FCC Test Report

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 15.407**

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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History of this test report

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

Summary of Test Result

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

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
5250-5350	a, n (HT20), ac (VHT20)	5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5250-5350	n (HT40), ac (VHT40)	5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [5]
5250-5350	ac (VHT80)	5290	58 [1]
5470-5725		5530-5690	106-138 [3]

Band	Mode	BWch (MHz)	Nant
5.25-5.35GHz	802.11a	20	4TX
5.47-5.725GHz	802.11a	20	4TX
5.25-5.35GHz	802.11ac VHT20	20	4TX
5.47-5.725GHz	802.11ac VHT20	20	4TX
5.25-5.35GHz	802.11ac VHT40	40	4TX
5.47-5.725GHz	802.11ac VHT40	40	4TX
5.25-5.35GHz	802.11ac VHT80	80	4TX
5.47-5.725GHz	802.11ac VHT80	80	4TX

Note:
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40, VHT80 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: FR661623-07AC

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

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