intertek
Total Quality. Assured.

## Panasonic Corporation of North America

# MPE ASSESSMENT REPORT

**Report Type:**
FCC MPE assessment report

**MODEL:**
EYFCA1WC

**REPORT NUMBER:**
2411B1756SHA-007

**ISSUE DATE:**
April 24, 2025

**DOCUMENT CONTROL NUMBER:**
TTRFFCCMPE-01_V1 © 2018 Intertek

Intertek Testing Services (Shanghai FTZ) Co., Ltd.
Building No.86, 1198 Qinzhou Road (North)
Caohejing Development Zone
Shanghai 200233, China

Telephone: 86 21 6127 8200
www.intertek.com

Total Quality. Assured.

# TEST REPORT

Report no.: 2411B1756SHA-007

| | |
|---|---|
| **Applicant:** | Panasonic Corporation of North America<br>Two Riverfront Plaza, NEWARK NJ 07102-5490 |
| **Manufacturer:** | Panasonic Corporation<br>1006, Oaza Kadoma, Kadoma City, Osaka 571-8501, Japan |
| **Factory:** | Panasonic Corporation<br>1006, Oaza Kadoma, Kadoma City, Osaka 571-8501, Japan |
| **FCC ID:** | ACJ-EYFCA |

## SUMMARY:

| The equipment complies with the requirements according to the following standard(s) or Specification: |
|---|
| KDB447498 D01 General RF Exposure Guidance v06<br>FCC Part2.1091, FCC Part1.1307(b) |

| **PREPARED BY:** | **REVIEWED BY:** |
|---|---|
| Project Engineer<br>Damon Ding | Reviewer<br>Eric Li |

TEST REPORT

# Revision History

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| 2411B1756SHA-007 | Rev. 01 | Initial issue of report | April 24, 2025 |
| | | | |
| | | | |

TEST REPORT

# 1 GENERAL INFORMATION

## 1.1 Description of Equipment Under Test (EUT)

| | |
|---|---|
| Product name: | Mechanical Pulse Endeffector (robotics impact wrench) |
| Type/Model: | EYFCA1WC |
| Description of EUT: | The EUT is Robotics impact wrench with WLAN function. There are only one model. We test it and list the worst results in this report. |
| Rating: | DC power supply<br>15V |
| Category of EUT: | Class B |
| EUT type: | ☒ Table top ☐ Floor standing |
| Software Version: | - |
| Hardware Version: | - |
| Sample Identification No.: | 0241123-23 |
| Sample received date: | January 30, 2025 |
| Date of test: | January 30, 2025~ March 21, 2025 |

## 1.2 Technical Specification

| | |
|---|---|
| Frequency Band: | 2400MHz ~ 2483.5MHz |
| Support Standards: | IEEE 802.11b, IEEE 802.11g, IEEE 802.11n-HT20 |
| Type of Modulation: | IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK)<br>IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)<br>IEEE 802.11n-HT20: OFDM (64-QAM, 16-QAM, QPSK, BPSK) |
| Channel Number: | 11 Channels for 802.11b, 802.11g and 802.11n(HT20) |
| Data Rate: | IEEE 802.11b: Up to 11 Mbps<br>IEEE 802.11g: Up to 54 Mbps<br>IEEE 802.11n-HT20: Up to MCS7 |
| Channel Separation: | 5 MHz |
| Antenna Information: | 1.25dBi, PCB Antenna |

| | |
|---|---|
| Frequency Range: | 5180 ~ 5240MHz |
| Support Standards: | 802.11a, 802.11n(HT20) |
| Type of Modulation: | OFDM |
| Channel Number: | For 5180 ~ 5240MHz band: Channel 36 - 48 |

| Antenna information: | | | |
|---|---|---|---|
| No. | Antenna Type | Gain | Note |
| 1 | PCB Antenna | -0.97dBi | |
| | | | |
| Note: | | | |

**TEST REPORT**

## 1.3 Description of Test Facility

| | |
|---|---|
| Name: | Intertek Testing Services (Shanghai FTZ) Co., Ltd. |
| Address: | Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China |
| Telephone: | 86 21 61278200 |
| Telefax: | 86 21 54262353 |

| | |
|---|---|
| The test facility is recognized, certified, or accredited by these organizations: | CNAS Accreditation Lab<br>Registration No. CNAS L21189 |
| | FCC Accredited Lab<br>Designation Number: CN0175 |
| | IC Registration Lab<br>CAB identifier.: CN0014 |
| | VCCI Registration Lab<br>Member No.: 3598 (Registration No.: R-14243, G-10845, C-14723, T-12252) |
| | A2LA Accreditation Lab<br>Certificate Number: 3309.02 |

TEST REPORT

# 2 MPE Assessment

**Test result: Pass**

## 2.1 MPE Assessment Limit

According to§1.1310, the limit for general population/uncontrolled exposures

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm2) | Averaging time (minutes) |
|---|---|---|---|---|
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34-30 | 824/f | 2.19/f | *(180/f2) | 30 |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 |
| 300-1500 | / | / | f/1500 | 30 |
| 1500-100,000 | / | / | 1.0 | 30 |

F=frequency in MHz; *=Plane-wave equivalent power density

Mobile device exposure for simultaneous transmission operations: **the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0**

## 2.2 Assessment Results

Power density (S) is calculated according to the formula:

$S = PG / (4\pi R^2)$
Where S = power density in $mW/cm^2$
P = Power in mW
G = numeric gain of transmit antenna
R = distance (cm)

As we can see from the test reports 2411B1756SHA-001 and 2411B1756SHA-002:

Here R is chosen to be 20cm,

| Mode | Frequency Range (MHz) | P | | G | | R (cm) | S ($mW/cm^2$) | Limit ($mW/cm^2$) |
|---|---|---|---|---|---|---|---|---|
| | | (dBm) | (mW) | (dBi) | (Numeric) | | | |
| 2.4G WIFI | 2412 - 2462 | 11.35 | 13.65 | 1.25 | 1.33 | 20 | 0.0025 | 1 |
| 5G WIFI | 5180 ~ 5240 | 12.65 | 18.41 | -0.97 | 0.80 | 20 | 0.0023 | 1 |

2.4G WIFI and 5G WIFI can't transmit simultaneously.

Therefore, the MPE requirement is deemed to be satisfied without test.

**TEST REPORT**

# Appendix I

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.
To ensure compliance, operations at closer than this distance is not recommended.

**********END**********