



**TYPICAL CHARACTERISTICS
ON
TCDRO-16G-CD-1**

PMI Model: TCDRO-16G-CD-1 IS A TEMPERATURE COMPENSATED DIELECTRIC RESONATOR OSCILLATOR WITH A CENTER FREQUENCY OF 12.0 GHz. THIS MODEL PROVIDES A MINIMUM OUTPUT POWER OF 18 dBm WITH ALL SPURS HELD TO A -85 dBc. THE MECHANICAL TUNNING FREQUENCY IS ± 10 MHz AND THE UNIT HAS A PHASE NOISE OF -95 dBc/Hz. THE UNIT REQUIRES +15 vdc AND 200 mA AND MEASURES 1.80" x 1.00" x 0.50".



July 27, 2018

DESIGNED BY: PMI ENGINEERING

TESTED AND REPORTED BY: E. KRETZ



**TYPICAL CHARACTERISTICS
ON
TCDRO-16G-CD-1**

TABLE OF CONTENTS

1.	Product Feature: -----	3
2.	Test Data Summary: -----	4
3.	Carrier Signal: -----	5
4.	Spurious: -----	5
5.	Harmonics: -----	6
6.	Phase Noise:-----	6



TYPICAL CHARACTERISTICS ON TCDRO-16G-CD-1

OUTLINE DRAWING

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	04/10/18	
	A2	ECN # 24-0011	01/18/2024	

DESCRIPTION

PMI MODEL: TCDRO-16G-CD-1 IS A TEMPERATURE COMPENSATED DIELECTRIC RESONATOR OSCILLATOR WITH A CENTER FREQUENCY OF 16.0 GHz. THIS MODEL PROVIDES A MINIMUM OUTPUT POWER OF +18 dBm WITH ALL SPURS HELD TO -85 dBc AND HARMONICS HELD TO -25 dBc, THE MECHANICAL TUNING FREQUENCY IS ±10 MHz AND THE UNIT HAS A PHASE NOISE OF -95 dBc/Hz. THE UNIT REQUIRES +15 VDC AND 200 mA AND MEASURES 1.80" x 1.00" x 0.50".

MECHANICAL OUTLINE

SPECIFICATIONS

- FREQUENCY RANGE: 16.0 GHz
- TUNING RANGE: ±10 MHz MINIMUM
- OUTPUT POWER: 18 dBm MINIMUM
- OUTPUT POWER VARIATION OVER TEMPERATURE RANGE: ±1.0 dB MAXIMUM
- FREQUENCY ACCURACY: 0.1% MAXIMUM
- FREQUENCY PUSHING: 15 kHz/V MAXIMUM
- FREQUENCY PULLING (1.5:1 VSWR): 0.5 MHz PK-PK MAXIMUM
- FREQUENCY DRIFT TEMPERATURE COEFFICIENT: 0.8 ppm/°C
- HARMONICS: -25 dBc MAXIMUM
- SPURIOUS: -85 dBc MINIMUM
- PHASE NOISE: 10 kHz OFFSET = -80 dBc/Hz
100 kHz OFFSET = -95 dBc/Hz
- INPUT POWER: +15 ± 0.5 VDC @ 200 mA MAXIMUM
- CONNECTORS: SMA FEMALE
- WEIGHT: 3 oz MAXIMUM
- SIZE: 1.80" x 1.00" x 0.50"
- FINISH: NICKEL PLATED

ENVIRONMENTAL RATINGS

- TEMPERATURE: -50 °C TO +85 °C (OPERATING)
-55 °C TO +125 °C (STORAGE)
- HUMIDITY: MIL-STD-202, METHOD 103B COND. B
- SHOCK: MIL-STD-202, METHOD 213B COND. B
- VIBRATION: MIL-STD-202, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PLANAR MONOLITHICS INDUSTRIES, INC.
7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: (301)-662-5019, FAX: (301)-662-1731
WEB: www.pmi-rf.com, EMAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED

APPROVALS		DATE		TITLE	
DESIGN	M. Berry		04/10/18	PRODUCT FEATURE TCDRO-16G-CD-1	
CHECKED		REV.		16 GHz Output Temperature Compensated Dielectric Resonator Oscillator	
ISSUED		REV.		REV. FROM NO.	27034780
		REV.		DWG NO.	A2
		SCALE:	N:S		SHEET 1 OF 1

ALL DIMENSIONS ARE IN INCHES (mm)
TOLERANCES:
XXXX .05/0.09
XXXX .05/0.10
XXXX .05/0.10

PMI CONFIDENTIAL AND PROPRIETARY



**TYPICAL CHARACTERISTICS
ON
TCDRO-16G-CD-1**

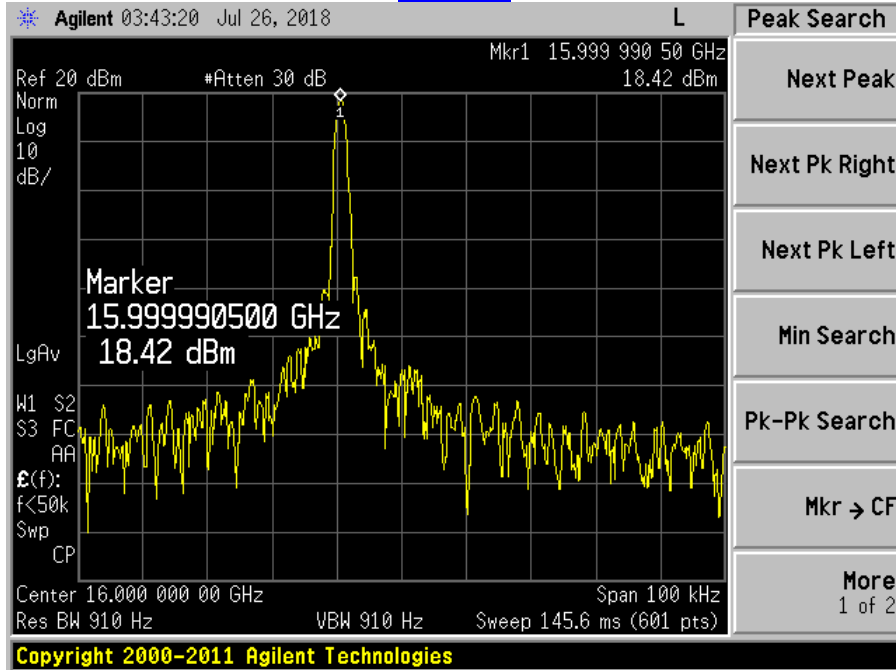
TEST DATA SUMMARY

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Center Frequency:	16 GHz	15.999990 GHz See Plot	
2	Mechanical Tuning Frequency:	±10 MHz	>±10 MHz	
3	Output Power:	18 dBm Min.	+18.42 dBm See Plot	
4	Spurious:	-85 dBc Min.	-91 dBc	
5	Harmonics:	-25 dBc Min.	-36 dBc See Plot	
6	*Phase Noise:	10 kHz Offset = -90 dBc/Hz 100 kHz Offset = -95 dBc/Hz	10 kHz Offset = -95 dBc/Hz 100 kHz Offset = -111 dBc/Hz	
7	Frequency Drift Temperature Coefficient :	0.8 ppm/°C	0.1 ppm/°C	
9	DC Supply:	+15±0.5 VDC @ 200 mA Max	100 mA @ +15 VDC	

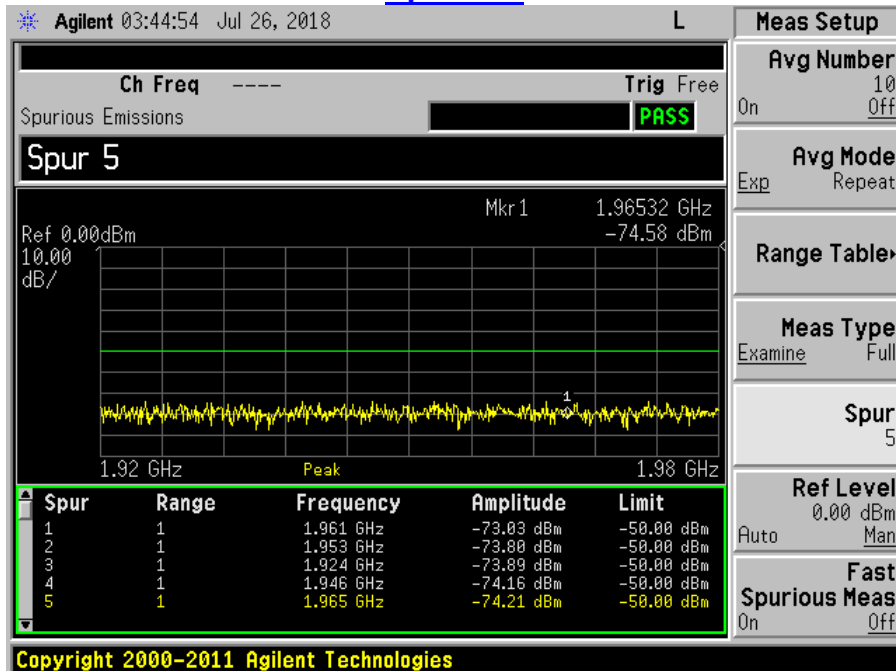


TYPICAL CHARACTERISTICS ON TCDRO-16G-CD-1

Carrier



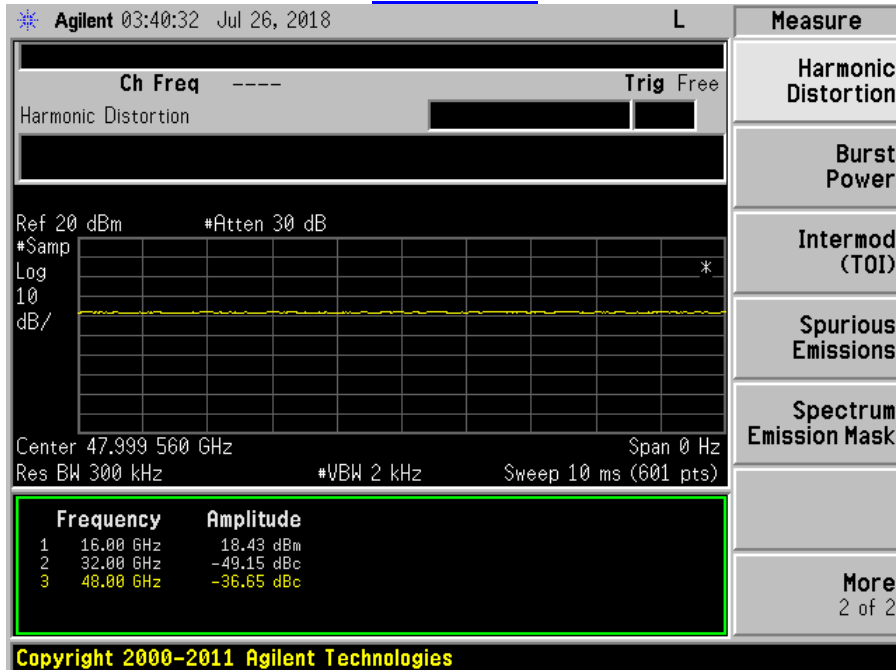
Spurious





TYPICAL CHARACTERISTICS ON TCDRO-16G-CD-1

Harmonics



Phase Noise

