# FCC Test Report

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|---|---|---|
| **FCC ID** | : | **SWX-UAPACSHD** |
| **Contains FCC ID** | : | **SWX-M11DB** |
| **Equipment** | : | **UniFi Access Point** |
| **Brand Name** | : | **UBIQUITI** |
| **Model Name** | : | **UAP-AC-SHD** |
| **Applicant/ Manufacturer** | : | **Ubiquiti Networks, Inc. 685 Third Avenue, 27th Floor New York, New York 10017 USA** |
| **Standard** | : | **47 CFR FCC Part 15.247** |

**This report was evaluated for permissive change. We, SPORTON, would like to declare that the evaluation in accordance to KDB 178919 D01 Permissive Change Policy v06 and shown compliance with the applicable technical standards.**

**The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.**

**The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.**

Approved by: Allen Lin

***SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory***

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**PHOTOGRAPHS OF EUT V01**

# History of this test report

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FR661623-31AA | 01 | Initial issue of report | Nov. 27, 2018 |
| FR661623-31AA | 02 | Revised permissive change description (This report is the latest version replacing for the report issued on Nov. 27, 2018.) | Nov. 29, 2018 |
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# Summary of Test Result

| Report Clause | Ref. Std. Clause | Test Items | Result (PASS/FAIL) | Remark |
|---|---|---|---|---|
| 1.1.2 | 15.203 | Antenna Requirement | PASS | FCC 15.203 |

| **Declaration of Conformity:** |
|---|
| The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty. |
| **Comments and explanations:** |
| None |

**Reviewed by: Howard Lee**

**Report Producer: Michelle Tsai**

# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

| Frequency Range (MHz) | IEEE Std. 802.11 | Ch. Frequency (MHz) | Channel Number |
|---|---|---|---|
| 2400-2483.5 | b, g, n (HT20), ac (VHT20) | 2412-2462 | 1-11 [11] |
| 2400-2483.5 | n (HT40), ac (VHT40) | 2422-2452 | 3-9 [7] |

| Band | Mode | BWch (MHz) | Nant |
|---|---|---|---|
| 2.4-2.4835GHz | 802.11b | 20 | 4TX |
| 2.4-2.4835GHz | 802.11g | 20 | 4TX |
| 2.4-2.4835GHz | 802.11ac (VHT20) | 20 | 4TX |
| 2.4-2.4835GHz | 802.11ac (VHT40) | 40 | 4TX |

Note:
- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.

### 1.1.2 Antenna Information

**For 2.4GHz WLAN function**

| Ant. | Chain | Brand | Model Name | Antenna Type | Connector | TX/RX Gain (dBi) |
|---|---|---|---|---|---|---|
| 1 | 1 | - | - | PIFA Antenna | N/A | 6 |
| 2 | 2 | - | - | PIFA Antenna | N/A | 6 |
| 3 | 3 | - | - | PIFA Antenna | N/A | 6 |
| 4 | 4 | - | - | PIFA Antenna | N/A | 6 |

**For 5GHz WLAN function**

| Ant. | Chain | Brand | Model Name | Antenna Type | Connector | TX/RX Gain (dBi) |
|---|---|---|---|---|---|---|
| 5 | 1 | - | - | PIFA Antenna | N/A | 6 |
| 6 | 2 | - | - | PIFA Antenna | N/A | 6 |
| 7 | 3 | - | - | PIFA Antenna | N/A | 6 |
| 8 | 4 | - | - | PIFA Antenna | N/A | 6 |

**For Bluetooth function**

| Ant. | Chain | Brand | Model Name | Antenna Type | Connector | TX/RX Gain (dBi) |
|---|---|---|---|---|---|---|
| 9 | 1 | - | - | PIFA Antenna | N/A | 1 |

**For 2.4G & 5G WLAN function (Contains ID: SWX-M11DB)**

| Ant. | Chain | Brand | Model Name | Antenna Type | Connector | TX/RX Gain (dBi) | |
|---|---|---|---|---|---|---|---|
| | | | | | | 2.4GHz | 5GHz |
| 10 | 1 | - | - | Internal antenna | i-Pex | 4 | 4 |

Note: The EUT has ten antennas.

**For 2.4GHz WLAN function**

**IEEE 802.11b/g/n/ac mode (4TX/4RX):** The module has four chains.

Chain 1, Chain 2, Chain 3 and Chain 4 can be used as transmitting/receiving antenna.

Chain 1, Chain 2, Chain 3 and Chain 4 could transmit/receive simultaneously.

**For 5GHz WLAN function**

**IEEE 802.11a/n/ac mode (4TX/4RX):** The module has four chains.

Chain 1, Chain 2, Chain 3 and Chain 4 can be used as transmitting/receiving antenna.

Chain 1, Chain 2, Chain 3 and Chain 4 could transmit/receive simultaneously.

**For Bluetooth function:** The module has one chain only.

Chain 1 can be used as transmitting/receiving antenna.

Chain 1 could transmit/receive simultaneously.

**For 2.4G & 5G WLAN function (Contains ID: SWX-M11DB):** The module has one chain only.

Chain 1 can be used as transmitting/receiving antenna.

Chain 1 could transmit/receive simultaneously.

### 1.1.3 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR661623-07AA

Below is the table for the change of the product with respect to the original one.

| Modifications | Performance Checking |
|---|---|
| Contains FCC ID: SWX-M11DB | N/A |

THE END