***** MLMS Main Test Menu Final Test Data Summary *****

Serial Number: 0004
Model Number: MLMS-2080B
Time: 9:28:56 AM
Date: 9/12/2016
Minimum Frequency: 2000.000 MHz
Maximum Frequency: 8000.000 MHz
Frequency Step Size: 0.001 MHz
External 100 MHz PLL Reference Frequency: 10.0 MHz
Maximum RF Level (Min.): 13.0 dBm
Maximum RF Level (Max.): 20.0 dBm
Minimum Operating Temperature: 0 Degrees C.
Maximum Operating Temperature: 60 Degrees C.
MLMS Firmware Version: 2.0 Sep 2 2016
MLWI Sales Order #: 21*004D
MLWI Outline Drawing #: 211-001 A

Final Test Data Check Point Status:

Config data file backup =	Pass
Coarse Cal file =	Pass
Fine Cal file =	Pass
Frequency Lock test file =	Pass
RF Max Power test file =	Pass
Harmonics test file =	Pass
Random Spur test file =	Pass
Switching Speed test file =	Pass
Phase Noise test file =	Pass
NOVO Locked =	Pass
Unit Health =	Pass
Xtal SN Exists =	Pass
Last Self Test =	Pass
Full Cal Status =	Pass
Coarse Cal =	Pass
Fine Cal =	Pass
PLL Locked Status =	Pass
MLWI Job # =	Pass
MLWI Drawing # =	Pass
Current Self Test Run =	Pass

Pass - Unit is Ready to Ship

Label unit per outline drawing listed above.
Fill out all paperwork and submit to QA for inspection.
Copy all paperwork to include in shipping box.

SHIPPING CHECKLIST:	Check box
1. Labeled unit with SMA connector protectors installed	_____
2. USB cable (1 per unit)	_____
3. MLMS support CD Rom (1 per lot)	_____
4. J1 mating connector (1 per unit)	_____
5. J1 connector pins (9 per unit)	_____
6. MLMS quick start guide (1 per lot)	_____
7. Copy of completed C of C	_____
8. Copy of test data packet (1 per unit)	_____
9. Copy of outline drawing (1 per unit)	_____
10. Copy of completed Packing list (1 per unit)	_____

Notes:
Place labeled unit into anti-static pouch.
Place CD and USB cables in a separate
large anti-static pouch.
Staple bags with J1 mating items to paperwork.
Box and ship product.

Initials: _____ Date: _____

***** Frequency Lock Test from 2000.000 MHz to 8000.000 MHz in 10 MHz Steps *****

Serial Number: 0004
Model Number: MLMS-2080B
Time: 4:03:55 PM
Date: 9/9/2016
Minimum Frequency: 2000.000 MHz
Maximum Frequency: 8000.000 MHz
Temperature: +37.3C Deg. C
NOVO State: UnLocked
Power Supply Spec: +5.0 VDC +/- 0.25 V @ < 450 mA
Power Supply Spec: +15.0 VDC +/- 0.50 V @ < 450 mA
Accuracy Tested to: +/-0.002 MHz

Begin Frequency Lock Test from 2000.000 MHz to 8000.000 MHz in 10 MHz Steps

Total Frequency Errors: 0

Finish Time: 4:04:23 PM

Begin Random Frequency Lock Test from 2000.000 MHz to 8000.000 MHz (10000 Frequencies)

Total Ramdom Frequency Errors: 0

Finish Time: 4:12:47 PM

Internal Power Supply Voltage Readings:
+2.5V = +2.5V Pass
+3.3V = +3.2V Pass
+5.0V = +5.1V Pass
-5.0V = -5.0V Pass
+6.75V = +6.7V Pass
+13.5V = +13.5V Pass
100 MHz PLL V = +1.8V Pass
YIG PLL V = +6.8V Pass

External Power Supply Voltage and Current Readings:
+5.0 VDC Voltage = 5.001V Pass
+5.0 VDC Current = 435mA Pass
+15.0 VDC Voltage = 14.996V Pass
+15.0 VDC Current = 406mA Pass

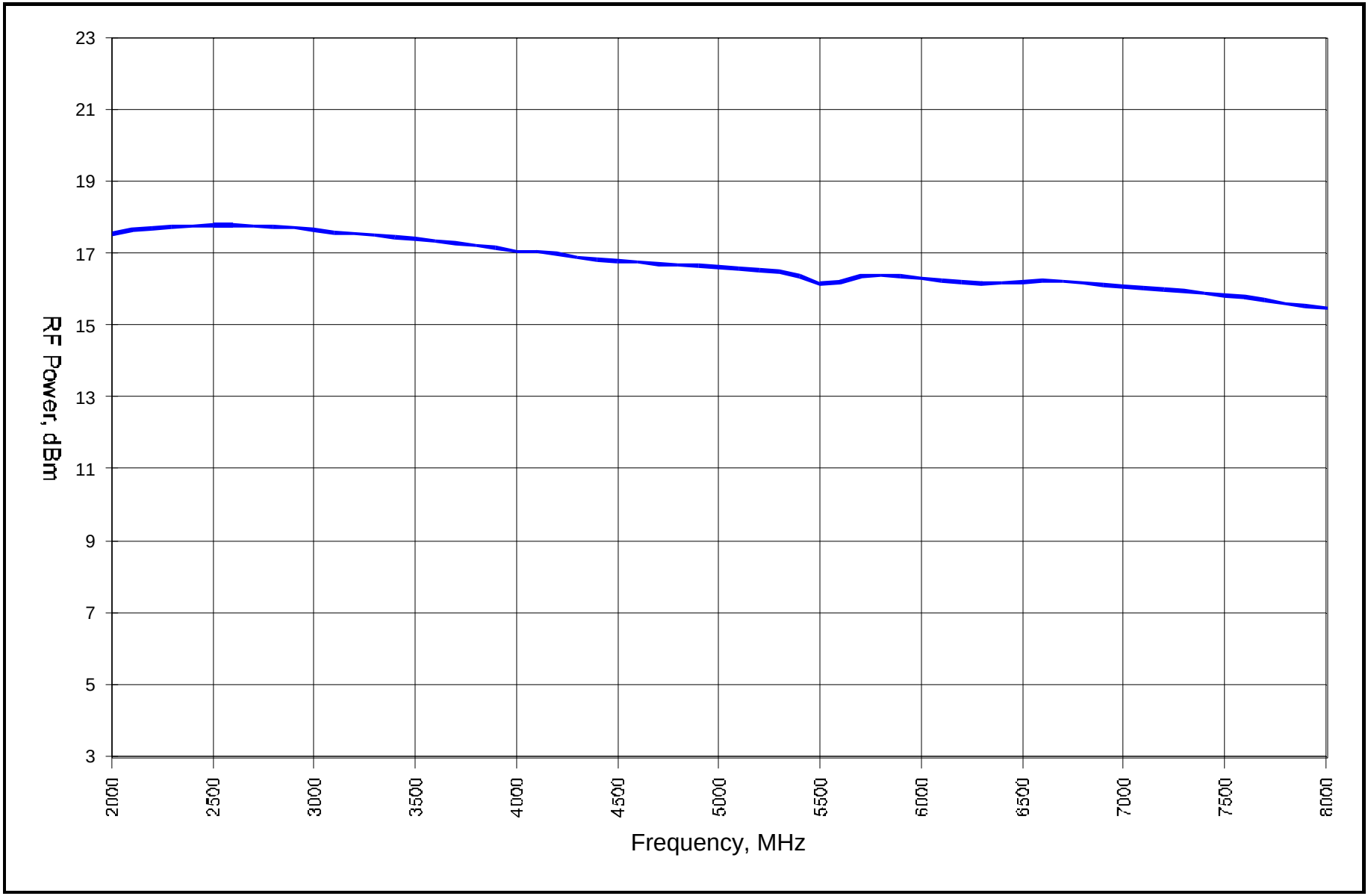
Finish Time: 4:12:49 PM

Total Errors: 0

Pass

Model #: MLMS-2080B	Serial #: 0004	Min Power: 13 dBm	Max Power: 20 dBm	Temp. : +35.7C Deg.	Date: 09-09-2016	Time: 16:13:58	**Status = Pass**

Maximum RF Output Power vs. Frequency



Print

Max Leveled Pwr: No dBm	Min Leveled Pwr: N/A dBm	Leveled Pwr Set: Max dBm	Level Flatness Spec: +/-2.0 dB

***** Harmonic Test from 2000.000000 MHz to 8000.000000 MHz in 100 MHz Steps *****

Model Number: MLMS-2080B
Serial Number: 0004
Time: 8:22:14 AM
Date: 8/30/2016
Minimum Frequency: 2000.000000 MHz
Maximum Frequency: 8000.000000 MHz
Current Unit Temperature: +31.1C Deg. C
Harmonic Spec Level (In Band): -12.0 dBc

Frequency	Level	Harm #	Status
2000 MHz	-16 dBc	3	PASS
2100 MHz	-15 dBc	3	PASS
2200 MHz	-15 dBc	3	PASS
2300 MHz	-15 dBc	3	PASS
2400 MHz	-16 dBc	3	PASS
2500 MHz	-15 dBc	3	PASS
2600 MHz	-16 dBc	3	PASS
2700 MHz	-15 dBc	3	PASS
2800 MHz	-16 dBc	3	PASS
2900 MHz	-16 dBc	3	PASS
3000 MHz	-16 dBc	3	PASS
3100 MHz	-16 dBc	3	PASS
3200 MHz	-16 dBc	3	PASS
3300 MHz	-17 dBc	3	PASS
3400 MHz	-18 dBc	2	PASS
3500 MHz	-17 dBc	2	PASS
3600 MHz	-18 dBc	3	PASS
3700 MHz	-18 dBc	3	PASS
3800 MHz	-18 dBc	3	PASS
3900 MHz	-18 dBc	3	PASS
4000 MHz	-18 dBc	3	PASS
4100 MHz	-19 dBc	3	PASS
4200 MHz	-19 dBc	3	PASS
4300 MHz	-21 dBc	3	PASS
4400 MHz	-21 dBc	3	PASS
4500 MHz	-21 dBc	3	PASS
4600 MHz	-22 dBc	3	PASS
4700 MHz	-23 dBc	3	PASS
4800 MHz	-23 dBc	3	PASS
4900 MHz	-24 dBc	3	PASS
5000 MHz	-25 dBc	3	PASS
5100 MHz	-24 dBc	3	PASS
5200 MHz	-24 dBc	3	PASS
5300 MHz	-25 dBc	3	PASS
5400 MHz	-24 dBc	3	PASS
5500 MHz	-23 dBc	3	PASS
5600 MHz	-23 dBc	3	PASS
5700 MHz	-24 dBc	3	PASS
5800 MHz	-24 dBc	3	PASS
5900 MHz	-25 dBc	3	PASS
6000 MHz	-25 dBc	3	PASS
6100 MHz	-25 dBc	3	PASS
6200 MHz	-25 dBc	2	PASS
6300 MHz	-25 dBc	2	PASS
6400 MHz	-26 dBc	3	PASS
6500 MHz	-26 dBc	3	PASS
6600 MHz	-26 dBc	3	PASS
6700 MHz	-26 dBc	3	PASS
6800 MHz	-25 dBc	3	PASS
6900 MHz	-25 dBc	3	PASS
7000 MHz	-25 dBc	3	PASS
7100 MHz	-25 dBc	3	PASS
7200 MHz	-26 dBc	3	PASS
7300 MHz	-25 dBc	3	PASS
7400 MHz	-25 dBc	3	PASS
7500 MHz	-25 dBc	3	PASS
7600 MHz	-25 dBc	3	PASS
7700 MHz	-24 dBc	3	PASS
7800 MHz	-24 dBc	3	PASS
7900 MHz	-25 dBc	3	PASS
8000 MHz	-25 dBc	3	PASS

Number of Failures: 0

Finish Time: 8:31:12 AM

Harmonic Readings complete

Pass

***** Random Spur Test from 2000.000 MHz to 8000.000 MHz *****

Serial Number: 0004
Model Number: MLMS-2080B
Time: 8:38:46 AM
Date: 8/30/2016
Minimum Frequency: 2000.000 MHz
Maximum Frequency: 8000.000 MHz
Analyzer Frequency Span Tested: 2 kHz to 2000 MHz
Spur Level Spec <=: -60.0 dBc
Number of Frequencies Tested: 25
Temperature: +36.7C Deg. C
NOVO State: UnLocked

Random Frequency	Status
Frequency Tested = 5565.635 MHz	Pass
Frequency Tested = 7032.345 MHz	Pass
Frequency Tested = 5294.097 MHz	Pass
Frequency Tested = 4147.614 MHz	Pass
Frequency Tested = 7024.469 MHz	Pass
Frequency Tested = 2159.361 MHz	Pass
Frequency Tested = 7191.690 MHz	Pass
Frequency Tested = 5054.138 MHz	Pass
Frequency Tested = 5651.128 MHz	Pass
Frequency Tested = 3325.035 MHz	Pass
Frequency Tested = 5743.687 MHz	Pass
Frequency Tested = 6746.248 MHz	Pass
Frequency Tested = 4591.522 MHz	Pass
Frequency Tested = 7689.476 MHz	Pass
Frequency Tested = 5437.651 MHz	Pass
Frequency Tested = 2448.643 MHz	Pass
Frequency Tested = 2608.292 MHz	Pass
Frequency Tested = 6170.879 MHz	Pass
Frequency Tested = 7502.150 MHz	Pass
Frequency Tested = 2774.145 MHz	Pass
Frequency Tested = 6654.930 MHz	Pass
Frequency Tested = 5990.023 MHz	Pass
Frequency Tested = 3592.044 MHz	Pass
Frequency Tested = 3425.012 MHz	Pass
Frequency Tested = 4343.658 MHz	Pass

Total Spur Errors: 0

Finish Time: 9:11:01 AM
Test Completed
Pass

***** Switching Speed Test from 2000.0 to 8000.0 MHz in 100 1000 MHz & Full Band Steps *****

Model Number: MLMS-2080B
Serial Number: 0004
Time: 11:38:50 AM
Date: 8/30/2016
Minimum Frequency: 2000.000 MHz
Maximum Frequency: 8000.000 MHz
Current Unit Temperature: +37.0C Deg. C
Switching Speed Spec:
For a 100 MHz Step: 1.0 mS
For a 1000 MHz Step: 2.0 mS
For a Full Band Step: 3.0 mS
For 25 Random Jumps - Max Time Range: 1.0 to 3.0 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 =	1.7 mS	Pass
1000 MHz Step Down =	1.7 mS	Pass
Full band Step Up =	2.6 mS	Pass
Full band Step Down =	2.4 mS	Pass

Frequency Step (MHz)	Step Size (MHz)	Meas. Speed	Status
Random Jump From 2000.0 To 7072.0	5072.0	2.6 mS	Pass
Random Jump From 7072.0 To 4417.0	-2655.0	1.9 mS	Pass
Random Jump From 4417.0 To 7844.0	3427.0	2.5 mS	Pass
Random Jump From 7844.0 To 2146.0	-5698.0	2.3 mS	Pass
Random Jump From 2146.0 To 7698.0	5552.0	2.6 mS	Pass
Random Jump From 7698.0 To 5257.0	-2441.0	2.0 mS	Pass
Random Jump From 5257.0 To 5404.0	147.0	0.9 mS	Pass
Random Jump From 5404.0 To 5180.0	-224.0	0.8 mS	Pass
Random Jump From 5180.0 To 4556.0	-624.0	1.6 mS	Pass
Random Jump From 4556.0 To 7105.0	2549.0	2.2 mS	Pass
Random Jump From 7105.0 To 6000.0	-1105.0	1.8 mS	Pass
Random Jump From 6000.0 To 6528.0	528.0	1.3 mS	Pass
Random Jump From 6528.0 To 2659.0	-3869.0	2.1 mS	Pass
Random Jump From 2659.0 To 3861.0	1202.0	1.9 mS	Pass
Random Jump From 3861.0 To 5061.0	1200.0	1.5 mS	Pass
Random Jump From 5061.0 To 2215.0	-2846.0	2.1 mS	Pass
Random Jump From 2215.0 To 3848.0	1633.0	1.8 mS	Pass
Random Jump From 3848.0 To 4332.0	484.0	1.3 mS	Pass
Random Jump From 4332.0 To 6144.0	1812.0	2.1 mS	Pass
Random Jump From 6144.0 To 5838.0	-306.0	1.3 mS	Pass
Random Jump From 5838.0 To 4711.0	-1127.0	1.0 mS	Pass
Random Jump From 4711.0 To 5318.0	607.0	1.5 mS	Pass
Random Jump From 5318.0 To 4859.0	-459.0	1.4 mS	Pass
Random Jump From 4859.0 To 5879.0	1020.0	1.7 mS	Pass
Random Jump From 5879.0 To 2853.0	-3026.0	2.0 mS	Pass

Number of Failures: 0

Finish Time: 11:48:05 AM

Switching Speed Readings complete

Pass

***** Phase Noise Test from 2000.000 MHz to 8000.000 MHz in 600 MHz Steps *****

Model Number: MLMS-2080B
Serial Number: 0004
Time: 9:21:50 AM
Date: 9/12/2016
Minimum Frequency: 2000.000 MHz
Maximum Frequency: 8000.000 MHz
Number of Frequencies Tested: 11
Current Loop Gain (LG) Setting:
Current Unit Temperature: +37.3C Deg. C

Phase Noise Spec @ Offset:
@ 100 Hz = -72.0 dBc/Hz
@ 1.0 kHz = -93.0 dBc/Hz
@ 10.0 kHz = -95.0 dBc/Hz
@ 100 kHz = -117.0 dBc/Hz
@ 1.0 MHz = -142.0 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
2000.001	-85.7	-103.9	-107.6	-117.8	-143.1	-158.9	Pass	12.35 dBm
2600.001	-86.4	-102.2	-105.8	-120.3	-146.1	-160.8	Pass	12.37 dBm
3200.002	-82.9	-100.0	-104.1	-121.8	-147.7	-163.6	Pass	11.48 dBm
3800.002	-80.8	-99.0	-102.8	-122.6	-148.6	-164.9	Pass	11.30 dBm
4400.002	-80.1	-98.0	-101.4	-123.0	-149.4	-165.7	Pass	10.94 dBm
5000.003	-78.8	-96.9	-100.1	-123.2	-149.3	-165.8	Pass	10.98 dBm
5600.003	-79.8	-95.8	-99.3	-123.1	-149.2	-164.7	Pass	10.71 dBm
6200.003	-78.9	-95.3	-98.4	-123.0	-149.1	-163.6	Pass	10.54 dBm
6800.004	-75.4	-94.7	-97.6	-123.0	-148.5	-162.4	Pass	10.12 dBm
7400.004	-74.9	-93.9	-96.5	-122.8	-147.8	-161.3	Pass	10.10 dBm
8000.004	-72.8	-93.5	-95.9	-122.4	-147.2	-158.7	Pass	9.31 dBm

Number of Failures: 0

Finish Time: 9:26:18 AM

Phase Noise Readings Complete

Pass