



170 Thorn Hill Road • Warrendale PA • 15086
Phone: 724-741-9000 • Fax: 724-741-9001

October 2, 2018

Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

To whom it may concern:

Cervis, Inc. hereby requests a Permissive Change Class II of the radio equipment certification for the MRF450 – certification number, FCC ID: LOBMRF450. This product differs from the originally approved product(s) in the following manner:

- (a) Associated Digital Circuitry – The MRF450 module was reduced from an RF transceiver and microprocessor based on a single PCB to an RF transceiver on a single PCB. This change only affects the transceiver's digital control signals and does not impact either the RF paths or output emissions. The PCB construction and RF traces—as they pertain to the RF sections—remain unchanged; but the module outline was reduced because the microprocessor was removed. Certain resistor and capacitor values along the RF path were updated for better RF performance and to reduce spurious emission. These changes, however, have not increased output emissions. Provisions were added for the addition of filtering components along the RF path. These components were not required to maintain certification and have not impacted output emissions.
- (b) Functional Capabilities – To maximize the MRF450 module's data throughput, the modulation was changed from 2GFSK to 4GFSK. The change in modulation has not resulted in any change to spurious emissions and will not alter the assigned emission designator of 10K3G1D.
- (c) Antenna Characteristics – No changes.
- (d) Cosmetic Differences – The MRF450 was updated to a smaller footprint (1.09" x 0.89") and electrical interface to match that of other RF modules manufactured by Cervis, Inc. The RF shield and location of stickers and other identifying marks remains unchanged.
- (e) All changes above were validated via independent lab testing.

I do attest that the field strength and/or RF output readings either remain the same or are lower than the originally approved product and that they did not increase, therefore qualifying this product for this application type.

Sincerely,

Anthony Di Tommaso
Director of Product Development, Quality and Finance
Cervis, Inc.