

**** Frequency Lock Test from 4000 MHz to 16000 MHz in 10 MHz Steps ****

Serial Number: 1604
Model Number: MLSP-4016BD
Time: 3:14:59 PM
Date: 1/26/2017
Minimum Frequency: 4000 MHz
Maximum Frequency: 16000 MHz
Temperature: +34.0C Deg. C
NOVO State: UnLocked
Power Supply Spec: +5.0 VDC +/- 0.25 V @ < 350 mA
Power Supply Spec: +15.0 VDC +/- 0.50 V @ < 1500 mA
Accuracy Tested to: +/-0.002 MHz

Begin Frequency Lock Test from 4000 MHz to 16000 MHz in 10 MHz Steps

Total Frequency Errors: 0

Finish Time: 3:16:01 PM

Begin Random Frequency Lock Test from 4000 MHz to 16000 MHz (1000 Frequencies)

Total Random Frequency Errors: 0

Finish Time: 3:16:53 PM

Internal Power Supply Voltage Readings:

+2.5V = +2.5V Pass
+3.3V = +3.3V Pass
+5.0V = +5.0V Pass
-5.0V = -4.8V Pass
+6.75V = +6.7V Pass
+12.0V = +12.1V Pass
+13.5V = +13.6V Pass
100 MHz PLL V = +4.3V Pass
YIG PLL V = +6.3V Pass

External Power Supply Voltage and Current Readings:

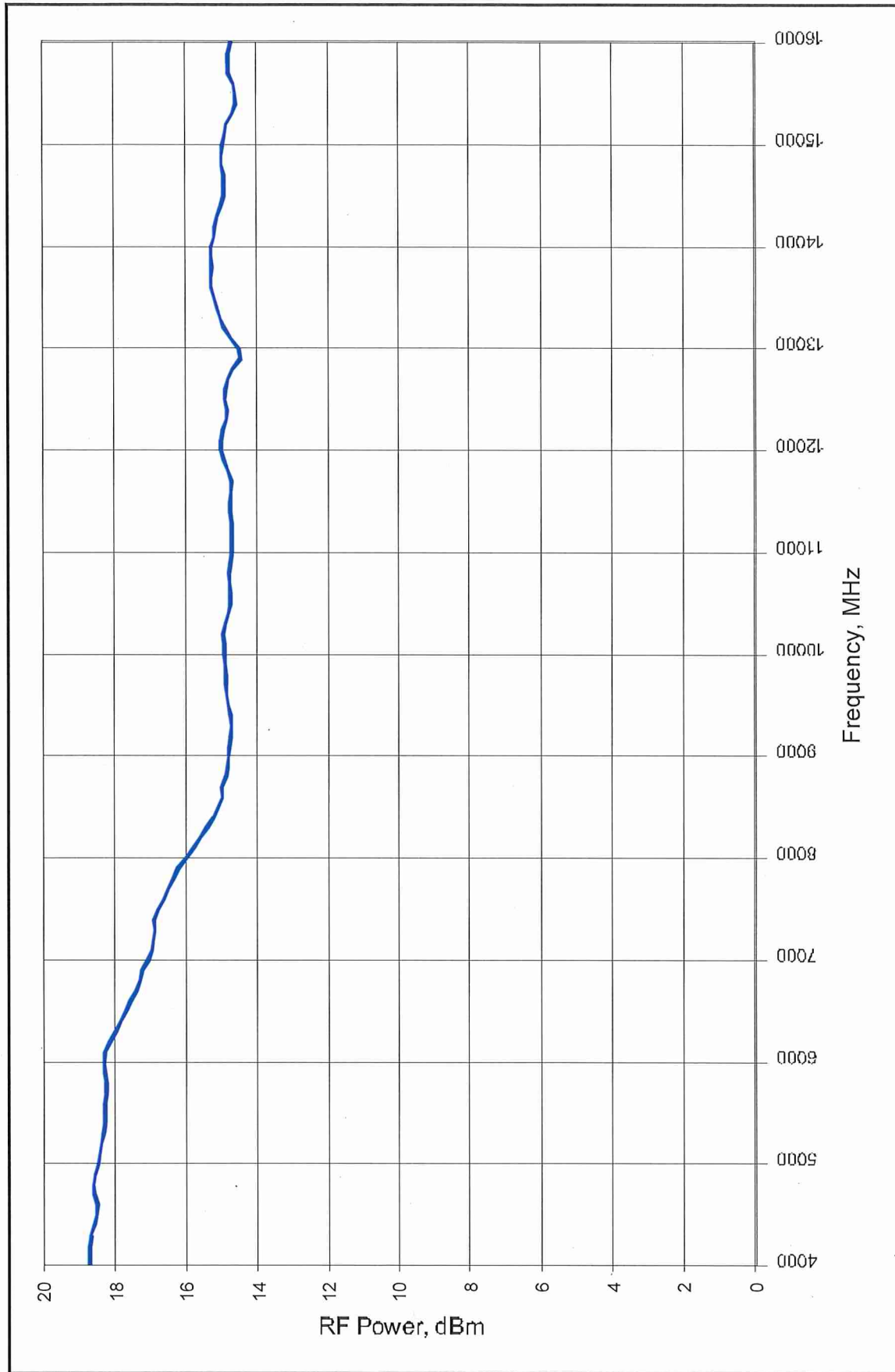
+5.0 VDC Voltage = 4.996V Pass
+5.0 VDC Current = 308mA Pass
+15.0 VDC Voltage = 15.005V Pass
+15.0 VDC Current = 1345mA Pass

Finish Time: 3:16:55 PM

Total Errors: 0

Pass

Maximum RF Output Power vs. Frequency



Max Leveled Pwr: N/A dBm Min Leveled Pwr: N/A dBm Leveled Pwr Set: Max dBm Level Flatness Spec: +/-2.5 dB

Print

**** Harmonic Test from 4000.000000 MHz to 16000.000000 MHz in 100 MHz Steps ****

Model Number: MLSP-4016BD

Serial Number: 1604

Time: 1:09:28 PM

Date: 1/26/2017

Minimum Frequency: 4000.000000 MHz

Maximum Frequency: 16000.000000 MHz

Current Unit Temperature: +31.8C Deg. C

Harmonic Spec Level (In Band): -12.0 dBc

Frequency	Level	Harm #	Status
4000 MHz	-13 dBc	2	PASS
4100 MHz	-13 dBc	2	PASS
4200 MHz	-12 dBc	2	PASS
4300 MHz	-14 dBc	2	PASS
4400 MHz	-14 dBc	2	PASS
4500 MHz	-15 dBc	2	PASS
4600 MHz	-15 dBc	2	PASS
4700 MHz	-14 dBc	2	PASS
4800 MHz	-15 dBc	2	PASS
4900 MHz	-16 dBc	2	PASS
5000 MHz	-17 dBc	2	PASS
5100 MHz	-17 dBc	2	PASS
5200 MHz	-17 dBc	2	PASS
5300 MHz	-18 dBc	2	PASS
5400 MHz	-18 dBc	2	PASS
5500 MHz	-17 dBc	2	PASS
5600 MHz	-16 dBc	2	PASS
5700 MHz	-17 dBc	2	PASS
5800 MHz	-16 dBc	2	PASS
5900 MHz	-15 dBc	2	PASS
6000 MHz	-15 dBc	2	PASS
6100 MHz	-15 dBc	2	PASS
6200 MHz	-16 dBc	2	PASS
6300 MHz	-17 dBc	2	PASS
6400 MHz	-18 dBc	2	PASS
6500 MHz	-19 dBc	2	PASS
6600 MHz	-19 dBc	2	PASS
6700 MHz	-20 dBc	2	PASS
6800 MHz	-18 dBc	2	PASS
6900 MHz	-17 dBc	2	PASS
7000 MHz	-17 dBc	2	PASS
7100 MHz	-16 dBc	2	PASS
7200 MHz	-16 dBc	2	PASS
7300 MHz	-15 dBc	2	PASS
7400 MHz	-13 dBc	2	PASS
7500 MHz	-14 dBc	2	PASS
7600 MHz	-15 dBc	2	PASS
7700 MHz	-15 dBc	2	PASS
7800 MHz	-15 dBc	2	PASS
7900 MHz	-16 dBc	2	PASS
8000 MHz	-16 dBc	2	PASS
8100 MHz	-17 dBc	2	PASS
8200 MHz	-18 dBc	2	PASS
8300 MHz	-19 dBc	2	PASS
8400 MHz	-20 dBc	2	PASS
8500 MHz	-19 dBc	2	PASS
8600 MHz	-19 dBc	2	PASS
8700 MHz	-18 dBc	2	PASS
8800 MHz	-19 dBc	2	PASS
8900 MHz	-19 dBc	2	PASS
9000 MHz	-20 dBc	2	PASS
9100 MHz	-21 dBc	2	PASS
9200 MHz	-21 dBc	2	PASS
9300 MHz	-23 dBc	2	PASS
9400 MHz	-24 dBc	2	PASS
9500 MHz	-25 dBc	2	PASS
9600 MHz	-27 dBc	2	PASS
9700 MHz	-27 dBc	2	PASS
9800 MHz	-27 dBc	2	PASS
9900 MHz	-29 dBc	2	PASS
10000 MHz	-30 dBc	2	PASS
10100 MHz	-30 dBc	2	PASS
10200 MHz	-30 dBc	2	PASS
10300 MHz	-28 dBc	2	PASS
10400 MHz	-28 dBc	2	PASS
10500 MHz	-27 dBc	2	PASS
10600 MHz	-26 dBc	2	PASS
10700 MHz	-26 dBc	2	PASS
10800 MHz	-25 dBc	2	PASS
10900 MHz	-26 dBc	2	PASS
11000 MHz	-27 dBc	2	PASS
11100 MHz	-27 dBc	2	PASS
11200 MHz	-27 dBc	2	PASS

11300	MHz	-26	dBc	2	PASS
11400	MHz	-26	dBc	2	PASS
11500	MHz	-25	dBc	2	PASS
11600	MHz	-24	dBc	2	PASS
11700	MHz	-23	dBc	2	PASS
11800	MHz	-21	dBc	2	PASS
11900	MHz	-20	dBc	2	PASS
12000	MHz	-20	dBc	2	PASS
12100	MHz	-21	dBc	2	PASS
12200	MHz	-24	dBc	2	PASS
12300	MHz	-27	dBc	2	PASS
12400	MHz	-31	dBc	2	PASS
12500	MHz	-33	dBc	2	PASS
12600	MHz	-35	dBc	2	PASS
12700	MHz	-39	dBc	2	PASS
12800	MHz	-44	dBc	2	PASS
12900	MHz	-42	dBc	2	PASS
13000	MHz	-47	dBc	2	PASS
13100	MHz	-47	dBc	2	PASS
13200	MHz	-45	dBc	2	PASS
13300	MHz	-41	dBc	2	PASS
13400	MHz	-39	dBc	2	PASS

Number of Failures: 0

Finish Time: 1:19:37 PM

Harmonic Readings complete

Pass

***** Random Spur Test from 4000 MHz to 16000 MHz *****

Serial Number: 1604
Model Number: MLSP-4016BD
Time: 1:33:15 PM
Date: 1/26/2017
Minimum Frequency: 4000 MHz
Maximum Frequency: 16000 MHz
Analyzer Frequency Span Tested: 2 kHz to 2000 MHz - or Max span = 1.9 * CF if <=1000 MHz
Spur Level Spec <=: -60.0 dBc
Number of Frequencies Tested: 25
Temperature: +30.8C Deg. C
NOVO State: UnLocked

Random Frequency	Status
Frequency Tested = 10593.218 MHz	Pass
Frequency Tested = 12293.625 MHz	Pass
Frequency Tested = 8667.441 MHz	Pass
Frequency Tested = 12990.635 MHz	Pass
Frequency Tested = 6592.891 MHz	Pass
Frequency Tested = 14690.838 MHz	Pass
Frequency Tested = 12971.022 MHz	Pass
Frequency Tested = 12683.727 MHz	Pass
Frequency Tested = 12973.175 MHz	Pass
Frequency Tested = 7969.051 MHz	Pass
Frequency Tested = 14347.463 MHz	Pass
Frequency Tested = 6266.860 MHz	Pass
Frequency Tested = 13131.245 MHz	Pass
Frequency Tested = 7364.824 MHz	Pass
Frequency Tested = 5340.089 MHz	Pass
Frequency Tested = 9154.768 MHz	Pass
Frequency Tested = 11952.580 MHz	Pass
Frequency Tested = 5049.929 MHz	Pass
Frequency Tested = 14310.639 MHz	Pass
Frequency Tested = 8836.278 MHz	Pass
Frequency Tested = 13633.940 MHz	Pass
Frequency Tested = 4473.262 MHz	Pass
Frequency Tested = 9639.838 MHz	Pass
Frequency Tested = 4059.760 MHz	Pass
Frequency Tested = 4861.167 MHz	Pass

Total Spur Errors: 0

Finish Time: 2:05:30 PM
Test Completed
Pass

***** Switching Speed Test from 4000.0 to 16000.0 MHz in 100 1000 MHz & Full Band Steps *****

Model Number: MLSP-4016BD
 Serial Number: 1604
 Time: 12:59:06 PM
 Date: 1/26/2017
 Minimum Frequency: 4000.000 MHz
 Maximum Frequency: 16000.000 MHz
 Current Unit Temperature: +30.9C Deg. C
 Switching Speed Spec:
 For a 100 MHz Step: 1.0 mS (Frequencies <500 MHz = 2.0 mS)
 For a 1000 MHz Step: 3.0 mS
 For a Full Band Step: 6.0 mS
 For 25 Random Jumps - Max Time Range: 1.0 to 6.0 mS

Frequency Step	Meas. Speed	Status
100 MHz Step Up =	0.8 mS	Pass
100 MHz Step Down =	0.7 mS	Pass
1000 MHz Step Up =	2.1 mS	Pass
1000 MHz Step Down =	2.0 mS	Pass
Full band Step Up =	4.7 mS	Pass
Full band Step Down =	4.2 mS	Pass

Frequency Step (MHz)	Step Size (MHz)	Meas. Speed	Status
Random Jump From 4000.0 To 15271.0	11271.0	4.5 mS	Pass
Random Jump From 15271.0 To 9035.0	-6236.0	3.5 mS	Pass
Random Jump From 9035.0 To 7088.0	-1947.0	2.4 mS	Pass
Random Jump From 7088.0 To 7964.0	876.0	2.1 mS	Pass
Random Jump From 7964.0 To 15821.0	7857.0	4.0 mS	Pass
Random Jump From 15821.0 To 9401.0	-6420.0	3.3 mS	Pass
Random Jump From 9401.0 To 7962.0	-1439.0	2.2 mS	Pass
Random Jump From 7962.0 To 6674.0	-1288.0	2.1 mS	Pass
Random Jump From 6674.0 To 4314.0	-2360.0	2.5 mS	Pass
Random Jump From 4314.0 To 11662.0	7348.0	3.7 mS	Pass
Random Jump From 11662.0 To 7574.0	-4088.0	3.0 mS	Pass
Random Jump From 7574.0 To 8994.0	1420.0	2.4 mS	Pass
Random Jump From 8994.0 To 11408.0	2414.0	2.8 mS	Pass
Random Jump From 11408.0 To 12242.0	834.0	2.2 mS	Pass
Random Jump From 12242.0 To 13738.0	1496.0	2.5 mS	Pass
Random Jump From 13738.0 To 13214.0	-524.0	1.7 mS	Pass
Random Jump From 13214.0 To 4945.0	-8269.0	3.6 mS	Pass
Random Jump From 4945.0 To 7103.0	2158.0	2.6 mS	Pass
Random Jump From 7103.0 To 6071.0	-1032.0	2.0 mS	Pass
Random Jump From 6071.0 To 5575.0	-496.0	1.5 mS	Pass
Random Jump From 5575.0 To 13544.0	7969.0	3.9 mS	Pass
Random Jump From 13544.0 To 11721.0	-1823.0	2.5 mS	Pass
Random Jump From 11721.0 To 4586.0	-7135.0	3.5 mS	Pass
Random Jump From 4586.0 To 10269.0	5683.0	3.4 mS	Pass
Random Jump From 10269.0 To 4649.0	-5620.0	3.3 mS	Pass

Number of Failures: 0

Finish Time: 1:09:08 PM

Switching Speed Readings complete

Pass

***** Phase Noise Test from 4000 MHz to 16000 MHz in 1200 MHz Steps *****

Model Number: MLSP-4016BD
Serial Number: 1604
Time: 12:46:46 PM
Date: 1/26/2017
Minimum Frequency: 4000 MHz
Maximum Frequency: 16000 MHz
Number of Frequencies Tested: 11
Current Loop Gain (LG) Setting: 020
Current Unit Temperature: +33.2C Deg. C

Phase Noise Spec @ Offset:

@ 100 Hz = -71.0 dBc/Hz
@ 1.0 kHz = -90.0 dBc/Hz
@ 10.0 kHz = -88.0 dBc/Hz
@ 100 kHz = -115.0 dBc/Hz
@ 1.0 MHz = -138.0 dBc/Hz
@ 10.0 MHz = -150 dBc/Hz

Measured:

Frequency	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz	10 MHz	Status	RF Power
4000.001	-90.0	-104.3	-105.9	-115.3	-141.9	-159.7	Pass	11.67 dBm
5200.002	-91.0	-102.3	-103.5	-116.3	-143.3	-162.9	Pass	11.82 dBm
6400.002	-86.6	-100.5	-101.4	-116.8	-143.8	-163.6	Pass	11.52 dBm
7600.003	-85.5	-99.3	-100.2	-117.4	-143.9	-164.6	Pass	10.61 dBm
8800.003	-81.7	-97.1	-97.6	-116.1	-141.5	-162.3	Pass	8.19 dBm
10000.004	-83.5	-96.3	-96.4	-116.5	-141.9	-162.6	Pass	7.31 dBm
11200.004	-82.1	-95.4	-96.4	-117.6	-142.4	-161.8	Pass	6.64 dBm
12400.005	-82.5	-95.2	-94.9	-117.7	-142.9	-161.9	Pass	6.61 dBm
13600.005	-79.5	-93.9	-92.6	-117.5	-142.5	-160.9	Pass	6.93 dBm
14800.006	-78.5	-93.3	-92.3	-118.2	-142.3	-161.8	Pass	6.62 dBm
16000.006	-80.2	-92.7	-89.1	-116.3	-141.0	-159.8	Pass	6.14 dBm

Number of Failures: 0

Finish Time: 12:51:19 PM

Phase Noise Readings Complete

Pass