

Case of FCC Acceptance of the Radiodetection ND2099-DF-1 Datasonde as a Class II Change to the Certified ND2099-DF-HP-1 Datasonde

Introduction

The ND2099-DF-HP-1 datasonde has been certified with the FCC identifier K68ND2099A. Radiodetection wishes to sell a variant, the ND2099-DF-1, in the USA. This document details the differences between the two products and explains why the ND2099-DF-1 can be accepted as a Class II change to the ND2099-DF-HP-1

Product Differences

The ND2099-DF-1 differs from the certified ND2099-DF-HP-1 in the following ways:

- a) it has an ND1327.W1 antenna rather than an ND1327.W2 antenna.
- b) it has an additional solder link (P6) on its 'Output' circuit board which adds a resistor in the datasonde battery voltage monitoring circuit to compensate for a different battery power drain.
- c) it has an electronics cover manufactured from a different type of stainless steel.

Analysis of Differences

The ND1327.W1 antenna has 50-turn, centre tapped, winding and a 1125-turn winding. The ND1372.W2 has a 100-turn, centre tapped, winding and a 1125-turn winding. This has the effect of reducing the intended radiated power of the ND2099-DF-1 and its harmonics.

The change to the battery monitoring circuit does not affect the circuitry or ratings defined in section 2.1043(a) of the FCC regulations or not affect the reported characteristics of the product. This change would, on its own, be classified as a Class I change.

The electronics cover of ND2099-DF-1 offers reduced screening. The ND2099-DF-HP-1 electronics needs extra screening because its higher output power can interfere with its control electronics. With the ND2099-DF-1, this additional screening is unnecessary and a less expensive cover material can be used.

It is possible that the reduced screening offered by the electronics cover of the ND2099-DF-1 has increased the unintended emissions of the product when compared with the ND2099-DF-HP-1. It is for this reason that, overall the ND2099-DF-1 variant is being considered as a Class II change to the certified ND2099-DF-HP-1 and additional testing has been performed. These tests have shown that the ND2099-DF-1 still meets FCC requirements.

Following FCC acceptance, both products will be marketed with the FCC identifier ND2099A.

Conclusion

The above analysis and the additional tests performed show that the ND2099-DF-1 can be accepted as a Class II change to the ND2099-DF-HP-1