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

Serial Number: 0006
Model Number: MLMS-0260B
Time: 9:35:57 AM
Date: 10/17/2016
Minimum Frequency: 250.000 MHz
Maximum Frequency: 6000.000 MHz
Frequency Step Size: 0.001 MHz
External 100 MHz PLL Reference Frequency: 10.0 MHz
Maximum RF Level (Min.): 11.0 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 20 2016
MLWI Sales Order #: 21*003D
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 250.000 MHz to 6000.000 MHz in 10 MHz Steps *******

Serial Number: 0006
Model Number: MLMS-0260B
Time: 8:49:38 AM
Date: 10/17/2016
Minimum Frequency: 250.000 MHz
Maximum Frequency: 6000.000 MHz
Temperature: +34.1C Deg. C
NOVO State: UnLocked
Power Supply Spec: +5.0 VDC +/- 0.25 V @ < 550 mA
Power Supply Spec: +15.0 VDC +/- 0.50 V @ < 350 mA
Accuracy Tested to: +/-0.002 MHz

Begin Frequency Lock Test from 250.000 MHz to 6000.000 MHz in 10 MHz Steps

Total Frequency Errors: 0

Finish Time: 8:50:05 AM

Begin Random Frequency Lock Test from 250.000 MHz to 6000.000 MHz (1000 Frequencies)

Total Ramdom Frequency Errors: 0

Finish Time: 8:50:55 AM

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 = +13.4V Pass
100 MHz PLL V = +1.7V Pass
YIG PLL V = +7.3V Pass

External Power Supply Voltage and Current Readings:
+5.0 VDC Voltage = 5.002V Pass
+5.0 VDC Current = 529mA Pass
+15.0 VDC Voltage = 14.997V Pass
+15.0 VDC Current = 298mA Pass

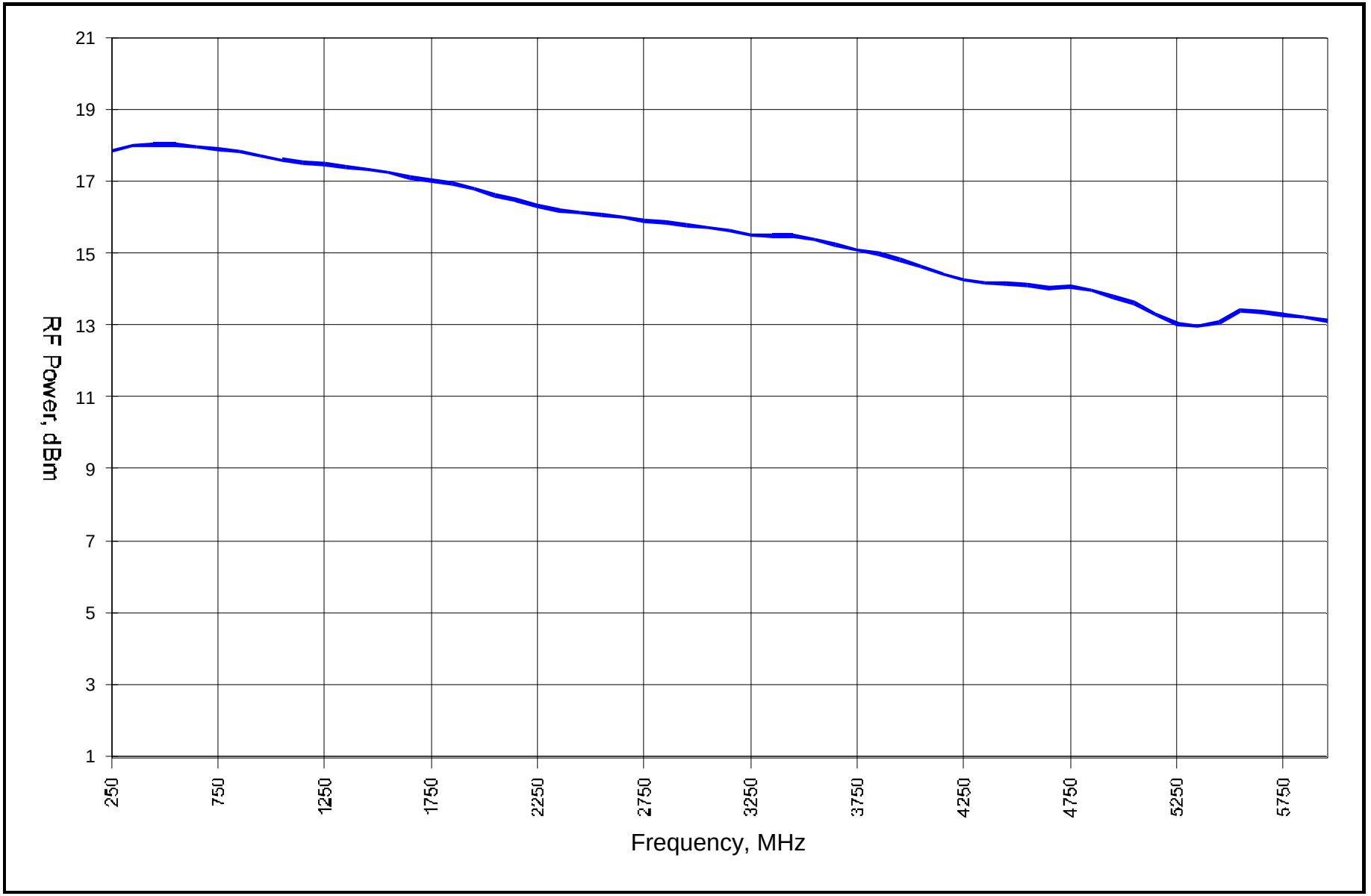
Finish Time: 8:50:57 AM

Total Errors: 0

Pass

Model #: MLMS-0260B	Serial #: 0006	Min Power: 11 dBm	Max Power: 20 dBm	Temp. : +34.9C Deg.	Date: 10-17-2016	Time: 09:17:26	**Status = Pass**

Maximum RF Output Power vs. Frequency



Print

Max Leveled Pwr: Yes dBm	Min Leveled Pwr: N/A dBm	Leveled Pwr Set: Max dBm	Level Flatness Spec: +/-2.0 dB

***** Harmonic Test from 250.000000 MHz to 6000.000000 MHz in 100 MHz Steps *****

Model Number: MLMS-0260B
Serial Number: 0006
Time: 9:31:00 AM
Date: 10/14/2016
Minimum Frequency: 250.000000 MHz
Maximum Frequency: 6000.000000 MHz
Current Unit Temperature: +36.8C Deg. C
Harmonic Spec Level (In Band): -8.0 dBc

Frequency	Level	Harm #	Status
250 MHz	-10 dBc	3	PASS
350 MHz	-10 dBc	3	PASS
450 MHz	-11 dBc	3	PASS
550 MHz	-11 dBc	3	PASS
650 MHz	-11 dBc	3	PASS
750 MHz	-12 dBc	3	PASS
850 MHz	-12 dBc	3	PASS
950 MHz	-12 dBc	3	PASS
1050 MHz	-13 dBc	3	PASS
1150 MHz	-13 dBc	3	PASS
1250 MHz	-13 dBc	3	PASS
1350 MHz	-13 dBc	3	PASS
1450 MHz	-13 dBc	3	PASS
1550 MHz	-13 dBc	3	PASS
1650 MHz	-14 dBc	3	PASS
1750 MHz	-15 dBc	3	PASS
1850 MHz	-15 dBc	3	PASS
1950 MHz	-17 dBc	3	PASS
2050 MHz	-16 dBc	2	PASS
2150 MHz	-15 dBc	2	PASS
2250 MHz	-15 dBc	2	PASS
2350 MHz	-15 dBc	2	PASS
2450 MHz	-15 dBc	2	PASS
2550 MHz	-16 dBc	2	PASS
2650 MHz	-17 dBc	2	PASS
2750 MHz	-16 dBc	2	PASS
2850 MHz	-15 dBc	2	PASS
2950 MHz	-15 dBc	2	PASS
3050 MHz	-14 dBc	2	PASS
3150 MHz	-14 dBc	2	PASS
3250 MHz	-14 dBc	2	PASS
3350 MHz	-14 dBc	2	PASS
3450 MHz	-14 dBc	2	PASS
3550 MHz	-13 dBc	2	PASS
3650 MHz	-14 dBc	2	PASS
3750 MHz	-14 dBc	2	PASS
3850 MHz	-13 dBc	2	PASS
3950 MHz	-13 dBc	2	PASS
4050 MHz	-13 dBc	2	PASS
4150 MHz	-13 dBc	2	PASS
4250 MHz	-16 dBc	2	PASS
4350 MHz	-18 dBc	2	PASS
4450 MHz	-23 dBc	2	PASS
4550 MHz	-23 dBc	3	PASS
4650 MHz	-24 dBc	3	PASS
4750 MHz	-25 dBc	3	PASS
4850 MHz	-25 dBc	2	PASS
4950 MHz	-23 dBc	2	PASS
5050 MHz	-22 dBc	2	PASS
5150 MHz	-21 dBc	2	PASS
5250 MHz	-20 dBc	2	PASS
5350 MHz	-20 dBc	2	PASS
5450 MHz	-22 dBc	2	PASS
5550 MHz	-23 dBc	2	PASS
5650 MHz	-24 dBc	2	PASS
5750 MHz	-25 dBc	2	PASS
5850 MHz	-27 dBc	2	PASS
5950 MHz	-29 dBc	3	PASS

Number of Failures: 0

Finish Time: 9:40:28 AM

Harmonic Readings complete

Pass

***** Random Spur Test from 250.000 MHz to 6000.000 MHz *****

Serial Number: 0006
Model Number: MLMS-0260B
Time: 2:48:51 PM
Date: 10/14/2016
Minimum Frequency: 250.000 MHz
Maximum Frequency: 6000.000 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: +33.6C Deg. C
NOVO State: UnLocked

Random Frequency	Status
Frequency Tested = 5574.059 MHz	Pass
Frequency Tested = 1713.064 MHz	Pass
Frequency Tested = 4915.784 MHz	Pass
Frequency Tested = 613.541 MHz	Pass
Frequency Tested = 4015.446 MHz	Pass
Frequency Tested = 634.567 MHz	Pass
Frequency Tested = 1337.760 MHz	Pass
Frequency Tested = 4067.161 MHz	Pass
Frequency Tested = 2678.521 MHz	Pass
Frequency Tested = 1807.841 MHz	Pass
Frequency Tested = 4864.440 MHz	Pass
Frequency Tested = 3876.058 MHz	Pass
Frequency Tested = 5604.497 MHz	Pass
Frequency Tested = 4368.516 MHz	Pass
Frequency Tested = 2681.474 MHz	Pass
Frequency Tested = 781.307 MHz	Pass
Frequency Tested = 2932.624 MHz	Pass
Frequency Tested = 3217.073 MHz	Pass
Frequency Tested = 2535.284 MHz	Pass
Frequency Tested = 5756.723 MHz	Pass
Frequency Tested = 871.273 MHz	Pass
Frequency Tested = 3665.922 MHz	Pass
Frequency Tested = 305.413 MHz	Pass
Frequency Tested = 5976.459 MHz	Pass
Frequency Tested = 609.501 MHz	Pass

Total Spur Errors: 0

Finish Time: 3:21:06 PM
Test Completed
Pass

***** Switching Speed Test from 250.0 to 6000.0 MHz in 100 1000 MHz & Full Band Steps *****

Model Number: MLMS-0260B
Serial Number: 0006
Time: 1:38:36 PM
Date: 10/14/2016
Minimum Frequency: 250.000 MHz
Maximum Frequency: 6000.000 MHz
Current Unit Temperature: +33.8C 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 =	1.0 mS	Pass
100 MHz Step Down =	1.3 mS	Pass
1000 MHz Step Up =	1.0 mS	Pass
1000 MHz Step Down =	0.9 mS	Pass
Full band Step Up =	1.6 mS	Pass
Full band Step Down =	2.0 mS	Pass

Frequency Step (MHz)	Step Size (MHz)	Meas. Speed	Status
Random Jump From 250.0 To 4766.0	4516.0	1.4 mS	Pass
Random Jump From 4766.0 To 1963.0	-2803.0	1.0 mS	Pass
Random Jump From 1963.0 To 4104.0	2141.0	1.0 mS	Pass
Random Jump From 4104.0 To 572.0	-3532.0	1.5 mS	Pass
Random Jump From 572.0 To 4279.0	3707.0	1.0 mS	Pass
Random Jump From 4279.0 To 5621.0	1342.0	1.4 mS	Pass
Random Jump From 5621.0 To 1954.0	-3667.0	1.4 mS	Pass
Random Jump From 1954.0 To 839.0	-1115.0	1.1 mS	Pass
Random Jump From 839.0 To 2698.0	1859.0	1.2 mS	Pass
Random Jump From 2698.0 To 3575.0	877.0	1.1 mS	Pass
Random Jump From 3575.0 To 4695.0	1120.0	1.2 mS	Pass
Random Jump From 4695.0 To 3740.0	-955.0	1.3 mS	Pass
Random Jump From 3740.0 To 3007.0	-733.0	1.3 mS	Pass
Random Jump From 3007.0 To 3432.0	425.0	0.9 mS	Pass
Random Jump From 3432.0 To 1129.0	-2303.0	1.4 mS	Pass
Random Jump From 1129.0 To 810.0	-319.0	1.2 mS	Pass
Random Jump From 810.0 To 1114.0	304.0	1.4 mS	Pass
Random Jump From 1114.0 To 715.0	-399.0	1.0 mS	Pass
Random Jump From 715.0 To 1519.0	804.0	0.8 mS	Pass
Random Jump From 1519.0 To 2614.0	1095.0	0.8 mS	Pass
Random Jump From 2614.0 To 2132.0	-482.0	1.1 mS	Pass
Random Jump From 2132.0 To 5711.0	3579.0	1.5 mS	Pass
Random Jump From 5711.0 To 4808.0	-903.0	1.4 mS	Pass
Random Jump From 4808.0 To 4772.0	-36.0	1.0 mS	Pass
Random Jump From 4772.0 To 1031.0	-3741.0	1.6 mS	Pass

Number of Failures: 0

Finish Time: 1:48:25 PM

Switching Speed Readings complete

Pass

***** Phase Noise Test from 250.000 MHz to 6000.000 MHz in 250 MHz Steps *****

Model Number: MLMS-0260B
Serial Number: 0006
Time: 9:00:59 AM
Date: 10/17/2016
Minimum Frequency: 250.000 MHz
Maximum Frequency: 6000.000 MHz
Number of Frequencies Tested: 24
Current Loop Gain (LG) Setting:
Current Unit Temperature: +32.9C Deg. C

Phase Noise Spec @ Offset:
@ 100 Hz = -74.0 dBc/Hz
@ 1.0 kHz = -94.0 dBc/Hz
@ 10.0 kHz = -96.0 dBc/Hz
@ 100 kHz = -119.0 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
250.000	-101.4	-121.9	-124.9	-137.3	-157.3	-158.1	Pass	14.10 dBm
500.000	-97.0	-115.3	-118.0	-130.7	-152.6	-158.2	Pass	13.90 dBm
750.000	-92.2	-112.3	-115.0	-134.3	-154.8	-157.9	Pass	13.15 dBm
1000.000	-89.2	-109.2	-111.7	-124.3	-148.5	-155.8	Pass	12.39 dBm
1250.000	-88.7	-107.6	-109.7	-124.7	-147.7	-155.3	Pass	12.55 dBm
1500.000	-86.4	-105.7	-109.1	-128.5	-151.5	-155.6	Pass	11.94 dBm
1750.000	-84.4	-105.4	-108.2	-130.0	-152.4	-155.6	Pass	11.59 dBm
2000.000	-75.1	-102.9	-106.6	-119.1	-143.2	-154.6	Pass	11.59 dBm
2250.001	-81.3	-101.8	-105.4	-120.2	-143.4	-154.1	Pass	11.46 dBm
2500.001	-81.4	-101.5	-104.7	-119.8	-142.4	-153.5	Pass	10.63 dBm
2750.001	-82.0	-100.6	-104.5	-123.1	-146.3	-154.0	Pass	10.06 dBm
3000.001	-78.2	-100.2	-103.6	-122.8	-146.2	-154.0	Pass	10.44 dBm
3250.001	-84.7	-99.9	-103.4	-123.6	-147.3	-153.7	Pass	10.31 dBm
3500.002	-80.8	-99.0	-102.4	-124.2	-148.0	-154.0	Pass	10.35 dBm
3750.001	-82.4	-98.4	-102.1	-124.6	-148.2	-153.8	Pass	9.79 dBm
4000.001	-82.1	-98.3	-101.5	-125.0	-148.5	-153.2	Pass	9.09 dBm
4250.002	-80.8	-97.7	-100.9	-125.1	-148.6	-153.3	Pass	8.67 dBm
4500.002	-79.6	-97.4	-100.4	-125.2	-148.6	-153.2	Pass	8.65 dBm
4750.002	-80.1	-97.5	-99.7	-125.2	-148.7	-153.5	Pass	8.43 dBm
5000.002	-78.4	-96.2	-99.5	-125.2	-148.4	-152.9	Pass	7.90 dBm
5250.002	-78.3	-96.4	-98.9	-125.1	-147.8	-152.5	Pass	7.29 dBm
5500.002	-78.8	-95.5	-98.5	-125.1	-148.4	-152.7	Pass	7.68 dBm
5750.002	-79.9	-95.4	-98.2	-125.1	-148.1	-152.3	Pass	7.48 dBm
6000.002	-77.9	-95.2	-97.7	-125.0	-148.1	-151.9	Pass	7.02 dBm

Number of Failures: 0

Finish Time: 9:10:20 AM

Phase Noise Readings Complete

Pass