

Stanley Black & Decker, Inc.

# TEST REPORT

**SCOPE OF WORK**

FCC TESTING – DWHT78200

**REPORT NUMBER**

250509050SZN-001

**ISSUE DATE**

28 July 2025

**[REVISED DATE]**

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TEST REPORT

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Intertek Report No.: 2505090505ZN-001

## Stanley Black & Decker, Inc.

Application  
For  
Certification

**FCC ID: 2ANWF78200**

**Laser distance meter**

**Model: DWHT78200**

**Brand Name: Dewalt**

**2.4GHz Transceiver**

Report No.: 2505090505ZN-001

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-24]

**Prepared and Checked by:**

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**Robin Zhou**  
**Senior Project Engineer**

**Approved by:**

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**Johnny Wang**  
**Project Engineer**  
**Date: 28 July 2025**

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**MEASUREMENT/TECHNICAL REPORT**

This report concerns (check one)      Original Grant       Class II Change

Equipment Type: DTS - Part 15 Digital Transmission Systems

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)?      Yes       No

If yes, defer until: \_\_\_\_\_  
date

Company Name agrees to notify the Commission by: \_\_\_\_\_  
date

of the intended date of announcement of the product so that the grant can be issued on  
that date.

Transition Rules Request per 15.37?      Yes       No

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-1-24]  
Edition] provision.

Report prepared by:

**Robin Zhou**

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## 1.0 Summary of Test results

Applicant: Stanley Black & Decker, Inc.

Address: New Britain Design Center, 600 Myrtle Street, New Britain, Connecticut 06053, United States Of America

Manufacturer: Stanley Black & Decker, Inc.

Address: New Britain Design Center, 600 Myrtle Street, New Britain, Connecticut 06053, United States Of America

Model: DWHT78200

FCC ID: 2ANWF78200

TEST ITEM	REFERENCE	RESULTS
Max. Output power	15.247(b)(3)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d), 15.209, FCC 15.205	Pass
AC Conducted Emission	15.207	N/A*
Antenna Requirement	15.203	Pass (See Note)

Note:

1. The EUT uses a 2.4G Bluetooth Ceramic Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.
2. N/A means not applicable, \*: the EUT is powered by battery, and when charging, the EUT will automatically shut down and the Bluetooth function will be disabled.

## 2.0 General Description

### 2.1 Product Description

The equipment under test (EUT) is a Laser distance meter/DWHT78200 with Bluetooth 5.1 (single-mode) function operating in 2402-2480MHz. The EUT is powered by DC 3.7V 1500mAh, 5.55Wh from battery. For more detailed features description, please refer to the user's manual.

Type of Modulation: GFSK (BLE support 1M and 2M)

Antenna Type: 2.4G Bluetooth Ceramic Antenna

Antenna Gain: Max. 0.32 dBi (This information is provided by manufacturer, and the manufacturer is responsible for the authenticity of the provided information.)

Bluetooth Version: 5.1

Sample ID: Z250509050-001

Note: When charging, the EUT will automatically shut down and the Bluetooth function will be disabled.

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

### 2.2 Related Submittal(s) Grants

This is an application for certification of a transceiver for the Laser distance meter which has BLE function.

Remaining portions are subject to the following procedures:

Other Digital Function: Subject to FCC Part 15B SDOC with report number: 250430028SZN-001.

### 2.3 Test Methodology

Radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013) and KDB 558074 D01 v05r02. Radiated emission measurement was performed in semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst-case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Justification Section" of this Application.

### 2.4 Test Facility

The Semi-anechoic chamber and shielded room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Longhua Branch** and located at 101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, Shenzhen, P.R. China. This test facility and site measurement data have been fully placed on file with File Number: CN1188.

### **3.0 System Test Configuration**

#### **3.1 Justification**

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by a fully DC 3.7V rechargeable battery during the test, only the worst data was reported in this report.

For maximizing emissions, the EUT was rotated through 360°, the EUT was placed on the styrene turntable with 0.8m up to 1GHz and 1.5 m above 1GHz. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

The rear of unit shall be flushed with the rear of the table.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

#### **3.2 EUT Exercising Software**

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst-case configuration is used in all specified testing.

The parameters of test software setting:

During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

Test software: SSCOM V5.13.1, power setting: 0D

#### **3.3 Special Accessories**

N/A.

### 3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

### 3.5 Equipment Modification

Any modifications installed previous to testing by Stanley Black & Decker, Inc. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd. Longhua Branch.

### 3.6 Support Equipment List and Description

Description	Manufacturer	Model No.
-	-	-

Applicant: Stanley Black & Decker, Inc.

Date of Test: 10 June 2025

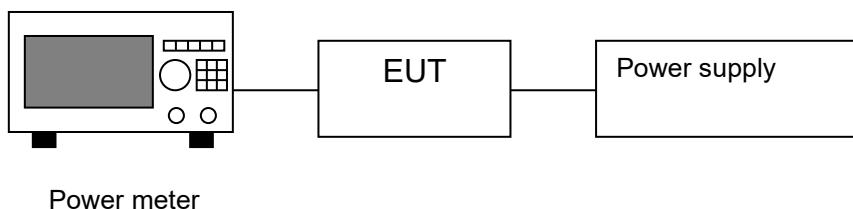
Model: DWHT78200

#### 4.0 Measurement Results

##### 4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

The antenna power of the EUT was connected to the input of a broadband peak RF power meter. The power meter has a video bandwidth that is greater than DTS bandwidth and utilize a fast-responding diode detector. Power was read directly at the EUT antenna terminals with cable loss added.

Block Diagram:



For antennas with gains of 6 dBi or less, the maximum allowed peak conducted output power is 1 watt (+30 dBm).

BLE 1M

Frequency (MHz)	Peak conducted output Power in dBm	Peak conducted output Power in mWatt
Low Channel: 2402	-0.11	0.975
Middle Channel: 2440	-0.16	0.964
High Channel: 2480	-0.27	0.940

BLE 2M

Frequency (MHz)	Peak conducted output Power in dBm	Peak conducted output Power in mWatt
Low Channel: 2402	-0.14	0.968
Middle Channel: 2440	-0.17	0.962
High Channel: 2480	-0.33	0.927

Cable loss:0.5 dB    External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

For RF Exposure, the information is saved with filename: RF exposure.pdf.

Applicant: Stanley Black & Decker, Inc.

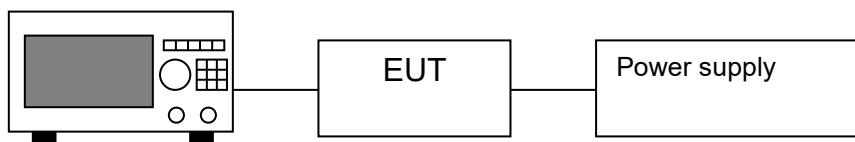
Date of Test: 10 June 2025

Model: DWHT78200

#### 4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a) (2):

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 KHz according to FCC KDB 558074 D01 v05r02. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a display line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

Block Diagram:



Spectrum Analyzer

Limit: The 6 dB Bandwidth is at least 500 kHz.

Test Result: Please refer the Appendix of 250509050SZN-001 Appendix A.

Applicant: Stanley Black & Decker, Inc.

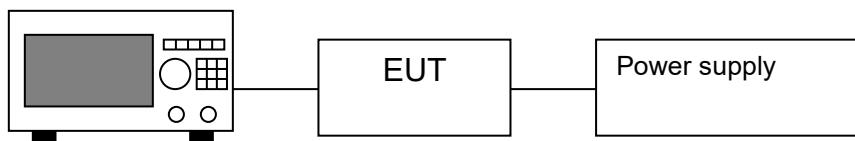
Date of Test: 10 June 2025

Model: DWHT78200

#### 4.3 Maximum Power Density Reading, FCC Rule 15.247(e):

The Measurement Procedure PKPSD was set according to the FCC KDB 558074 D01 v05r02.

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.  
Block Diagram:



Spectrum Analyzer

Limit: The Power Density does not exceed 8dBm/3 kHz.

Test Result: Please refer the Appendix of 250509050SZN-001 Appendix C.

Applicant: Stanley Black & Decker, Inc.

Date of Test: 10 June 2025

Model: DWHT78200

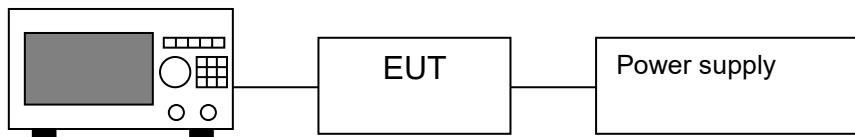
#### 4.4 Out of Band Conducted Emissions, FCC Rule 15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. The Measurement Procedure was set according to the FCC KDB 558074 D01 v05r02.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

The test plots showed all spurious emission up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

Block Diagram:



Spectrum Analyzer

Test Result: Please refer the Appendix of 250509050SZN-001 Appendix D and Appendix of 250509050SZN-001 Appendix E.

Applicant: Stanley Black & Decker, Inc.

Date of Test: 10 June 2025

Model: DWHT78200

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

- Not required, since all emissions are more than 20dB below fundamental
- See attached data sheet

Applicant: Stanley Black & Decker, Inc.

Date of Test: 21 June 2025

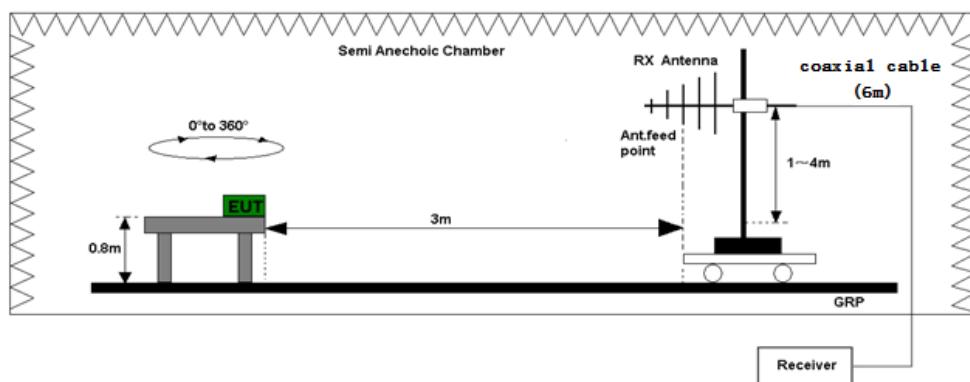
Model: DWHT78200

#### 4.6 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b) (c):

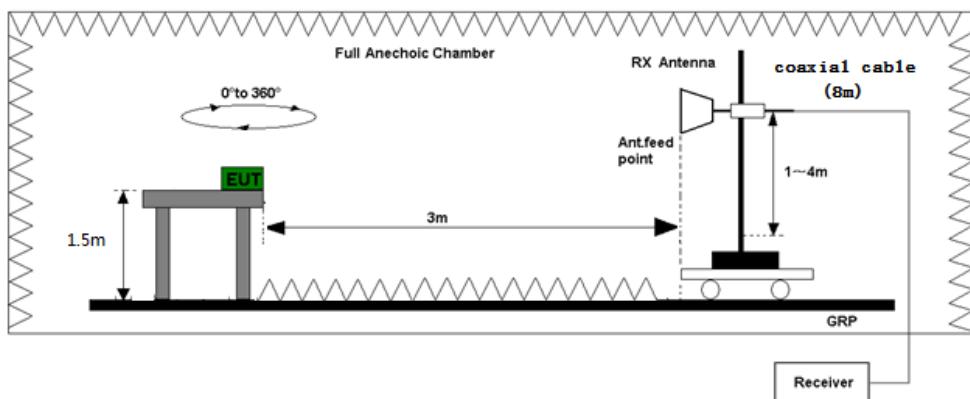
Data is included of the worst-case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included. All measurements were performed with peak detection unless otherwise specified.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

The Diagram below shows the test setup, which is utilized to make these measurements.



Test set-up of radiated disturbance (Up to 1GHz)



Test set-up of radiated disturbance (Above 1GHz)

Radiated emission measurements were performed from 9kHz to tenth harmonic or 40GHz. The EUT for testing is arranged on a styrene turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.

Applicant: Stanley Black & Decker, Inc.

Date of Test: 21 June 2025

Model: DWHT78200

#### 4.7 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

$$FS = RA + AF + CF - AG + PD$$

Where FS = Field Strength in  $\text{dB}\mu\text{V}/\text{m}$

RA = Receiver Amplitude (including preamplifier) in  $\text{dB}\mu\text{V}$

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB

AG = Amplifier Gain in dB

PD = Pulse Desensitization in dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

$$FS = RA + AF + CF - AG + PD$$

#### Example

Assume a receiver reading of 62.0  $\text{dB}\mu\text{V}$  is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 42  $\text{dB}\mu\text{V}/\text{m}$ . This value in  $\text{dB}\mu\text{V}/\text{m}$  was converted to its corresponding level in  $\mu\text{V}/\text{m}$ .

RA = 62.0  $\text{dB}\mu\text{V}$

AF = 7.4 dB

CF = 1.6 dB

AG = 29.0 dB

PD = 0 dB

$$FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 \text{ dB}\mu\text{V}/\text{m}$$

Level in  $\text{mV}/\text{m}$  = Common Antilogarithm  $[(42 \text{ dB}\mu\text{V}/\text{m})/20] = 125.9 \mu\text{V}/\text{m}$

Applicant: Stanley Black & Decker, Inc.

Date of Test: 21 June 2025

Model: DWHT78200

#### 4.8 Radiated Spurious Emission

Worst Case Radiated Spurious Emission  
at 2483.50000MHz  
is passed by 3.1dB margin.

For the electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf. Simultaneous transmission was considered during the test, only the worst-case data is recorded in this report.

Applicant: Stanley Black &amp; Decker, Inc.

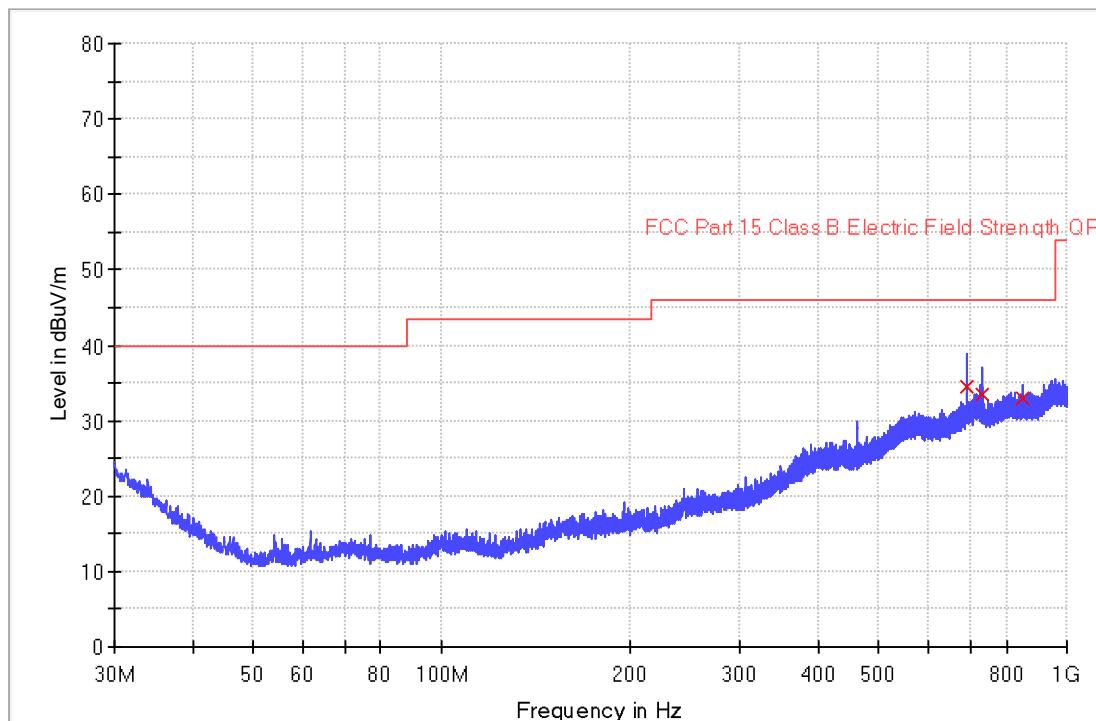
Date of Test: 21 June 2025

Model: DWHT78200

Worst Case Operating Mode:

BT Link

ANT Polarity: Horizontal



### Limit and Margin

Frequency (MHz)	Quasi Peak (dB $\mu$ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dB $\mu$ V/m)
691.281333	34.5	1000.0	120.000	H	30.7	11.5	46.0
733.120667	33.5	1000.0	120.000	H	31.0	12.5	46.0
849.100333	33.0	1000.0	120.000	H	31.8	13.0	46.0

Remark:

1. Corr. (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Quasi Peak (dB $\mu$ V/m) = Corr. (dB/m) + Read Level (dB $\mu$ V)
3. Margin - QPK (dB) = Quasi Peak (dB $\mu$ V/m) – Limit – QPK (dB $\mu$ V/m)

Applicant: Stanley Black &amp; Decker, Inc.

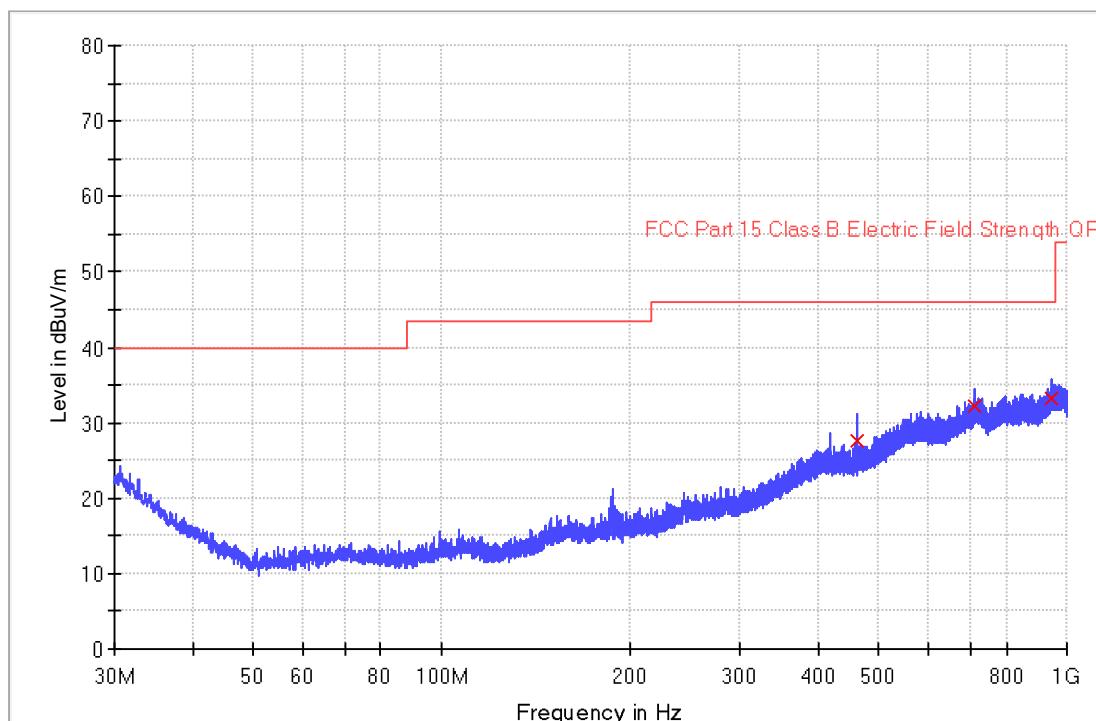
Date of Test: 21 June 2025

Worst Case Operating Mode:

Model: DWHT78200

BT Link

ANT Polarity: Vertical

**Limit and Margin**

Frequency (MHz)	Quasi Peak (dB $\mu$ V/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB/m)	Margin - QPK (dB)	Limit - QPK (dB $\mu$ V/m)
460.906333	27.5	1000.0	120.000	V	25.5	18.5	46.0
709.614333	32.1	1000.0	120.000	V	30.9	13.9	46.0
946.973333	33.2	1000.0	120.000	V	33.6	12.8	46.0

Remark:

1. Corr. (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)
2. Quasi Peak (dB $\mu$ V/m) = Corr. (dB/m) + Read Level (dB $\mu$ V)
3. Margin - QPK (dB) = Quasi Peak (dB $\mu$ V/m) – Limit – QPK (dB $\mu$ V/m)

Applicant: Stanley Black &amp; Decker, Inc.

Date of Test: 21 June 2025

Worst Case Operating Mode:

Model: DWHT78200

Transmitting (BLE 1M Channel 2402MHz)

**Radiated Emissions (above 1GHz)**

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	9608.000	52.1	36.8	33.5	48.8	74.0	-25.2
Vertical	*2390.000	66.7	36.4	29.1	59.4	74.0	-14.6

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	9608.000	48.1	36.8	33.5	44.8	54.0	-9.2
Vertical	*2390.000	55.6	36.4	29.1	48.3	54.0	-5.7

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
5. we pre-scan all the modes and only put the worst-case data in report. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

\* Emission within the restricted band meets the requirement of section 15.205.

Applicant: Stanley Black &amp; Decker, Inc.

Date of Test: 21 June 2025

Worst Case Operating Mode:

Model: DWHT78200

Transmitting (BLE 1M Channel 2440MHz)

**Radiated Emissions (above 1GHz)**

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	*7320.000	48.4	36.7	33.4	45.1	74.0	-28.9
Vertical	9760.000	48.9	36.6	35.8	48.1	74.0	-25.9

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	*7320.000	42.8	36.7	33.4	39.5	54.0	-14.5
Vertical	9760.000	44.3	36.6	35.8	43.5	54.0	-10.5

## NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
5. we pre-scan all the modes and only put the worst-case data in report. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

\* Emission within the restricted band meets the requirement of section 15.205.

Applicant: Stanley Black &amp; Decker, Inc.

Date of Test: 21 June 2025

Worst Case Operating Mode:

Model: DWHT78200

Transmitting (BLE 1M Channel 2480MHz)

**Radiated Emissions (above 1GHz)**

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	*7440.000	48.8	36.8	33.3	45.3	74.0	-28.7
Vertical	9920.000	55.5	36.5	29.3	48.3	74.0	-25.7
Vertical	*2483.500	66.8	36.4	29.3	59.7	74.0	-14.3

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	*7440.000	42.9	36.8	33.3	39.4	54.0	-14.6
Vertical	9920.000	51.6	36.5	29.3	44.4	54.0	-9.6
Vertical	*2483.500	55.6	36.4	29.3	48.5	54.0	-5.5

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
5. we pre-scan all the modes and only put the worst-case data in report. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

\* Emission within the restricted band meets the requirement of section 15.205.

Applicant: Stanley Black &amp; Decker, Inc.

Date of Test: 21 June 2025

Worst Case Operating Mode:

Model: DWHT78200

Transmitting (BLE 2M Channel 2402MHz)

**Radiated Emissions (above 1GHz)**

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	9608.000	51.3	36.8	33.5	48.0	74.0	-26.0
Vertical	*2390.000	66.9	36.4	29.1	59.6	74.0	-14.4

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	9608.000	46.8	36.8	33.5	43.5	54.0	-10.5
Vertical	*2390.000	55.8	36.4	29.1	48.5	54.0	-5.5

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
5. we pre-scan all the modes and only put the worst-case data in report. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

\* Emission within the restricted band meets the requirement of section 15.205.

Applicant: Stanley Black &amp; Decker, Inc.

Date of Test: 21 June 2025

Worst Case Operating Mode:

Model: DWHT78200

Transmitting (BLE 2M Channel 2440MHz)

**Radiated Emissions (above 1GHz)**

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	*7320.000	47.5	36.7	33.4	44.2	74.0	-29.8
Vertical	9760.000	48.6	36.6	35.8	47.8	74.0	-26.2

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	*7320.000	42.2	36.7	33.4	38.9	54.0	-15.1
Vertical	9760.000	42.7	36.6	35.8	41.9	54.0	-12.1

## NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
5. we pre-scan all the modes and only put the worst-case data in report. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

\* Emission within the restricted band meets the requirement of section 15.205.

Applicant: Stanley Black &amp; Decker, Inc.

Date of Test: 21 June 2025

Worst Case Operating Mode:

Model: DWHT78200

Transmitting (BLE 2M Channel 2480MHz)

**Radiated Emissions (above 1GHz)**

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Peak Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	*7440.000	50.8	36.8	33.3	47.3	74.0	-26.7
Vertical	9920.000	56.3	36.5	29.3	49.1	74.0	-24.9
Vertical	*2483.500	70.0	36.4	29.3	62.9	74.0	-11.1

Polarization	Frequency (MHz)	Reading (dB $\mu$ V)	Pre-Amp Gain (dB)	Antenna Factor (dB/m)	Net at 3m (dB $\mu$ V/m)	Average Limit at 3m (dB $\mu$ V/m)	Margin (dB)
Vertical	*7440.000	44.4	36.8	33.3	40.9	54.0	-13.1
Vertical	9920.000	51.3	36.5	29.3	44.1	54.0	-9.9
Vertical	*2483.500	58.0	36.4	29.3	50.9	54.0	-3.1

NOTES:

1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna used for the emission over 1000MHz.
5. we pre-scan all the modes and only put the worst-case data in report. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

\* Emission within the restricted band meets the requirement of section 15.205.

Applicant: Stanley Black & Decker, Inc.

Model: DWHT78200

4.9 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

- [ ] Not required - No digital part
- [ ] Test results are attached
- [ x ] Included in the separated report.

Applicant: Stanley Black & Decker, Inc.

Model: DWHT78200

#### 4.10 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to zero SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
x	Not applicable, duty cycle was not used.

## 5.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.pdf & internal photos.pdf.

## 6.0 Product Labeling

For electronic filing, the FCC ID label artwork and location is saved with filename: label.pdf.

## 7.0 Technical Specifications

For electronic filing, the block diagram and circuit diagram are saved with filename: block.pdf and circuit.pdf respectively.

## 8.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

## 9.0 Confidentiality Request

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.

## 10.0 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, Spectrum Analysis ... Pulsed RF.

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.

**11.0 Test Equipment List**

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	2025-04-21	2026-04-21
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	2025-04-21	2026-04-21
SZ061-13	BiConiLog Antenna	ETS	3142E	00217919	2022-07-13	2025-07-13
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	2024-05-05	2027-05-05
SZ185-03	EMI Receiver	R&S	ESR7	101975	2025-04-13	2026-04-13
SZ061-08	Double - Ridged Waveguide Horn Antenna	ETS	3115	00092346	2024-09-13	2027-09-13
SZ056-06	Signal Analyzer	R&S	FSV 40	101101	2024-12-06	2025-12-06
SZ181-08	Microwave System Amplifier	keysight	83017A	MY57280108	2024-07-29	2025-07-29
SZ188-05	Anechoic Chamber	ETS	FACT 3-2.0	CT001880- Q13914102	2021-05-25	2026-05-25
SZ062-02	RF Cable	RADIALL	RG 213U	--	2025-04-01	2025-10-01
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	0833254	2025-04-01	2025-10-01
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	083387	2025-04-01	2025-10-01

\*\*\*\*\* End of Report\*\*\*\*\*