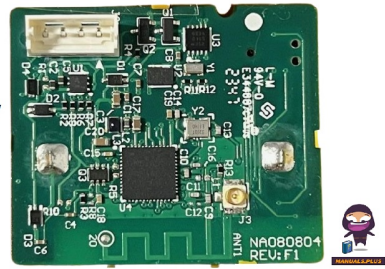


BLACK&DECKER®
NA080801
Proprietary
Bluetooth
Radio
Module



Black and Decker NA080801 Proprietary Bluetooth Radio Module User Manual

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Black and Decker NA080801 Proprietary Bluetooth Radio Module



Product Specifications:

- **Model:** NA080801 LMA BT Module
- **Manufacturer:** Stanley Black and Decker
- **Functionality:** Bluetooth module for proprietary power tools and lighting products
- **Regulatory Compliance:** FCC Part 15.212(a)(1)
- **Antenna Type:** Fixed PCB trace antenna
- **Modulation Modes:** 1 Mb/s and 2 Mb/s
- **Maximum Power:** Low Channel, 1.23 mW (1 Mb/s)

Product Usage Instructions

Module Integration:

The NA080801 BT module is designed exclusively for Stanley Black and Decker power tools and lighting products. It is essential not to modify the module without proper authorization to maintain compliance.

FCC Compliance:

When integrating the module into a host device, ensure that the host undergoes testing for RF compliance as per FCC regulations.

The host device must be evaluated for RF exposure and compliance with FCC Rule Part 15.247.

Antenna Design:

The module features a fixed PCB trace antenna that should not be altered without appropriate approval. Any changes to the antenna may require a Class II Permissive Change filing for the module.

Host Device Testing:

Conduct thorough testing on the host device to demonstrate compliance with FCC regulations and specific

modulation modes (1 Mb/s and 2 Mb/s). Record radiated emissions band edge measurements for different channels to ensure compliance.

FAQ:

Q: Can the NA080801 BT module be used in devices other than Stanley Black and Decker products?

A: No, the module is intended exclusively for use in proprietary Stanley Black and Decker power tools and lighting products and should not be sold to third parties.

Q: What should be done if modifications are required on the module?

A: Any changes or modifications to the module must be approved by Stanley Black & Decker to maintain user authority to operate the device.

NA080801 LMA BT Module Integration Manual Rev 0.6

August 5, 2024

The NA080801 BT module is intended only for use in proprietary Stanley Black and Decker power tools and lighting products. 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:

1. 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.
2. The module's data inputs are buffered internal to the Bluetooth IC on the module.
3. The module contains its own power supply regulation, separate from the host.
4. 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.
5. The module has been tested in a stand-alone configuration, independent of any host device.
6. The module is labeled with its FCC ID and IC number granted by the FCC and ISED after authorization. These identification numbers must appear on a permanent label on the host device. See the labeling instructions in this integration manual.
7. 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.
8. The module meets Portable exclusion levels.

Module Integration Instructions

The NA080801 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 NA080801 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 NA080801 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-NA080801
Modulation Modes: 1 Mb/s and 2 Mb/s
Maximum power: Low Channel, 1.23 mW (1 Mb/s)
Highest Spectral Density: Low Channel (1 Mb/s)
Highest Occupied Bandwidth: Low Channel (2 Mb/s)

Based on this test data from the module filing, confirm and then select the worst-case channel in the host for each band under each specific rule part and verify that each specific fundamental frequency remains in full compliance with the respective rule part (i.e. 15.247 for Bluetooth LE).

The host device must be investigated with the NA080801 module in each modulation mode (1 Mb/s and 2 Mb/s) to demonstrate full compliance with the specific rule part. The permissive change test data shall compliment the test data from the original module filing with regard to the worst-case modulation.

With the NA080801 module set to hop between low-, mid-, and high-channels, record the radiated emissions band edge measurements for both the widest and narrowest BW available to ensure the host device is compliant. 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 of the module must be evaluated in the host device. The worstcase channel may be confirmed through an approved investigation. The widest BW, highest aggregate power, and highest power spectral density conditions shall be investigated. If these conditions do not occur within the same operating mode of the module, then multiple modes require testing. 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 NA080801, since it has no shield, testing of radiated spurious emissions shall cover the 10th harmonic of the fundamental, per the requirements in Part 15.247, to confirm no additional parasitic 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).

Lastly, confirm and demonstrate with the host radiated testing that no additional parasitic, non-compliant emissions exist due to ingress (parasitic oscillations, radiation of stray signals within a host, etc.). This can be based on ANSI C63.10 and C63.26. Complete FCC Part 15, Subpart B testing as necessary.

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.

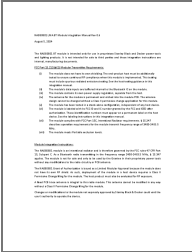
Host Device Labeling Instructions:

The host device employing the NA080801 module shall be permanently marked with a label stating,“Contains FCC ID: YJ7-NA080801” and “Contains IC: 9082A-NA080801”. 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 elabeling.

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.”

Documents / Resources

	<p>Black and Decker NA080801 Proprietary Bluetooth Radio Module [pdf] User Manual YJ7-NA080801, YJ7NA080801, na080801, NA080801 Proprietary Bluetooth Radio Module, NA 080801, Proprietary Bluetooth Radio Module, Bluetooth Radio Module, Radio Module, Module</p>
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References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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