# TEST REPORT

## CERTIFICATE OF CONFORMITY

| | |
|---|---|
| **Standard:** | **47 CFR FCC Part 15, Subpart C (Section 15.247)**<br>**47 CFR FCC Part 15, Subpart E (Section 15.407)** |
| **Report No.:** | RFBBUI-WTW-P22031043B |
| **FCC ID:** | TX2-RTL8852B |
| **Model No.:** | RTL8852B |
| **Received Date:** | 2022/10/25 |
| **Issued Date:** | 2022/10/31 |
| **Applicant:** | Realtek Semiconductor Corp. |
| **Address:** | No. 2, Innovation Road II, Hsinchu Science Park, Hsinchu 300, Taiwan |
| **Issued By:** | Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch<br>Hsin Chu Laboratory |
| **Lab Address:** | E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan |
| **Test Location:** | E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan |
| **FCC Registration / Designation Number:** | 723255 / TW2022 |

**Approved by:** _____ , **Date:** 2022/10/31

May Chen / Manager

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Prepared by : Vivian Huang / Specialist

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# Release Control Record

| Issue No. | Description | Date Issued |
|---|---|---|
| RFBBUI-WTW-P22031043B | Original release. | 2022/10/31 |

# 1 Certificate

| | |
|---|---|
| **Product:** | 11ax RTL8852B M.2 1216 Combo module |
| **Brand:** | REALTEK |
| **Test Model:** | RTL8852B |
| **Sample Status:** | Engineering sample |
| **Applicant:** | Realtek Semiconductor Corp. |
| **Standard:** | 47 CFR FCC Part 15, Subpart C (Section 15.247)<br>47 CFR FCC Part 15, Subpart E (Section 15.407) |

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

# 2 General Information

## 2.1 General Description

| | |
|---|---|
| Product | 11ax RTL8852B M.2 1216 Combo module |
| Brand | REALTEK |
| Test Model | RTL8852B |
| Status of EUT | Engineering sample |
| Power Supply Rating | 3.3Vdc from host equipment |
| Modulation Type | **For WLAN:**<br>CCK, DQPSK, DBPSK for DSSS<br>64QAM, 16QAM, QPSK, BPSK for OFDM<br>256QAM for OFDM in 11ac mode and VHT in 2.4GHz<br>1024QAM for OFDMA in 11ax mode<br>**For BT-EDR:** GFSK, π/4-DQPSK, 8DPSK<br>**For BT-LE:** GFSK |
| Modulation Technology | **For WLAN:** DSSS, OFDM, OFDMA<br>**For BT-EDR:** FHSS<br>**For BT-LE:** DTS |
| Transfer Rate | **For WLAN:**<br>802.11b: up to 11 Mbps<br>802.11a/g: up to 54 Mbps<br>802.11n: up to 300 Mbps<br>VHT: up to 400 Mbps<br>802.11ac: up to 866.7 Mbps<br>802.11ax: up to 1201 Mbps<br>**For BT-EDR:** up to 3 Mbps<br>**For BT-LE:** up to 2 Mbps |
| Operating Frequency | **For WLAN:**<br>**2.4GHz:** 2412 ~ 2472 MHz<br>**5GHz:** 5180 ~ 5240 MHz, 5260 ~ 5320 MHz, 5500 ~ 5720 MHz, 5745 ~ 5825 MHz<br>**5.9GHz:** 5835 ~ 5885 MHz<br>**For BT:** 2402 ~ 2480 MHz |
| Number of Channel | **For WLAN:**<br>**2.4GHz:**<br>802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20): 13<br>802.11n (HT40), VHT40, 802.11ax (HE40): 9<br>**5GHz:**<br>802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 25<br>802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 12<br>802.11ac (VHT80), 802.11ax (HE80): 6<br>**5.9GHz:**<br>802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 3<br>802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2<br>802.11ac (VHT80), 802.11ax (HE80): 1<br>**For BT-EDR:** 79<br>**For BT-LE:** 40 |

Note:

1. This report is issued as a supplementary report to BV CPS report as below test report:

| Function | Report No. |
|---|---|
| WLAN_2.4GHz | RFBBUI-WTW-P22031043 |
| WLAN_5GHz | RFBBUI-WTW-P22031043-1 |
| WLAN_5.9GHz | RFBBUI-WTW-P22031043-4 |
| BT-EDR | RFBBUI-WTW-P22031043-2 |
| BT-LE | RFBBUI-WTW-P22031043-3 |
| DFS | RFBBUI-WTW-P22031043-5 |
| Transmit Simultaneously | RFBBUI-WTW-P22031043-6 |

2. New antenna was added. According to the judgment on the EUT specification, the new antenna has the same characteristics and type under the same frequency band except the gain is smaller than the original application, so the highest gain evaluated in the original reports was for the final test.
3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

## 2.2 Antenna Description of EUT

1. The antenna information is listed as below.

| **Original** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ant. Set | RF Chain No. | Brand | Model | Ant. Net Gain (dBi) | Frequency Range (GHz) | Ant. Type | Connector Type | Cable Length (mm) |
| 1 | Chain 0 | ARISTOTLE | RFA-27-JP326-MHF4300 | 3.5 | 2.4~2.4835 | PIFA | i-pex(MHF) | 300 |
| | | | | 5 | 5.15~5.85 | | | |
| | | | | 5 | 5.875~7.125 | | | |
| | Chain 1 | ARISTOTLE | RFA-27-JP326-MHF4300 | 3.5 | 2.4~2.4835 | PIFA | i-pex(MHF) | 300 |
| | | | | 5 | 5.15~5.85 | | | |
| | | | | 5 | 5.875~7.125 | | | |
| 2 | Chain 0 | ARISTOTLE | RFA-27-C38H1-MHF4300 | 3 | 2.4~2.4835 | Dipole | i-pex(MHF) | 300 |
| | | | | 5 | 5.15~5.85 | | | |
| | | | | 5 | 5.875~7.125 | | | |
| | Chain 1 | ARISTOTLE | RFA-27-C38H1-MHF4300 | 3 | 2.4~2.4835 | Dipole | i-pex(MHF) | 300 |
| | | | | 5 | 5.15~5.85 | | | |
| | | | | 5 | 5.875~7.125 | | | |
| **Newly** | | | | | | | | |
| Ant. Set | RF Chain No. | Brand | Model | Ant. Net Gain (dBi) | Frequency Range (GHz) | Ant. Type | Connector Type | Cable Length (mm) |
| 3 | Chain 0 | REALTEK | RTK-ANT-0021 | 3.4 | 2.4~2.4835 | PIFA | Ipex4 | 300 |
| | | | | 4.8 | 5.15~5.85 | | | |
| | | | | 4.1 | 5.875~7.125 | | | |
| | Chain 1 | REALTEK | RTK-ANT-0021 | 3.4 | 2.4~2.4835 | PIFA | Ipex4 | 300 |
| | | | | 4.8 | 5.15~5.85 | | | |
| | | | | 4.1 | 5.875~7.125 | | | |

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:


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The address and road map of all our labs can be found in our web site also.

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