

**HUNTER INDUSTRIES**

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Date: June 19, 2023  
Federal Communications Commission  
7435 Oakland Mills Road  
Columbia, Maryland 21046

Attn: OET Dept.

Ref: FCC Class II Permissive change for FCC ID: M3UWRC

Dear Examiner,

This is to request a Class II permissive change for FCC ID: M3UWRC, originally granted on 03/28/2022.

The major change filed under this application is:

- Added Resistor R7 for improved isolation of "ASK\_DATA" line
- Added alternate Hall Effect Sensor (U2) which required the following changes:
  - Added R6
  - Removal of U4
  - Removal of C5
- Minor PCB layout changes to the non-RF areas in order to accommodate the above changes.

Circumstances leading to this Class II Permissive Change request:

During post market surveillance testing, Hunter received the following non-conformities:

*"The device submitted is not representative of the original certified device. There are significant differences from the original device with regards to PCB layout and component population. Components C5, C8, C15, U4 have been removed and components R6 and R7 have been added. These changes may be responsible for the fundamental field strength being reduced by approximately 20 dB."*

Upon review, Hunter was able to determine the following key reasons for the non-conformance:

1. The drop in field strength was due to the samples missing 2 critical components: C8 & C15.

The initial samples provisioned for the market surveillance test, were from an engineering run and omitted these two critical components. This was an issue related to the creation of special un-potted test samples and is not representative of what is provided to our customers. These test samples did not undergo the same quality checks as our normal potted production units, which is how these units with the missing components were submitted for testing.



2. The other differences were un-related to the RF circuit and Hunter had considered them to be Class I permissible changes:
  - a. Added resistor R7 for improved isolation of "ASK\_DATA" line
  - b. Alternate Hall Effect Sensor (U2) which required the following changes:
    - i. Added R6
    - ii. Removal of U4
    - iii. Removal of C5
  - c. Minor PCB layout changes to the non-RF areas to accommodate the above changes.

Hunter Industries asked and was granted permission from the FCC to retest using samples that accurately represented the products sold to customers. Hunter Industries provided 4 new Constant Tx samples. Two that included the original Hall Effect Sensor (U3) and two that included the alternate Hall Effect Sensor (U2).

The results from retesting both sets of samples found the fundamental field strength to be increased, by approximately 5 dB, from the originally certified samples. Although these devices showed a higher field strength, they were well within the limits for emissions, with a margin of 6 dB under the limits of 15.231. It is the belief of Hunter Industries that this increase is likely related to the tolerances of the various components used in the product (such as the Transmitter IC) and are unrelated to the changes made in the non-RF portion of the product.

At this time, Hunter requested to perform Class II Permissive Change testing and application for the Wireless Rain-Clik, and all models associated with the FCC ID: M3UWRC.

The FCC representative working on this market surveillance agreed that a C2PC was acceptable in this instance and requested that the cover letter for the permissive change document the circumstances leading up to the permissive change.

If you have any further questions or need additional information, please feel free to give me a call at (760) 744-5240.

Regards,

Satoshi Kuwahara

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Hunter Industries

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