

SRT Marine Systems plc

Technical Justification for using B954 FCC 47 CFR part 80 and part 15B results for B922, B924, B952

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Table of contents

1.	General Information	4
2.	Summary of Products:	5
3.	Comparison between B954 and B924	5
3.1	em-trak B954 description	5
3.2	em-trak B924 description	5
3.3	Statement:	5
4.	Comparison between B954 and B952	6
4.1	em-trak B952 description	6
4.2	Statement	6
5.	Comparison between B954 and B922	6
5.1	em-trak B922 description	6
5.2	Statement	6

1. General Information

Applicant:	SRT Marine Systems plc Wireless House First Avenue Westfield Industrial Estate Midsomer Norton Bath BA3 4BS UK
Equipment under test:	B922, B952, B924 and B954
Type:	Marine AIS (Automatic Identification System) Class B Transceiver
Manufacturer:	em-trak Marine Electronics Ltd Wireless House First Avenue Westfield Industrial Estate Midsomer Norton BA3 4BS UK

2. Summary of Products:

The em-trak B922, B924, B952 and B954 are AIS Class B transceivers and use Cobalt II as their core module. The ODIN Bluetooth / Wi-Fi module is common in the above-mentioned products. The brief description of the products are as follows:

Name	Description	Components	Output Power
B922	Class B CSTDMA Transceiver with BT/ Wi-Fi	Cobalt II + ODIN BT/Wi-Fi	2W
B924	Class B CSTDMA Transceiver with Splitter BT/ Wi-Fi	Cobalt II + Splitter + ODIN BT/Wi-Fi	2W
B952	Class B SOTDMA Transceiver with BT/ Wi-Fi	Cobalt II + ODIN BT/Wi-Fi	5W
B954	Class B SOTDMA Transceiver with Splitter BT/ Wi-Fi	Cobalt II + Splitter + ODIN BT/Wi-Fi	5W

3. Comparison between B954 and B924

3.1 em-trak B954 description

The em-trak B954 is a 5W class B transceiver with splitter, Wi-Fi and Bluetooth. The B954 has a SRT Cobalt II module, splitter and an ODIN Wi-Fi & Bluetooth module inside the enclosure. The Cobalt II module has the highest output power of 5W and is compliant to IEC 62287-2. The module itself performs all functionality and all its serial, power, RF, and GPS connections are routed directly to the outside of the casing. The Splitter in B954 is a passive device which is separate to the Cobalt II module and has no effect on the working of the Cobalt II module. The B954 also has an ODIN Wi-Fi and Bluetooth module with in it. The FCC 47 CFR Part 80 testing has been performed on B954 and results are covered in the test report 75947453-02. The FCC 47 CFR Part 15B testing has been performed on B954 and results are covered in the test report 75947453-01

3.2 em-trak B924 description

The em-trak B954 and em-trak B924 are identical and only differ in the transmitting scheme and output power. The em-trak B954 has a maximum output of 5W and has SOTDMA transmitting scheme (IEC 62287-2) while em-trak B924 has a maximum output of 2W and has CSTDMA transmitting scheme (IEC 62287-1).

3.3 Statement:

As both the products (B954 and B924) are identical, and B954 as such is considered to be the worst-case scenario for EMC and radiated emissions. Considering the working and design of both the products, we SRT Marine Systems plc declare that the test reports 75947453-02 and 75947453-01 for FCC 47 CFR Part 80 and part 15B respectively are applicable to B924.

4. Comparison between B954 and B952

4.1 em-trak B952 description

The em-trak B952 is a 5W class B transceiver with Wi-Fi & Bluetooth. The B952 has a SRT Cobalt II module and an ODIN Wi-Fi & Bluetooth module inside the enclosure. The Cobalt II module has the highest output power of 5W and is compliant to IEC 62287-2. The module itself performs all functionality and all its serial, power, RF, and GPS connections are routed directly to the outside of the casing. The B952 also has an ODIN Wi-Fi and Bluetooth module with in it.

4.2 Statement

The B952 uses the same enclosure, Cobalt II module and Wi-Fi & Bluetooth module as B954. The only major difference between B954 and B952 is that the B954 has a splitter. The splitter is a passive device and does not affect the functionality of the Cobalt II module. B954 as such is considered to be the worst-case scenario for EMC and radiated emissions. Considering the working and design of both the products, we SRT Marine Systems plc declare that the test reports 75947453-02 and 75947453-01 for FCC 47 CFR Part 80 and part 15B respectively are applicable to B952.

5. Comparison between B954 and B922

5.1 em-trak B922 description

The em-trak B922 is a 2W class B transceiver with Wi-Fi & Bluetooth. The B922 has a SRT Cobalt II module and an ODIN Wi-Fi & Bluetooth module inside the enclosure. The Cobalt II module has the output power of 2W and is compliant to IEC 62287-1. The module itself performs all functionality and all its serial, power, RF, and GPS connections are routed directly to the outside of the casing. The B922 also has an ODIN Wi-Fi and Bluetooth module with in it.

The em-trak B922 uses the same hardware as B952 and differs in the transmitting scheme and output power. The B922 is 2W CSTDMA transceiver while B952 is a 5W SOTDMA transceiver.

5.2 Statement

The B922 uses the same enclosure, Cobalt II module and Wi-Fi & Bluetooth module as B954. The major differences between B954 and B922 is that the B954 has a splitter and the output power for B954 is 5W while B922 is 2W. The splitter is a passive device and does not affect the functionality of the Cobalt II module. B954 as such is considered to be the worst-case scenario for EMC and radiated emissions. Considering the working and design of both the products, we SRT Marine Systems plc declare that the test reports 75947453-02 and 75947453-01 for FCC 47 CFR Part 80 and part 15B respectively are applicable to B922.