

September 11, 2024

The NA091171 BT module is intended only for use in proprietary Stanley Black and Decker li-ion power tool batteries. It is not intended for sale to third parties and these integration instructions are internal, manufacturing documents.

FCC Part 15.212(a)(1) Modular Transmitter Requirements:

- (i) The module does not have its own shielding. The end-product host must be additionally tested to ensure continued RF compliance when this module is implemented. This testing must include spurious radiated emissions testing. See the host testing guidance in this integration manual.
- (ii) The module's data inputs are buffered internal to the Bluetooth IC on the module.
- (iii) The module contains its own power supply regulation, separate from the host.
- (iv) The antenna for the module is permanent and etched into the module PCB. The antenna design cannot be changed without a Class II permissive change application for this module.
- (v) The module has been tested in a stand-alone configuration, independent of any host device.
- (vi) The module is labeled with its FCC ID and IC number granted by the FCC and ISSED after authorization. These identification numbers must appear on a permanent label on the host device. See the labeling instructions in this integration manual.
- (vii) The module complies with FCC Part 15C, Intentional Radiator requirements. § 15.247 describes operation requirements for the module transmit frequency range of 2400-2483.5 MHz.
- (viii) The module meets Portable exclusion levels.

Module Integration Instructions:

The NA091171 module is an intentional radiator and is therefore governed by the FCC rules 47 CFR Part 15, Subpart C. As a Bluetooth radio transmitting in the frequency range 2400-2483.5 MHz, § 15.247 applies. The module is not for sale and only to be used by the Grantee in their proprietary power tools without any modifications to the radio circuitry or PCB antenna.

The NA091171 Grant of Authorization is issued as a Limited Modular Approval because the module does not have its own RF shield. As such, deployment of the module in a host device requires a Class II Permissive Change filing for the module. The host product must also be evaluated for RF exposure.

A fixed PCB trace antenna is integral to this radio module. This antenna cannot be modified in any way without a Class II Permissive Change filing for the module.

Changes or modifications to the module not expressly approved by Stanley Black & Decker could void the user's authority to operate the device.

### Host Device Testing Guidance:

Because of the Limited Modular Approval of the NA091171 due to the lack of a shield, extra care must be exercised when evaluating all end-product hosts incorporating this module. In particular, the host device must be evaluated using the following test plan to demonstrate compliance with the following:

FCC Rule Part: 15.247
Approval FCC ID: YJ7-NA091171 (as a DTS device)
Modulation Modes: 1 Mb/s only
Maximum power: Low Channel, 1.3 mW
Highest Spectral Density: Low Channel

The host device must be investigated with the NA091171 module to demonstrate that the module still remains in compliance with the specific rule part. The permissive change test data is intended to verify that original RF conducted data such as worse case power, BW, and density are still compliant and operating correctly at intended levels within the specific host. Additional radiated testing is necessary due to the lack of shield in the module as well as ensure it maintains radiated emissions requirements within the new host.

Based on the test data from the original module filing, the following table summarizes the necessary tests to perform for a C2PC to ensure compliance for the NA091171 module when installed within a new host.

FCC Rule Part	Description	Result
15.247(a)(2)	Occupied Channel Bandwidth Test Low Channel @ 1 Mb/s	
15.247 (b)(3)	Transmit Output Power Test Low Channel @ 1 Mb/s. Note Result must be less than or equal to original value to be allowed under a C2PC.	
15.247 (e)	Power Spectral Density Test Low Channel @ 1 Mb/s	
15.247 (d)	Out-of-Band Emissions (Band Edge @ 20dB below) Test Lowest and Highest channels at 1 Mb/s for compliance at $\leq 2400$ and $\geq 2483.5$ MHz for both hopping and non-hopping modes.	
15.205 15.209	General Field Strength Limits (Restricted Bands & RE Limits) Investigate Low, Mid and High channels for complete radiated emissions using 1 Mb/s. Report either all data or optionally just the worse-case data if a) procedures denote full investigation was made and b) justify that only worse case was provided.	

Per Part 15.31(m), one frequency near the low-end, one frequency near the middle, and one frequency near the high-end of the frequency range are expected to be evaluated. For this device, the highest aggregate power, and highest power spectral density both occur on the low channel. For radiated emissions, the worst-case channel may be confirmed through an approved investigation. Only the data for worst-case condition among the modes needs to be included in the permissive change report if the overall testing strategy is explained and justified. For the LMA NA091171, since it has no shield, testing of radiated spurious emissions shall cover the 10<sup>th</sup> harmonic of the fundamental, per the requirements in Part 15.247, to confirm no additional parasitic or ingress related non-compliant emissions exist. In all cases, a test of each worst-case modulation is required for channels over the frequency range defined in Part 15.33(a). Since the NA091171 module uses only one modulation – only 1 Mb/s needs to be evaluated in this case.

If the host device contains additional intentional radiator devices, modular or otherwise, all transmitter devices must be operated simultaneous to ensure that the transmitters can be co-located. The host device is otherwise operated in a typical user mode. The antenna used for this transmitter must not transmit simultaneously with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures.

This modular transmitter is ONLY authorized for the specific FCC and ISSED intentional radiator rules listed in the grants of authorization. The host device must be evaluated for RF compliance to any other FCC and ISSED rules that apply to the host device and not covered by the modular transmitter grant. At a minimum, the host device must be evaluated for compliance to 47 CFR Part 15, Subpart B with the module installed.

**All new host configurations require a Class II Permissive Change filing to the LMA authorization of this module.**

Refer to the FCC KDB 996369 D04 Module Integration Guide for additional guidance.

#### Host Device Labeling Instructions:

The host device employing the NA091171 module shall be permanently marked with a label stating, “Contains FCC ID: YJ7-NA091171” and “Contains IC: 9082A-NA091171”. If the host device employs additional certified modules, the FCC ID and IC number for each additional module can be appended to each statement. The two statements can be combined so that only one “Contains” is used, but the other text is required. E-labeling of the host device is also allowed. Check current agency regulations for e-labeling.

Host devices that comply with the RF requirements must follow the Labeling requirements in §15.19 of 47 CFR Part 15 and bear the following compliance statement in a conspicuous location on the device if space allows. If there isn’t enough space to accommodate this compliance statement in at least 4 point size, the statement must be included in the user manual and on the packaging of the host device.

“This device complies with part 15 of the FCC Rules and Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”