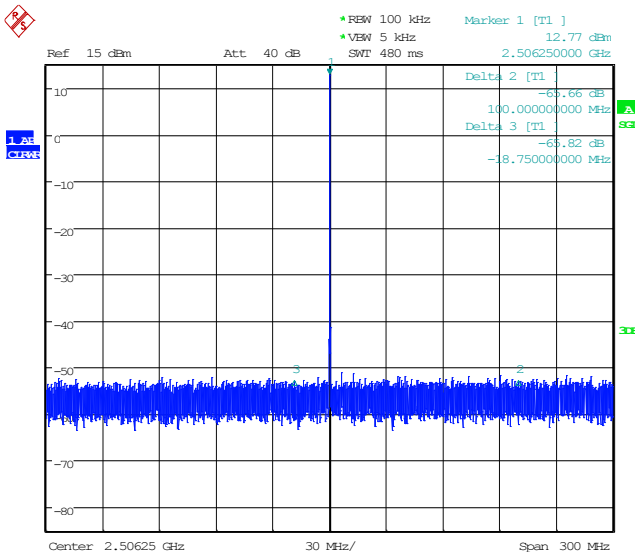
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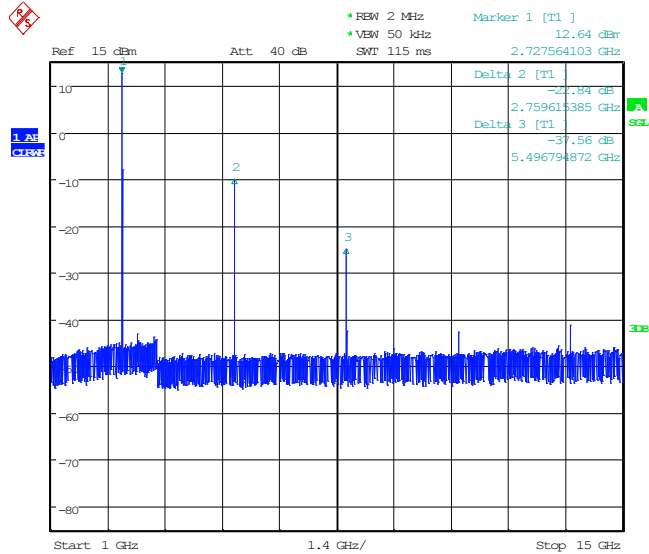
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High Band Fractional Boundary Operating Condition

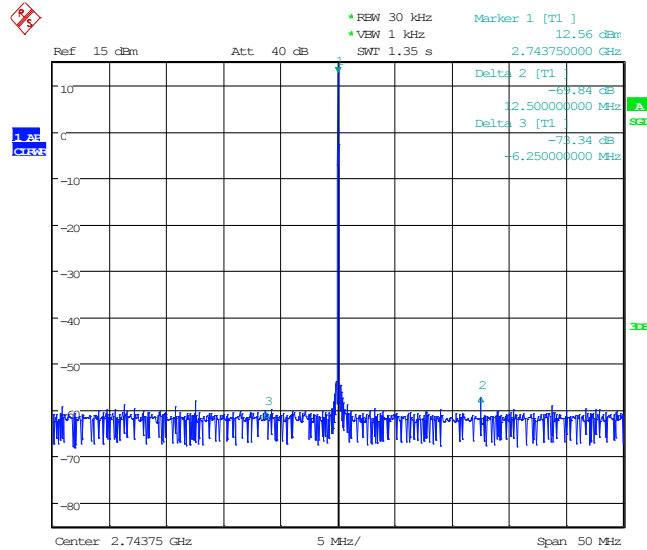
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