REV	DATE	REVISION RECORD	DWN	AUTH
-	03-03-11	Initial Release	PAC	
A	05-02-13	Updated Title	PAC	

OUTPUT

Frequency

80 MHz

Level

+13 dBm ±2 dB into 50 ohms

STABILITY

Aging

1×10^{-6} first year
after 30 days operating, typical
5×10^{-7} second year, typical
3×10^{-7} per year thereafter, typical

Phase Noise L(f), dBc/Hz

	Static	Each Axis Dynamic, goal
5 Hz	-80	-71
10 Hz	-98	-65
15 Hz	-103	-61
16 Hz	-104	-64
25 Hz	-108	-60
26 Hz	-109	-66
33 Hz	-115	-63
100 Hz	-130	
1 kHz	-158	
10 kHz	-174	
100 kHz	-174	

Temperature Stability

$\pm 5 \times 10^{-7}$, -40° to +63°C (Ref +25°C)

Harmonics, Sub-harmonics

≤-30 dBc

Non-Harmonic Spurious

-80 dBc, max

MECHANICAL

Dimensions

2.386 x 2 x 1.06”

Connectors

SMA(f) and solder pins on one side

Packaging

Nickel-plated machined
aluminum housing

Mounting

Threaded inserts, # 2-56, 4 places
Threaded inserts on sides, 16 places
(provisions for shock mounts)

POWER REQUIREMENTS

Warm-Up Power

≤ 6 Watts for 5 minutes at +25°C

Total Power

≤ 3.5 Watts at +25°C

Supply Voltage

+15 VDC ±5%

ADJUSTMENT

Mechanical Tuning

$\pm 4 \times 10^{-6}$

Electrical Tuning

$\pm 2 \times 10^{-7}$ min, 0 to +10 VDC
Negative slope

CRYSTAL

Type

80 MHz SC-cut (low-g)

ENVIRONMENTAL

Acceleration Sensitivity

5×10^{-10}/g per axis, typical

Shock

Designed to survive operational and non-operational testing with degraded phase noise and spurious signal performance during shock. No performance data is provided. No testing is provided on production units.
30g, 11 ms, half sine, horizontally
12g, 11 ms, half sine, vertically
3 blows in each axis, both ways

Vibration

Designed to survive operational and non-operational testing per MIL-STD-167-1A Type I, with degraded phase noise and spurious signal performance during vibration.
Tested at 5, 15, 16, 25, 26 and 33 Hz only.

5 Hz* to 15 Hz	0.030 ±0.006 inSA
16 Hz to 25 Hz	0.020 ±0.004 inSA
26 Hz to 33 Hz	0.010 ±0.002 inSA

* Lowest offset available on in-house testing capabilities

Humidity

Designed to meet operational and non-operational testing per MIL-STD-810, Method 507.4, but no testing is provided on production units. Vital components shall be conformal coated.

High Storage Temperature

Designed to survive non-operational testing per MIL-STD-810, Method 501.4, Procedure I. No testing is provided on production units.

High Operation Temperature

Designed to meet operational testing per MIL-STD-810, Method 501.4, Procedure II. No testing is provided on production units.

Low Storage Temperature

Designed to survive non-operational testing per MIL-STD-810, Method 502.4, Procedure I. No testing is provided on production units.

Low Operation Temperature

Designed to meet operational testing per MIL-STD-810, Method 502.4, Procedure II. No testing is provided on production units.

OTHER

Special

The electrical design of this oscillator incorporates High Reliability & COTS components, for an extended life span.

Design

PCBs secured for operation in a dynamic environment

Test Data – Production Units

Output Level
Phase Noise – Static and Dynamic
Temperature Stability
Harmonics, Subs, Spurious
Current Draw – Warm-up and Total
Tuning – ET and MT
Acceleration Sensitivity

Environmental Qualification Testing

(On one (1) randomly selected production unit only – Qual testing is listed as a separate line item on the quote)

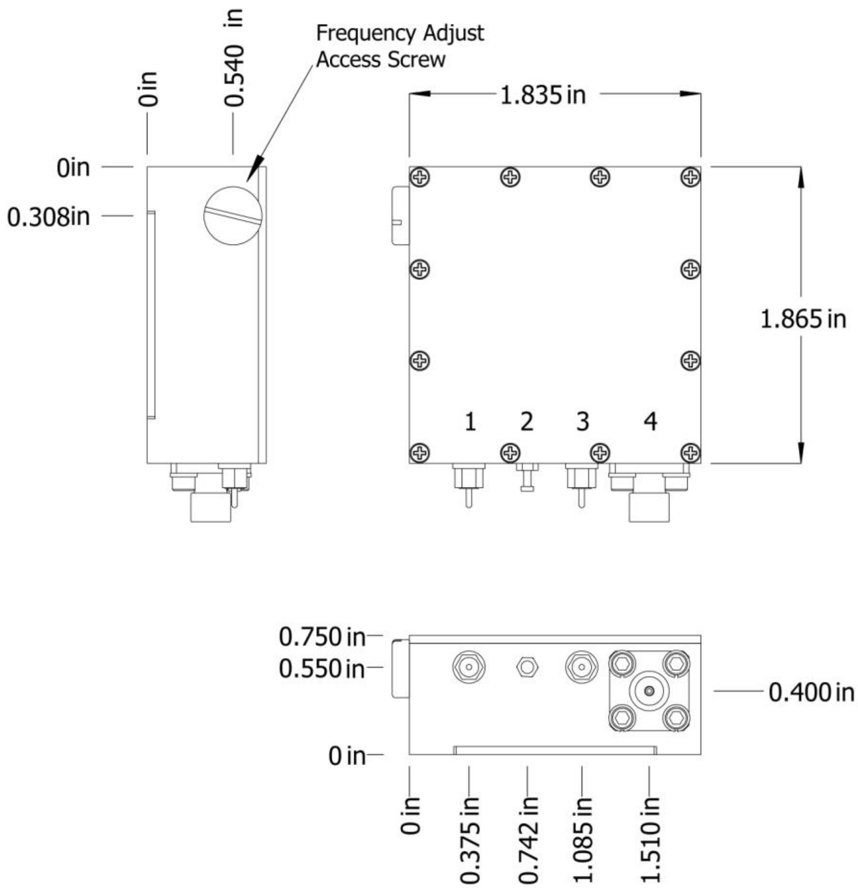
- Pre-Environmental Electrical Tests
- High Storage Temperature
- High Operating Temperature
- Low Storage Temperature
- Low Operating Temperature
- Shock
- Vibration
- Humidity
- Post-Environmental Electrical Tests

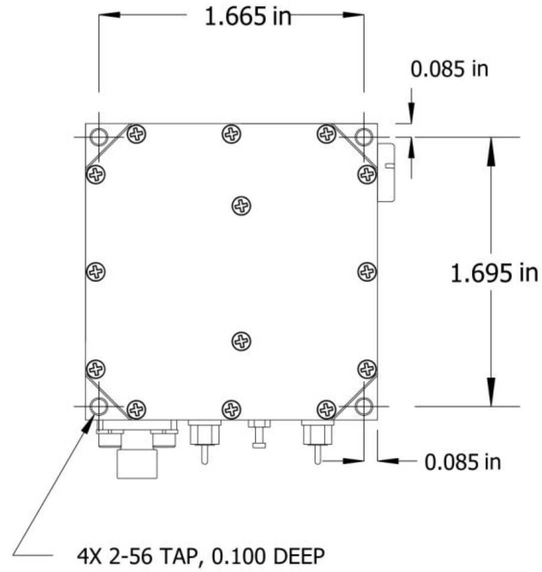
Wenzel Associates, Inc.
Austin, Texas

Title: **80 MHz ULN II Crystal Oscillator**

P/N:	Rev:	Date:	Drawn:	Ref:
501-23707	A	05-02-13		19435a

Tolerances: (except as noted) Dimensions are in inches	0.XX Dec:	0.XXX Dec:	FSCM:	
	±0.030”	±0.010”	62821	Page 1 of 2





CONN	Function
1	Electrical Tuning
2	Case Ground
3	Supply Voltage
4	RF Output

Wenzel Associates, Inc. Austin, Texas				
Title: **80 MHz ULN II Crystal Oscillator**				
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