

Synthesizer, 150-450MHz

Minimum 0dBm Power Output, 5Volts, External Reference 10MHz

Features:

- ▶ Exceptionally Low Phase Noise
- ▶ Interactive Communication
- ▶ Standard Programming Interface
- ▶ Ultra Wide Tuning Range
- ▶ Lead Free - RoHS Compliant



Limited: Absolute Maximum Ratings

Storage Temp. Range	-55 to +125 °C
Bias Voltage (Digital)	+5.25 V
Bias Voltage (Tune)	+26.0 V
Bias Voltage (VCO)	+5.5 V
DC Voltage Applied to RF Out	±25.0 V

Order Examples: RSYNTH-150-450M-Sf-0d-5V-ER10M-j14

Description: (Synthesizer, 150-450MHz, SMA Female Connectors, 0dBm min Output Power, 5Volts, External Reference 10MHz)

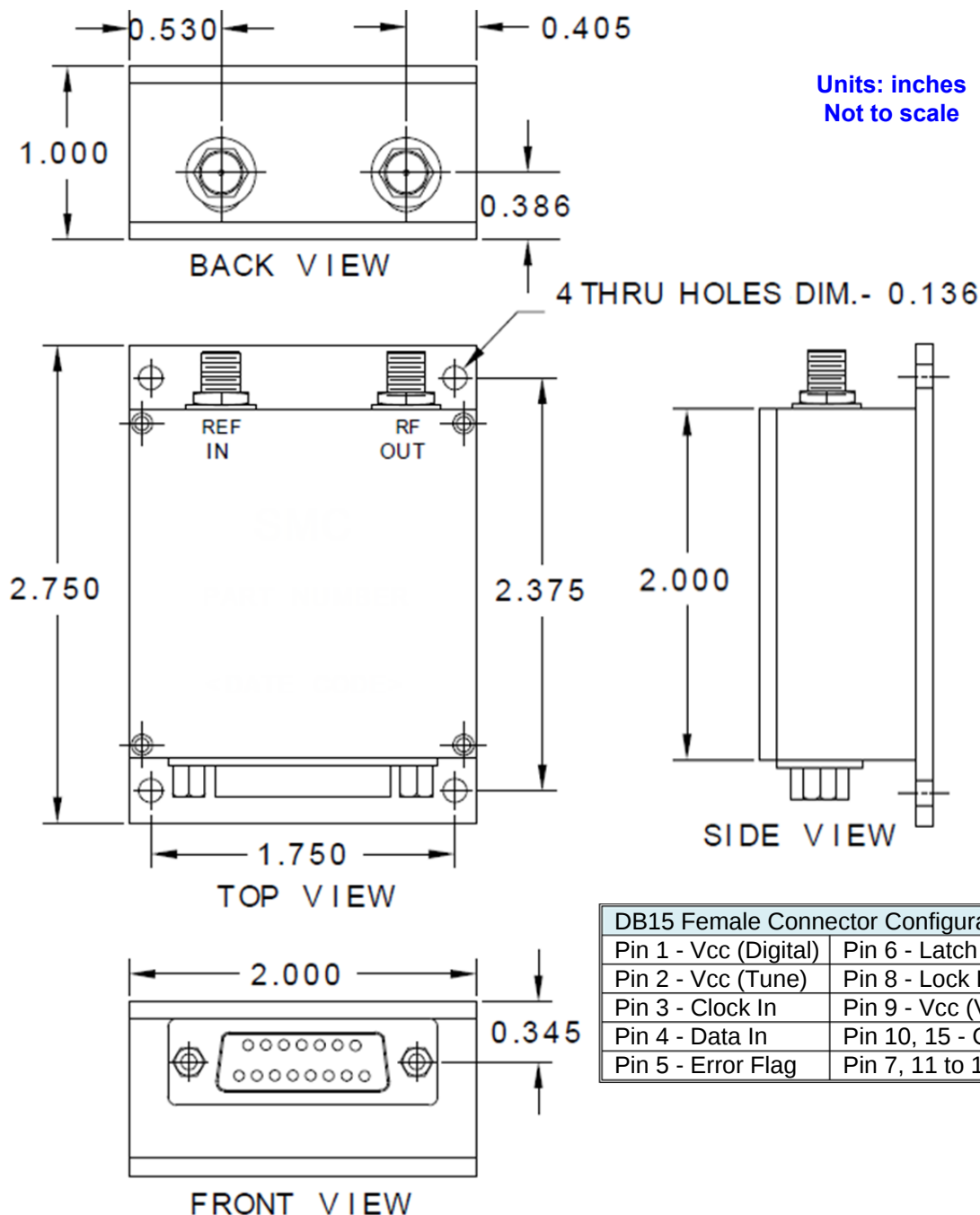
Parameters		Specifications				Units
Output Frequency		150 -450				MHz
Step Size		>+9				dBm
Input Reference Frequency		10				MHz
Ref. Input Voltage		1.0 to 3.3				Vp-p
Bias Voltage	Vcc	Digital	VCO	Tune		
	V(V _{DC})	+5	+5	+25	Vdc	
	I	15	35	5	mA Max	
Output Power		0 (Min)				dBm
Harmonic Suppression		20 (Typ)				dBc
Spurious Suppression		85 (Typ)				dB
Settling Time		10 (Typ.) ²				mSec
Output Impedance		50 (Nom.)				Ohms
Lock Detect Indicator		CMOS 3.3				V
Phase Noise	@1 kHz offset	-103 (Typ)				dBc/Hz
	@10kHz offset	-103 (Typ)				dBc/Hz
	@100kHz offset	-125 (Typ)				dBc/Hz
Operating Temperature Range		-40 to +85				°C
Storage Temperature		-55 to +125				°C

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

2 From the rising edge of LE to stable lock detect

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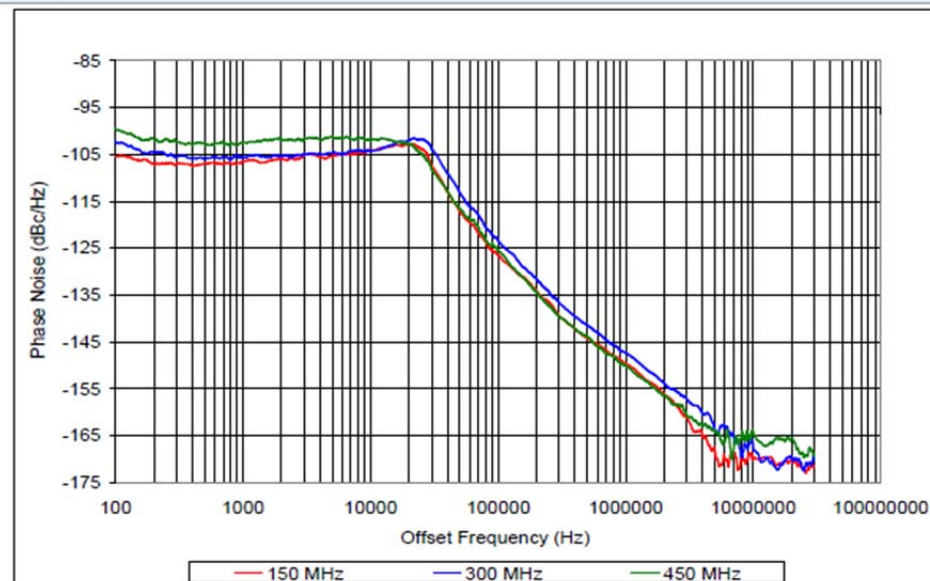
DB15 Female Connector Configuration

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

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Phase Noise



HARMONIC SUPPRESSION

*FEW 300 kHz

Delta 4 [T1]

*VEW 20 kHz

-36.28 dB

SWT 660 ms

600.000000000 MHz

Ref 6 dBm

Att 35 dB

Marker 1 [T1]

-36.28 dB

150.000000000 MHz

Delta 2 [T1]

-20.44 dB

150.000000000 MHz

Delta 3 [T1]

-28.47 dB

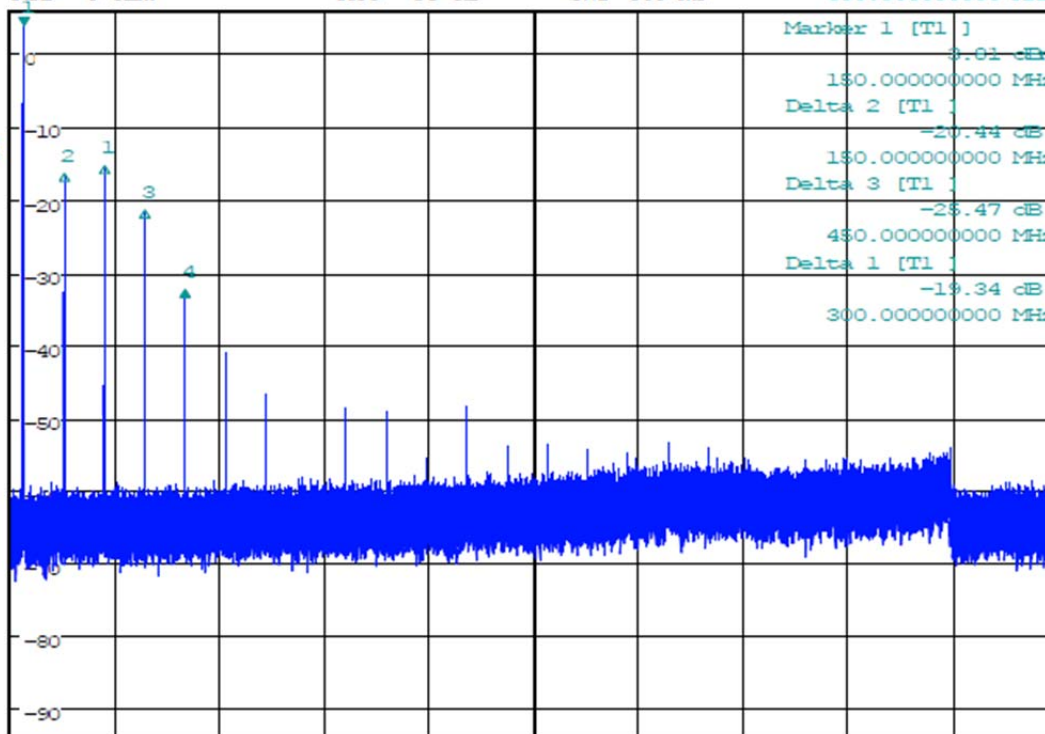
450.000000000 MHz

Delta 1 [T1]

-19.34 dB

300.000000000 MHz

1 dB
CIRK



Start 100 MHz

390 MHz/

Stop 4 GHz

RSYNTH-150-450M-Sf-0d-5V-ER10M-j14

Specifications may be subject to change

02/03/17

WORLD HQ: 1702L Meridian Ave. Suite 127, San Jose, Ca 95125, U.S.A.

Tel: (408) 266-7404

FAX: (408) 266-4483

WEB: www.raditek.com

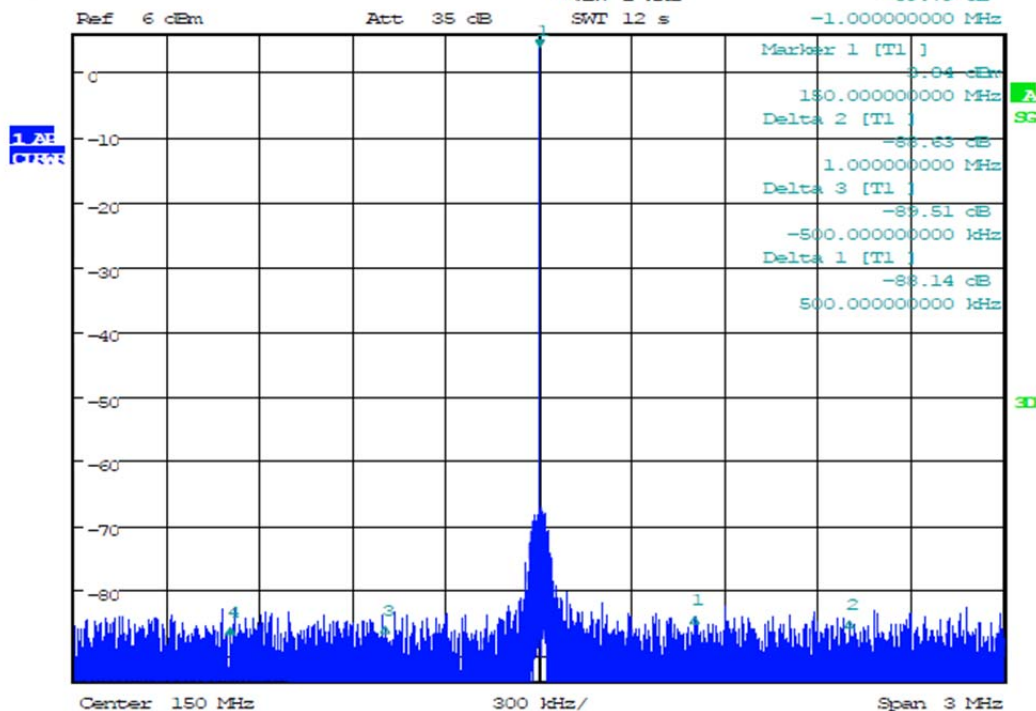
E-mail: sales@raditek.com

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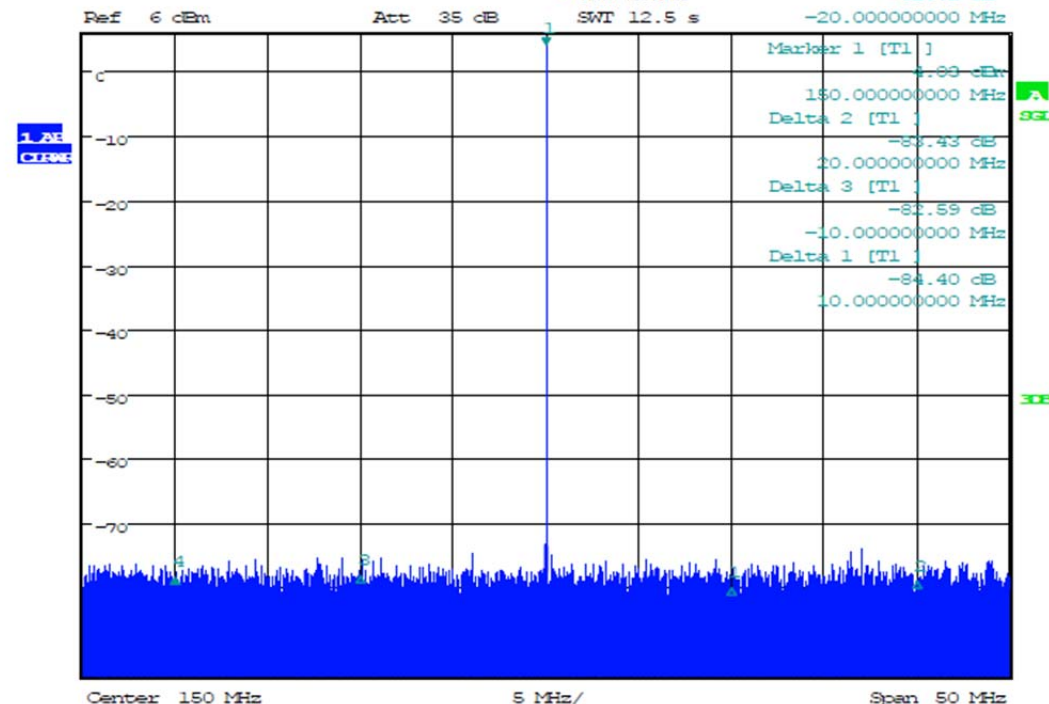
REFERENCE SIDEBAND SUPPRESSION

*RES 500 Hz
*VIEW 1 kHz
SWT 12 s
Delta 4 [T1]
-89.79 dB
-1.000000000 MHz



REFERENCE SIDEBAND SUPPRESSION

*RES 2 kHz
*VIEW 2 kHz
SWT 12.5 s
Delta 4 [T1]
-82.72 dB
-20.000000000 MHz



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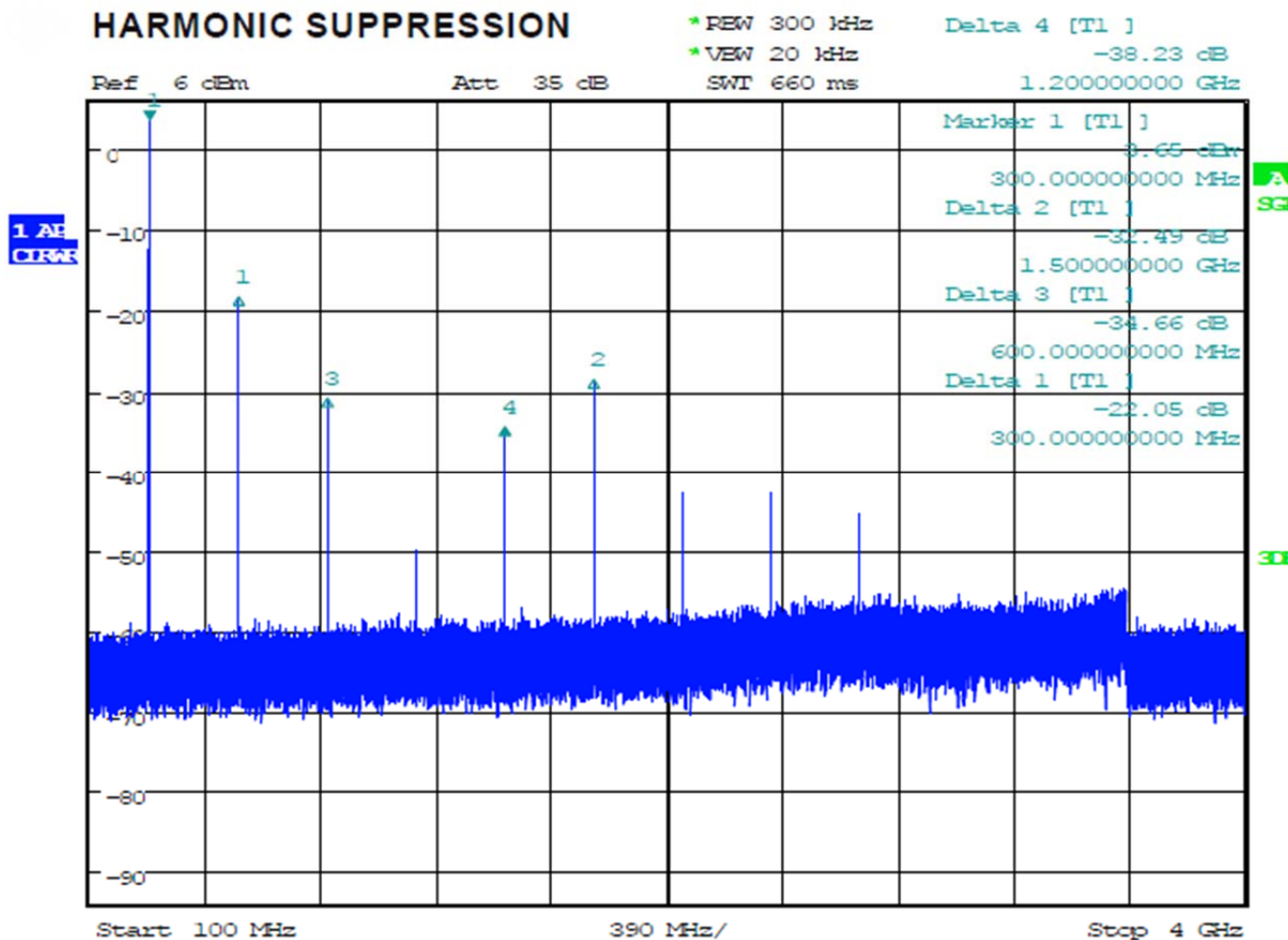
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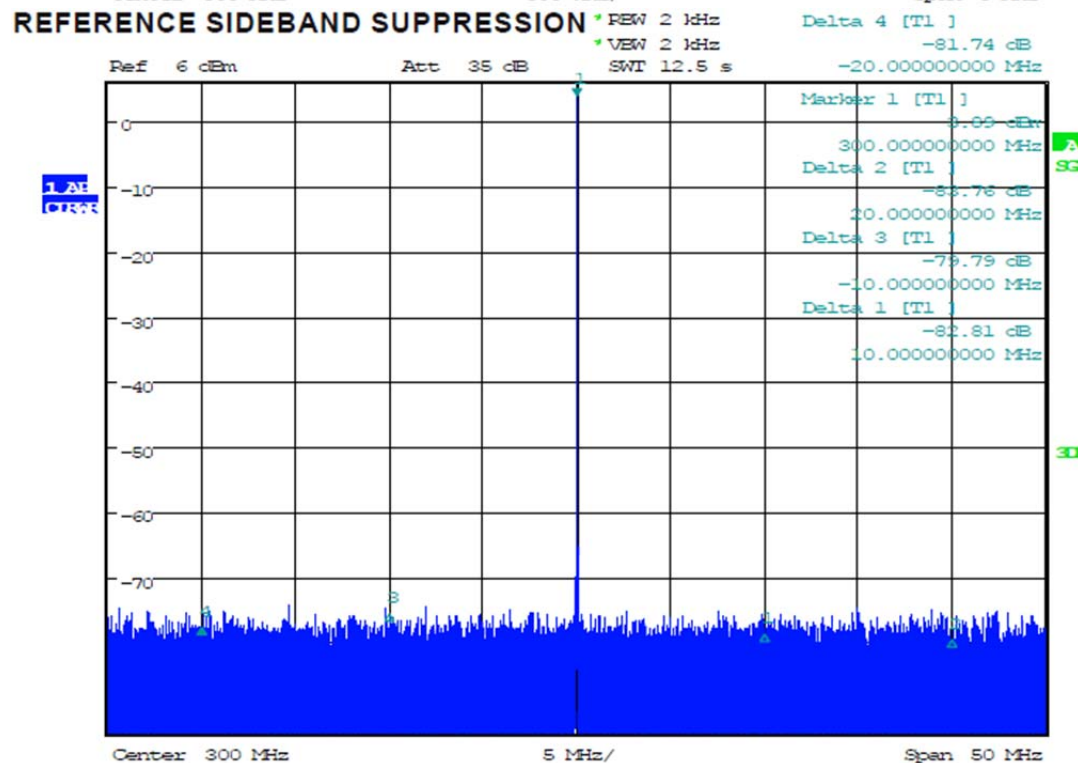
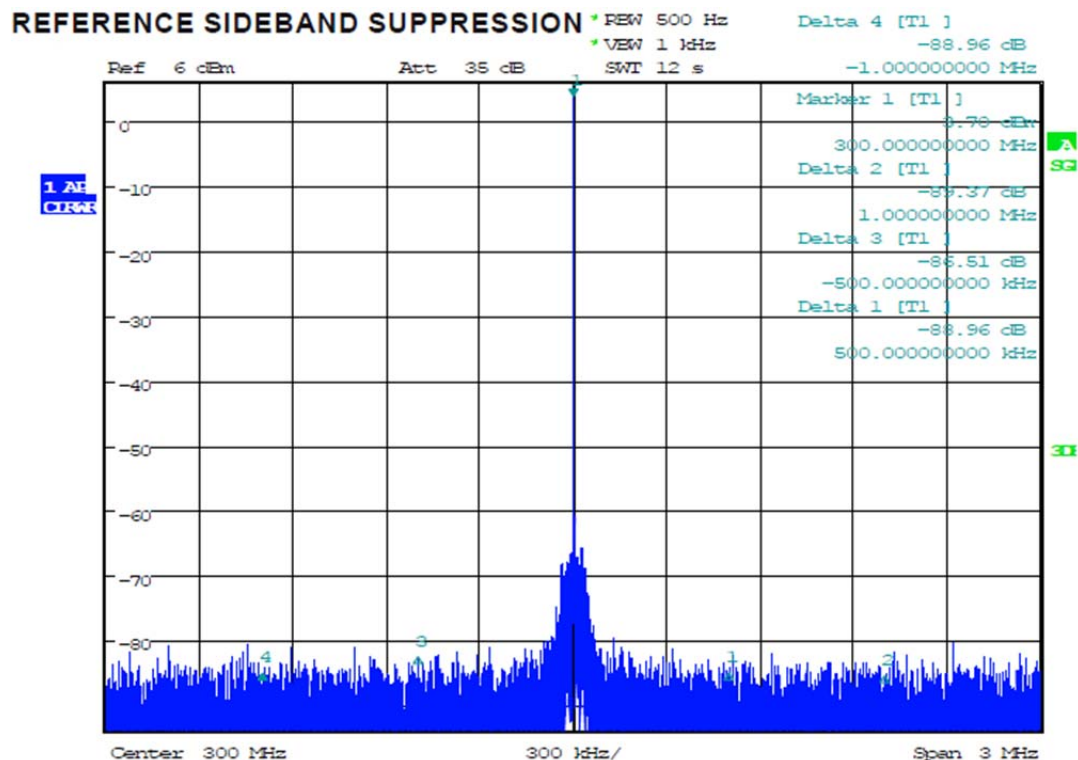
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HARMONIC SUPPRESSION

*RBW 300 kHz
*VBW 20 kHz
SWT 660 ms

Delta 4 [T1]
-37.26 dB
2.250000000 GHz

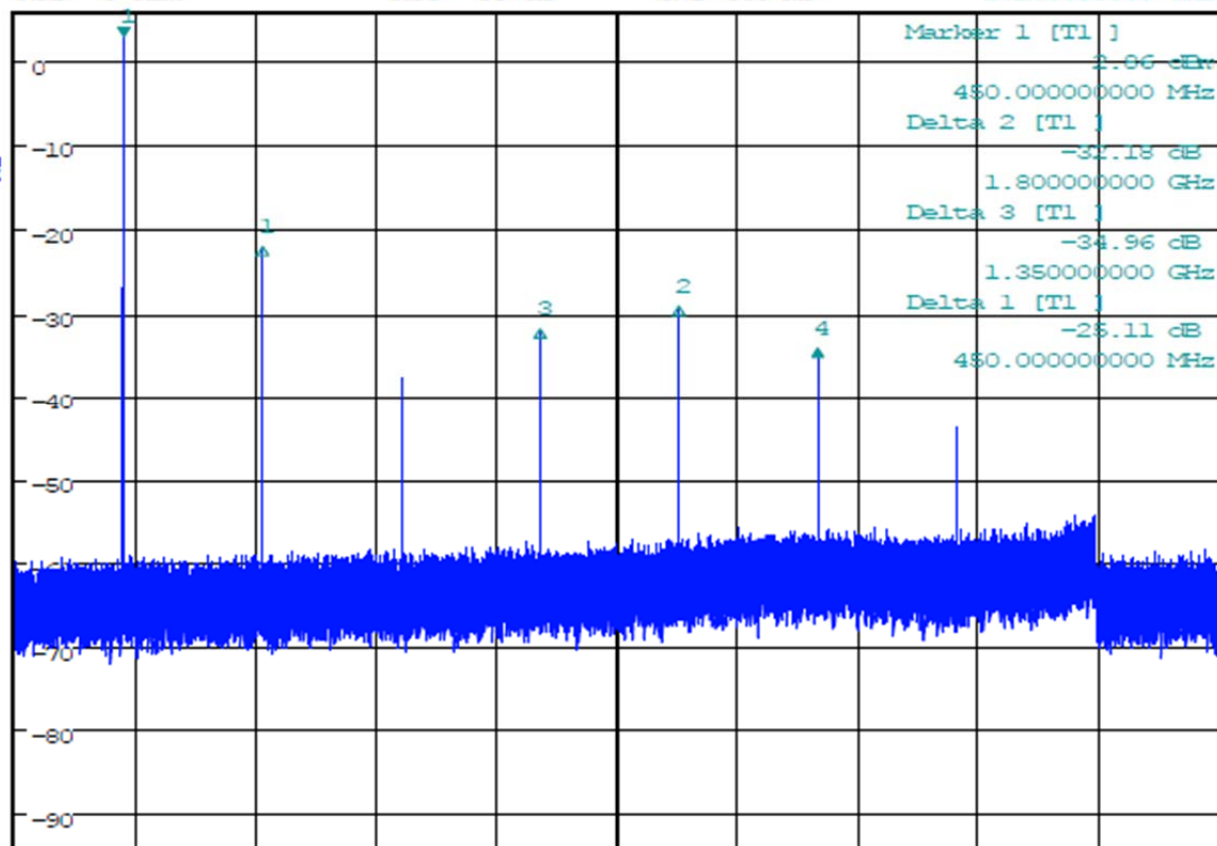
Ref 6 dBm

Att 35 dB

SWT 660 ms

2.250000000 GHz

1 A
0.000



Start 100 MHz

390 MHz/

Stop 4 GHz

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REFERENCE SIDEBAND SUPPRESSION

• RES 500 Hz

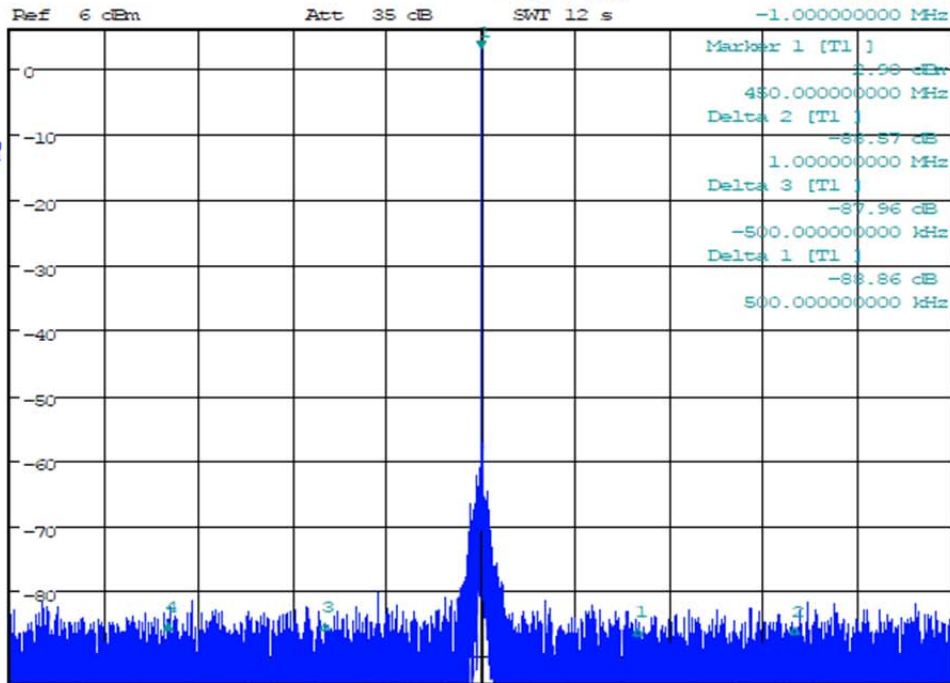
Delta 4 [T1]

• VEW 1 kHz

-87.96 dB

SWT 12 s

-1.000000000 MHz



Center 450 MHz

300 kHz/

Span 3 MHz

REFERENCE SIDEBAND SUPPRESSION

• RES 2 kHz

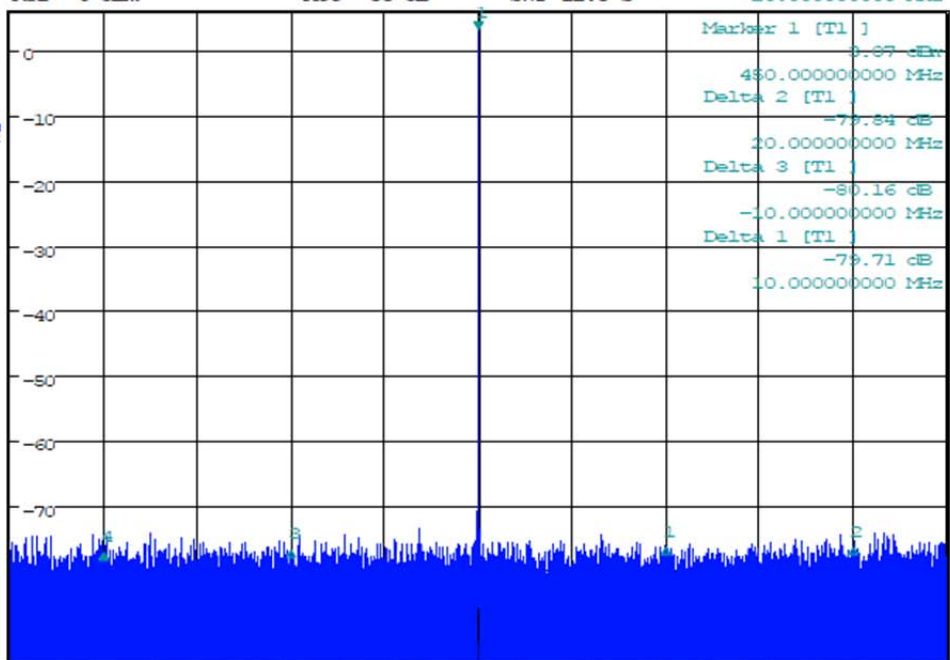
Delta 4 [T1]

• VEW 2 kHz

-80.66 dB

SWT 12.5 s

-20.000000000 MHz



Center 450 MHz

5 MHz/

Span 50 MHz

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