

Correspondence by Project

Project Number:

1187752207

Correspondence Number	Memo
W4OVIKINGX-1	<p>1) Please upload a final test report. RESPONSE: The test report has been uploaded. 2) Please include additional photos of the RF board. A portion of the transmitter board is not visible. RESPONSE: The photos have been uploaded. 3) The User Manual mentions sensor measurements capabilities, however these sensors were not connected during testing. RESPONSE: The device was tested with the sensor ports connected. See test report. 4) The block diagram submitted is not sufficient. As per section 2.1033(b)(5) of the FCC rules, the block diagram must show "the frequency of all oscillators used in the device. The signal path and frequency shall be indicated at each block. The tuning range(s) and intermediate frequency(ies) shall be indicated at each block." RESPONSE: A revised block diagram has been uploaded. 5) The schematics have sensor inputs, however according to the test setup photos, these were not connected during testing. RESPONSE: The device was tested with the sensor ports connected. See revised test setup photos and test report. 6) The User Manual should state in section 4.1 that if an antenna is put in a non-vertical position that additional certification is required. RESPONSE: A revised user's manual has been uploaded. 7) The User Manual references the incorrect antenna part number as the approved antenna since the antenna used was modified. RESPONSE: A revised user's manual has been uploaded. 8) Since the EUT was only tested in one axis and may only be used in one axis, the modular request letter should be changed to a limited modular approval request letter. RESPONSE: A revised modular approval exhibit has been uploaded.</p>
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W4OVIKINGX-1	<p>1) Please show that the EUT is compliant with all applicable rules while in the Repeater mode. RESPONSE: The transmit</p>

mode and repeater mode share identical RF parameters. Channel dwell time, RF circuitry, RF data rate, transmit and receive bandwidths, number of channels, transmit power, are identical in all operating modes. Additional testing; however, was performed to measure the dwell time, time of occupancy and number of hopping channels. Testing had already been performed to verify that the RF output power remains constant regardless of input levels. All of these tests were performed with the device utilizing actual production firmware and configurations. Compliant test data is included in the revised test report, which shows these parameters are identical, with the exception that its actual time of occupancy is halved when in repeater mode, as would be expected. Tests that require the special "test mode of operation" such as -20dB channel bandwidth, and mid-low-high channel measurements will only result in redundant testing. The parameters used for the "repeater" test mode would be identical to the parameters used for the "transmitter" test mode when the frequency hopping is disabled, and the carrier is fixed on the high, middle and low channels, which would be necessary for the remainder of the tests. Please see the revised test report, as well as the revised operational description for additional information. 2) Please provide calculations to show the EUT meets the MPE requirements. RESPONSE: The MPE calculations have been uploaded. 3) The User Manual references the incorrect antenna part number as the approved antenna. RESPONSE: Please see the revised user's manual, which has been uploaded. 4) The operational description mentions that RF chip CC1101 is used, however RF chip cc1100 is referenced on the schematics RESPONSE: There was an error on the schematic diagrams, which has been corrected and uploaded. 5) Please provide the test data for the RS-485 mode. The operational description mentions an RS-485 mode, however there is no data in the test report to show this mode was tested. RESPONSE: The RS-485 mode will not be used. Please see the revised operational description. 6) Please provide data to show that the band edge requirements are met while the EUT is in hopping mode.

RESPONSE: The test report has been revised to include this data. Please see revised test report.