Request for Additional Information for EMC Certification

Company:	Wayne Miller (MFlom)	**Composite Device:**	**Yes:** ☐	**No:** ☒
MT#:	81259	**FCC Direct Filing:**	**Yes:** ☐	**No:** ☒
		Permit But Ask:	**Yes:** ☐	**No:** ☒
FCC ID:	WLX-GI100A1000	**FCC Rule Part:**	15.219	
UPN:	N/A	**RSS Standard:**		
FRN:		**Class II PC/Reassessment:**	**Yes:** ☐	**No:** ☒

November 7, 2008

Dear Hoosam,

Thank you for your application. In order for us to process your approval, the following must be addressed. Please provide a response in a timely manner to avoid delays or dismissals.

Technical Review:

1. Test report calibration date for HP 85462A shows calibration was due 10/1/08. Please provide additional explanation as the report and test dates span the calibration due date and instruments used for each test are not specified in the test report.

2. The power limit in 15.219(a) is specified in terms of total input power to the final radio frequency stage. Only output power measurements are provided in the test report. While output power measurements are necessary to demonstrate compliance with 15.219(c), output power measurements do not demonstrate compliance with 15.219(a). Please provide maximum input power measurements per 15.219(a) with transmitter attached to the antenna described in item 3 below and adjusted/modulated for maximum input power as required by 15.31(g).

3. Please add a statement to the report that user controls, input signals and antenna position were adjusted to maximize emissions.

4. Test report page 2 states that 15.203 antenna requirements do not apply, which is correct. However, 15.219(b) specifies antenna requirements for this device. Compliance with 15.219(b) does not appear to have been demonstrated in the application. Please provide additional information about the antenna, transmission line and grounding per the requirements or 15.219(b).

5. As the information in item 4 is critical to operation in compliance with 15.219, it must be included in the user manual. Please provide a revised user manual with specific user information regarding the antenna, transmission line and ground to ensure installation and operation in accordance with 15.219(b)

6. Please provide photos of the antenna, transmission line, and grounding system to be used with this transmitter.

7. Also, please add the modification statement required by 15.21 to the user manual.

8. Although the test setup photos show a radiated measurement setup, no radiated measurements appear in the test report. Radiated emissions measurements in the restricted bands shown in 15.205 with limits specified in 15.209 up to 10 times the highest operating frequency are required for certification of this device. Please note that use of a loop antenna and instrument using a QP or Peak detector are required for these measurements accordance with ANSI C63.4

9. Please provide evaluation data to confirm that improper or out of band operation does not result from setting the frequency switches to "indeterminate" positions as stated in the user manual and confirm that he highest and lowest possible operation frequencies are within the frequencies allowed by 15.219.

10. Please provide measurements with supply voltage variation as required by 15.31(e). Refer to ANSI C63.4:2003 Clause 13.1.6.2.

11. Please provide a statement in the test report that the provisions of 15.31, 15.33, an 15.35 were met in evaluation of this device.

12. Please provide detailed band-edge measurements to show that the fundamental emissions are limited to the frequencies between15.219 (510-1705 Khz. The test report shows operation at 510 kHz. This is not allowed as an AM transmitter will have emissions sidebands that extend both above and below the carrier frequency. 15.215(c) requires that the 20 dB BW of the emission be contained in the designated band including effects of modulation, voltage variation etc. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

13. Please include details regarding the type, level and source of modulation provided to the transmitter during the tests. Include a statement that the test results are the maximum emissions for all modulation conditions and that effects of over-modulation were investigated particularly at the lower and upper band edges. Refer to ANSI C63.4:2003 Clauses 13.1.4.1 and 13.1.1.1

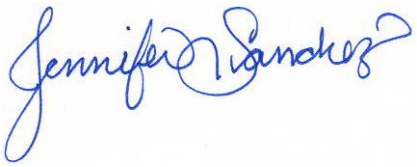
14. You may wish to consider if certification submission for this device would be possible using the general requirements of 15.207 and 15.209 in lieu of 15.219. Except for specific requirements of 15.219, the issues cited above would still apply.

15. Please be advised that Parts List/Bill of Material, and Tune-Up/Alignment exhibits submitted are not required for unlicensed devices and so confidentiality cannot be applied if they are included in the application. Please indicate if you wish to remove them from the application and provide a revised confidentiality letter.

16. The position of the label as shown in the photos is such that the FCCID and label information are not completely visible. Please re-locate the label or provide additional explanatory information with revised photos if necessary. CFR472.925(d) (d) In order to validate the grant of equipment authorization, the nameplate or label shall be permanently affixed to the equipment and shall be readily visible to the purchaser at the time of purchase.

If you have any questions or concerns, please contact us.

Thank you!



Jennifer Sanchez
TCB Administrator
MET Laboratories, Inc.
tcbinfo@metlabs.com
www.metlabs.com

Admin Review By: Jennifer Sanchez
Technical Review By: Tim Dwyer

Please note that partial responses increase processing time and should not be submitted. The items indicated above must be provided before processing can continue on the above referenced application. Failure to provide the requested information in a timely manner may result in application dismissal.

Flom Test Lab

Answers to RT dated Nov 7, 2008

1. The AC conducted power line test was performed on 9/8/08 which is prior to the calibration due date of the spectrum analyzer.

2. The power input into the final stage has been calculated using Ohm's law and Watt's law. The result has been included in the test report under the output power test section.

3. The requested statement has been added to the test report in the "Standard Test Conditions and Engineering Practices" page.

4. A statement is now included in the manual indicating the maximum length allowable for use.

5. A statement is now included in the manual indicating the maximum length allowable for use.

6. Photos and description are now included in the manual.

7. A statement complying to15.21 is now included in the manual.

8. Test data has been included to show compliance to 15.205.

9. This was verified and a statement indicating this is now included in the test report in the out of band spurious operation test section.

10. The TX power, conducted spurious, and band edges were tested with voltage variation and no difference was observed. This information has been included in the test report.

11. The requested statement has been added to the test report in the "Standard Test Conditions and Engineering Practices" page.

12. Band Edge testing has been performed and the report has been edited accordingly.

13. This information is now included in the "Test Results Summary" section of the report.

14. The customer is requesting certification under 15.219 therefore these requirements will be met. Edits to the documentation and test reports will be done in accordance to general requirements of part 15 and the specific requirements of 15.219.

15. **Please remove the parts list/bill of materials and tune up/alignment procedures from the application.** A revised confidentiality letter has been provided.

16. A revised label location photo has been provided.

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UPN:	N/A	**RSS Standard:**		
FRN:		**Class II PC/Reassessment:**	**Yes:** ☐	**No:** ☒

December 11, 2008

Dear Hoosam,

Thank you for your application. In order for us to process your approval, the following must be addressed. Please provide a response in a timely manner to avoid delays or dismissals.

Technical Review:

- The test report still shows output power (page 6) measured at 510 kHz. As mentioned in the RT, operation of this device is not allowed on 510 kHz as this is the authorized band edge. The report needs to be revised and confirmation that operation at 510 khz is not possible for this transmitter. Other measurements in the report were made at 520 kHz.

If you have any questions or concerns, please contact us.

Thank you!

Jennifer Sanchez
TCB Administrator
MET Laboratories, Inc.
tcbinfo@metlabs.com
www.metlabs.com

Admin Review By: Jennifer Sanchez
Technical Review By: Tim Dwyer

Please note that partial responses increase processing time and should not be submitted. The items indicated above must be provided before processing can continue on the above referenced application. Failure to provide the requested information in a timely manner may result in application dismissal.

Jennifer Sanchez

From: Sandy Valentine [sandyv@mflom.com]
Sent: Wednesday, December 17, 2008 1:38 PM
To: Jennifer Sanchez
Subject: re: 81259 MFlom - 2nd Request for additional information (Wayne Miller, FCC ID: WLX-GI100A1000, Ref#p0880002)
Attachments: d08a0009.FCC.Certification.15.219_Rev 3.0.pdf

Hello Jennifer:

I believe I have already replied to this RT, but I can not find my correspondence confirming it. I have attached a revised test report to resolve the RT. The problem was a simple typo on the engineer's part.

Best regards,

Sandy Valentine

Flom Test Lab
Phone: 480 926-3100
Email: sandyv@mflom.com
Web : www.flomlabs.com

---------- **Original Message** ----------

From: "Jennifer Sanchez" <jsanchez@metlabs.com>
To: "Sandy Valentine" <sandyv@mflom.com>
Date: Thu, 11 Dec 2008 16:14:51 -0800
Subject: **81259 MFlom - 2nd Request for additional information (Wayne Miller, FCC ID: WLX-GI100A1000, Ref#p0880002)**

Hi Sandy,

Please see the 2nd request for information for this application.

If you have any questions, please let me know.

Thanks!
J. Sanchez
TCB Administrator
MET Laboratories, Santa Clara CA
408-207-4785 Office
408-829-1603 Cell
jsanchez@metlabs.com

Jennifer Sanchez

From: Jennifer Sanchez
Sent: Thursday, December 18, 2008 3:08 PM
To: 'Sandy Valentine'
Cc: Jennifer Sanchez; Jenn Warnell
Subject: RE: 81259 MFlom - 2nd Request for additional information (Wayne Miller, FCC ID: WLX-GI100A1000, Ref#p0880002)
Importance: High

HI Sandy,

Can you please provide a new label? The FCC ID on the label exhibit is different from the ID on all other exhibits. The label exhibit does not have a "dash" while all other exhibits do.

Once you provide the label I can issue the grant.

Thanks!
J. Sanchez
TCB Administrator
MET Laboratories, Santa Clara CA
408-207-4785 Office
408-829-1603 Cell
jsanchez@metlabs.com

Jennifer Sanchez

From: Sandy Valentine [sandyv@mflom.com]
Sent: Friday, December 19, 2008 7:38 AM
To: Jennifer Sanchez
Cc: Jennifer Sanchez; Jenn Warnell
Subject: re[2]: 81259 MFlom - 2nd Request for additional information (Wayne Miller, FCC ID: WLX-GI100A1000, Ref#p0880002)
Attachments: Label 12192008.JPG

Hello Jennifer(s):

Please find the photos of the label with the revised FCC ID #.

Sandy Valentine

Flom Test Lab
Phone: 480 926-3100
Email: sandyv@mflom.com
Web : www.flomlabs.com

---------- **Original Message** ----------

From: "Jennifer Sanchez" <jsanchez@metlabs.com>
To: "Sandy Valentine" <sandyv@mflom.com>
Date: Thu, 18 Dec 2008 15:07:44 -0800
Subject: RE: 81259 MFlom - 2nd Request for additional information (Wayne Miller, FCC ID: WLX-GI100A1000, Ref#p0880002)

HI Sandy,

Can you please provide a new label? The FCC ID on the label exhibit is different from the ID on all other exhibits. The label exhibit does not have a "dash" while all other exhibits do.

Once you provide the label I can issue the grant.

Thanks!
J. Sanchez
TCB Administrator
MET Laboratories, Santa Clara CA
408-207-4785 Office
408-829-1603 Cell
jsanchez@metlabs.com