

FCC Radio Test Report

FCC ID : HDC-17600030F1
Contains FCC ID : HDC-649B
Equipment : WiFi 6 Mesh AP
Brand Name : **ADTRAN**[®] or **Adtran**
Model Name : 841-t6YYYYYY(Y can be 0-9, a-z, A-Z, blank, "+" or "-" or "#")
Part Number : 17600030FYYYYYYYY(Y can be 0-9, a-z, A-Z, blank, "+" or "-" or "#")
Applicant : Adtran
901 Explorer Blvd., Huntsville, AL 35806, USA
Manufacturer : XAVi Technologies Corporation
22F., No.69, Sec. 2, Guangfu Rd., Sanchong Dist.,
New Taipei City 241, Taiwan (R.O.C.)
Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 20, 2021, and testing was started from Sep. 16, 2021 and completed on Sep. 24, 2021. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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



Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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TEL : 886-3-3273456
FAX : 886-3-3270973
Report Template No.: HE1-C10 Ver4.3
FCC ID: HDC-17600030F1

Summary of Test Result

| Report Clause | Ref.Std. Clause | Test Items | Result (PASS/FAIL) | Remark |
|---------------|-----------------|---|--------------------|----------------|
| 1.1.2 | 15.203 | Antenna Requirement | PASS | - |
| - | 15.207 | AC Power-line Conducted Emissions | Not Required | Refer as 1.1.6 |
| - | 15.247(a) | DTS Bandwidth | Not Required | Refer as 1.1.6 |
| - | 15.247(b) | Maximum Conducted Output Power | Not Required | Refer as 1.1.6 |
| - | 15.247(e) | Power Spectral Density | Not Required | Refer as 1.1.6 |
| - | 15.247(d) | Emissions in Non-restricted Frequency Bands | Not Required | Refer as 1.1.6 |
| - | 15.247(d) | Emissions in Restricted Frequency Bands | Not Required | Refer as 1.1.6 |

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and explanations:

None

Reviewed by: Ben Tseng

Report Producer: Amber Chiu

1 General Description

1.1 Information

1.1.1 RF General Information

| Frequency Range (MHz) | Bluetooth Mode | Ch. Frequency (MHz) | Channel Number |
|-----------------------|----------------|---------------------|----------------|
| 2400-2483.5 | LE | 2402-2480 | 0-39 [40] |

| Band | Mode | BWch (MHz) | Nant |
|---------------|--------------|------------|------|
| 2.4-2.4835GHz | BT-LE(1Mbps) | 1.0 | 1TX |

Note:

- ♦ Bluetooth LE uses a GFSK (1Mbps) modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

| Ant. | Brand | Model Name | Antenna Type | Connector | Support |
|------|------------|------------------|--------------|-----------|-----------|
| 1 | Galtronics | 02036142-07357-1 | PIFA | N/A | 5G DFS RX |
| 2 | Galtronics | 02036073-07357-3 | PIFA | N/A | BT |
| 3 | Galtronics | 60-2962-03-4 | PCB | U.FL | 2.4G+5G |
| 4 | Galtronics | 60-2962-03-3 | PCB | U.FL | 2.4G+5G |
| 5 | Galtronics | 60-2888-03-1 | PCB | U.FL | 5G |
| 6 | Galtronics | 60-2791-03 | PCB | U.FL | 5G |
| 7 | Galtronics | 60-2791-03 | PCB | U.FL | 5G |
| 8 | Galtronics | 60-2888-03-1 | PCB | U.FL | 5G |

Non-Beamforming

| Ant. | Port | Gain (dBi) | | |
|------|------|------------|-----|-----|
| | | 2.4G | 5G | BT |
| 1 | 1 | - | 4.7 | - |
| 2 | 1 | - | - | 5.3 |
| 3 | 1 | 2.7 | 3.7 | - |
| 4 | 2 | 2.7 | 3.7 | - |
| 5 | 1 | - | 3.9 | - |
| 6 | 2 | - | 2.1 | - |
| 7 | 3 | - | 2.1 | - |
| 8 | 4 | - | 3.9 | - |

Note 1: The EUT has eight antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n/VHT/ax mode (2TX/2RX)

Ant. 3 (port 1) and Ant. 4 (port 2) could transmit/receive simultaneously.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Only Ant. 2 (port 1) can be used as transmitting/receiving.

For 5GHz function (Low Band):

For IEEE 802.11 a/n/ac/ax mode (2TX/2RX)

Ant. 3 (port 1) and Ant. 4 (port 2) could transmit/receive simultaneously.

For 5GHz function (High Band):

For IEEE 802.11 a/n/ac/ax mode (4TX/4RX)

Ant. 5 (port 1), Ant. 6 (port 2), Ant. 7 (port 3) and Ant. 8 (port 4) could transmit/receive simultaneously.

1.1.3 EUT Information

| Operational Condition | | | |
|-------------------------------------|---|---|---|
| EUT Power Type | | From AC Adapter | |
| EUT Function | | <input checked="" type="checkbox"/> Point-to-multipoint | <input type="checkbox"/> Point-to-point |
| Type of EUT | | | |
| <input checked="" type="checkbox"/> | Stand-alone | | |
| <input type="checkbox"/> | Combined (EUT where the radio part is fully integrated within another device) | | |
| | Combined Equipment - Brand Name / Model No.: ... | | |
| <input type="checkbox"/> | Plug-in radio (EUT intended for a variety of host systems) | | |
| | Host System - Brand Name / Model No.: ... | | |
| <input type="checkbox"/> | Other: | | |

1.1.4 Mode Test Duty Cycle

| Mode | DC | DCF(dB) | T(s) | VBW(Hz) $\geq 1/T$ |
|--------------|------|---------|--------|--------------------|
| BT-LE(1Mbps) | 0.85 | 0.71 | 2.124m | 1k |

Note. If $DC < 0.98$, the DCF was added while measuring Output power and PSD.

1.1.5 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

| Model Name | Color | Description |
|--|-------|--|
| 841-t6YYYYYY(Y can be 0-9, a-z, A-Z, blank, "+" or "-" or "#") | White | All the models are identical, the difference model served as marketing strategy. |
| | Black | |

Note: The information is provided by manufacturer.

1.1.6 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR182051-04AL

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

| Modifications | Performance Checking |
|---|--|
| 1. The 841 motherboard 5G filter and 5G module filter were replaced with Qorvo alternative materials. | After evaluation, no RF test validations are required. |

Note : The information is provided by manufacturer.

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF:

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

| Test Lab. : Sporton International Inc. Hsinhua Laboratory | | | |
|---|-----------------------------|---|---------------------|
| <input checked="" type="checkbox"/> | Hsinhua (TAF: 3785) | ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.) | |
| | | TEL: 886-3-327-3456 | FAX: 886-3-327-0973 |
| Test site Designation No. TW3785 with FCC. | | | |
| <input type="checkbox"/> | Wen 33rd.St. (TAF: 3785) | ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) | |
| | | TEL: 886-3-318-0787 | FAX: 886-3-318-0287 |
| Test site Designation No. TW0008 with FCC. | | | |

1.4 Accessories

| Accessories | | | | |
|---------------------------|--------------|--|------------|-----------------|
| AC Adapter 1 (US Plug) | Brand Name | MASS POWER | Model Name | S030-1A120250VU |
| | Power Rating | I/P: 100 - 240 Vac, 0.8 A, O/P: 12.0 Vdc, 2.5 A | | |
| | Power Cord | 1.45 meter, non-shielded cable, w/o ferrite core | | |
| AC Adapter 2 (US Plug) | Brand Name | KLEC | Model Name | KL-WA120250-Z |
| | Power Rating | I/P: 100 - 240 Vac, 1.2 A, O/P: 12.0 Vdc, 2.5 A | | |
| | Power Cord | 1.5 meter, non-shielded cable, w/o ferrite core | | |

Reminder: Regarding to more detail and other information, please refer to user manual.

—————THE END—————