# FCC Test Report

**Test report**
**On Behalf of**
**Shenzhen Zishan Video Co., LTD**
**For**
**4K Dash Cam**
**Model No.: S36, S33, S34, S35, S37, S38, S53, S62, S72, S100, S101, S112, S122, S133, S16, S98, S22, S65, S91, S17, S109, S26, S46, S76, S71, S15, S50A, S117, S87, S93, S55, S75, S88, S105, S83, S48, S30, S31, S32, S39, S61, S84, S124, S11, S12, S13, S130, S131, S132, S28**

**FCC ID: 2BQS3-S36**

| | |
|---|---|
| **Prepared For :** | **Shenzhen Zishan Video Co., LTD**<br>**Room 201, D dong, Factory Entrance, Kai Hui Mao Industrial Park, Liyuan Road, Heping Community, Fuhai Subdistrict, Bao'an District, shenzhen, China** |
| **Prepared By :** | **Shenzhen HUAK Testing Technology Co., Ltd.**<br>**1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China** |
| **Date of Test:** | **Jun. 27, 2025 ~ Jul. 07, 2025** |
| **Date of Report:** | **Jul. 07, 2025** |
| **Report Number:** | **HK2506273481-1E** |

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

# Test Result Certification

| | |
|---|---|
| **Applicant's name** ..... : | Shenzhen Zishan Video Co., LTD |
| Address..... : | Room 201, D dong, Factory Entrance, Kai Hui Mao Industrial Park, Liyuan Road, Heping Community, Fuhai Subdistrict, Bao'an District, shenzhen, China |
| **Manufacturer's Name** ..... : | Shenzhen Zishan Video Co., LTD |
| Address..... : | Room 201, D dong, Factory Entrance, Kai Hui Mao Industrial Park, Liyuan Road, Heping Community, Fuhai Subdistrict, Bao'an District, shenzhen, China |
| **Product description** | |
| Trade Mark: | N/A |
| Product name .....: | 4K Dash Cam |
| Model and/or type reference : | S36, S33, S34, S35, S37, S38, S53, S62, S72, S100, S101, S112, S122, S133, S16, S98, S22, S65, S91, S17, S109, S26, S46, S76, S71, S15, S50A, S117, S87, S93, S55, S75, S88, S105, S83, S48, S30, S31, S32, S39, S61, S84, S124, S11, S12, S13, S130, S131, S132, S28 |
| **Standards** ..... : | FCC Rules and Regulations Part 15 Subpart C Section 15.247<br>ANSI C63.10: 2013 |

This publication may be reproduced in whole or in part for non-commercial purposes as long as the Shenzhen HUAK Testing Technology Co., Ltd. is acknowledged as copyright owner and source of the material. Shenzhen HUAK Testing Technology Co., Ltd. takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

| | |
|---|---|
| **Date of Test** ..... : | |
| Date (s) of performance of tests..... : | **Jun. 27, 2025 ~ Jul. 07, 2025** |
| Date of Issue ..... : | **Jul. 07, 2025** |
| Test Result ..... : | **Pass** |

Testing Engineer Len Liao

Len Liao

Technical Manager Sliver Wan

Sliver Wan

Authorized Signatory Jason Zhou

Jason Zhou

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

# Table of Contents

1. Test Result Summary ..... 5
1.1. Test Procedures and Results ..... 5
1.2. Information of the Test Laboratory ..... 5
1.3. Measurement Uncertainty ..... 6
2. EUT Description ..... 7
2.1. General Description of EUT ..... 7
2.2. Carrier Frequency of Channels ..... 8
2.3. Operation of EUT During Testing ..... 8
2.4. Description of Test Setup ..... 9
2.5. Description of Support Units ..... 10
3. Genera Information ..... 11
3.1. Test Environment and Mode ..... 11
4. Test Results and Measurement Data ..... 14
4.1. AC Power Line Conducted Emission ..... 14
4.2. Test Result ..... 16
4.3. Maximum Peak Conducted Output Power ..... 17
4.4. Emission Bandwidth ..... 19
4.5. Power Spectral Density ..... 25
4.6. Conducted Band Edge and Spurious Emission Measurement ..... 32
4.7. Radiated Spurious Emission Measurement ..... 46
4.8. Antenna Requirement ..... 72
5. Test Setup Photos of the EUT ..... 73
6. Photos of the EUT ..... 75

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

# ** Modified History **

| Revision | Description | Issued Data | Remark |
|---|---|---|---|
| Revision 1.0 | Initial Test Report Release | Jul. 07, 2025 | Jason Zhou |
| | | | |
| | | | |

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

# 1. Test Result Summary

## 1.1. Test Procedures and Results

| Requirement | CFR 47 Section | Result |
|---|---|---|
| Antenna requirement | §15.203/§15.247(b)(4) | PASS |
| AC Power Line Conducted Emission | §15.207 | N/A |
| Conducted Peak Output Power | §15.247(b)(3) | PASS |
| 6dB Emission Bandwidth | §15.247(a)(2) | PASS |
| Power Spectral Density | §15.247(e) | PASS |
| Band Edge | §15.247(d) | PASS |
| Spurious Emission | §15.205/§15.209 | PASS |

***Note:***

*1. PASS: Test item meets the requirement.*

*2. Fail: Test item does not meet the requirement.*

*3. N/A: Test case does not apply to the test object.*

*4. The test result judgment is decided by the limit of test standard.*

## 1.2. Information of the Test Laboratory

Shenzhen HUAK Testing Technology Co., Ltd.
Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization：

A2LA Accreditation Code is 4781.01.
FCC Designation Number is CN1229.
Canada IC CAB identifier is CN0045.
CNAS Registration Number is L9589.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## 1.3. Measurement Uncertainty

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

| No. | Item | MU |
|---|---|---|
| 1 | Conducted Emission | ±2.71dB |
| 2 | RF power, conducted | ±0.37dB |
| 3 | Spurious emissions, conducted | ±0.11dB |
| 4 | All emissions, radiated(<1G) | ±3.90dB |
| 5 | All emissions, radiated(>1G) | ±4.28dB |
| 6 | Temperature | ±0.1°C |
| 7 | Humidity | ±1.0% |

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

# 2. EUT Description

## 2.1. General Description of EUT

| | |
|---|---|
| Equipment: | 4K Dash Cam |
| Model Name: | S36 |
| Series Models: | S33, S34, S35, S37, S38, S53, S62, S72, S100, S101, S112, S122, S133, S16, S98, S22, S65, S91, S17, S109, S26, S46, S76, S71, S15, S50A, S117, S87, S93, S55, S75, S88, S105, S83, S48, S30, S31, S32, S39, S61, S84, S124, S11, S12, S13, S130, S131, S132, S28 |
| Model Difference: | All model's the function, software and electric circuit are the same, only with a product model named different. Test sample mode: S36. |
| Trade Mark: | N/A |
| FCC ID: | 2BQS3-S36 |
| Antenna Type: | FPC Antenna |
| Antenna Gain: | 3.04dBi |
| Operation frequency: | 802.11b/g/n (HT20):2412~2462 MHz<br>802.11n (HT40): 2422~2452MHz |
| Number of Channels: | 802.11b/g/n(HT20): 11CH<br>802.11n (HT40): 7CH |
| Modulation Type: | DSSS, OFDM |
| Power Source: | DC 12V From DC Power |
| Power Rating: | DC 12V From DC Power |
| Hardware Version: | V1.0 |
| Software Version: | V1.0 |
| Note:<br>1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.<br>2. Antenna gain Refer to the antenna specifications.<br>3. The cable loss data is obtained from the supplier.<br>4. The test results in the report only apply to the tested sample. | |

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## 2.2. Carrier Frequency of Channels

| Channel List For 802.11b/802.11g/802.11n (HT20) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 01 | 2412 | 04 | 2427 | 07 | 2442 | 10 | 2457 |
| 02 | 2417 | 05 | 2432 | 08 | 2447 | 11 | 2462 |
| 03 | 2422 | 06 | 2437 | 09 | 2452 | -- | -- |

| Channel List For 802.11n (HT40) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| -- | -- | 04 | 2427 | 07 | 2442 | -- | -- |
| -- | -- | 05 | 2432 | 08 | 2447 | -- | -- |
| 03 | 2422 | 06 | 2437 | 09 | 2452 | -- | -- |

***Note:***

*In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:*

## 2.3. Operation of EUT During Testing

**Operating Mode**

**The mode is used: Transmitting mode for 802.11b/802.11g/802.11n (HT20)**

Low Channel: 2412MHz
Middle Channel: 2437MHz
High Channel: 2462MHz

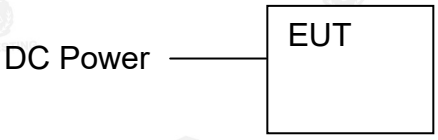
**The mode is used: Transmitting mode for 802.11n (HT40)**

Low Channel: 2422MHz
Middle Channel: 2437MHz
High Channel: 2452MHz

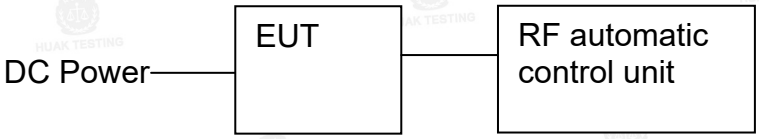
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## 2.4. Description of Test Setup

Operation of EUT during radiation testing:




Operation of EUT during RF conducted testing:




The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. The worst case is X position

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## 2.5. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Item | Equipment | Trade Mark | Model/Type No. | Specification | Remark |
|---|---|---|---|---|---|
| 1 | 4K Dash Cam | N/A | S36 | N/A | EUT |
| | | | | | |
| | | | | | |

***Note:***

*1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*

*2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

*3. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

# 3. Genera Information

## 3.1. Test Environment and Mode

| Operating Environment: | |
|---|---|
| Temperature: | 25.0 °C |
| Humidity: | 56 % RH |
| Atmospheric Pressure: | 1010 mbar |
| **Test Mode:** | |
| Engineering mode: | Keep the EUT in continuous transmitting by select channel and modulations |
| We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows: | |

| Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case. | |
|---|---|
| Mode | Data rate |
| 802.11b | 1Mbps |
| 802.11g | 6Mbps |
| 802.11n(HT20) | 6.5Mbps |
| 802.11n(HT40) | 13.5Mbps |

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

| **Final Test Mode:** | |
|---|---|
| Operation mode: | Keep the EUT in continuous transmitting with modulation |

1. For WIFI function, the engineering test program was provided and enabled to make EUT continuous transmit/receive.

2.According to ANSI C63.10 standards, the test results are both the “worst case” and “worst setup” 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n(HT20), 13.5Mbps for 802.11n(HT40).

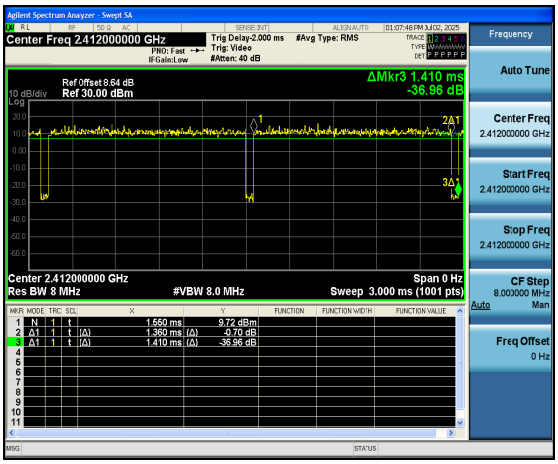
3. Mode Test Duty Cycle

| Mode | Duty Cycle |
|---|---|
| 802.11b | 0.96 |
| 802.11g | 0.96 |
| 802.11n(HT20) | 0.96 |
| 802.11n(HT40) | 0.93 |

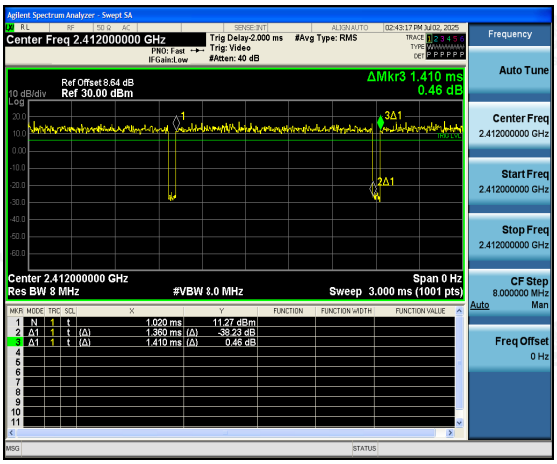
Test plots as follows:

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

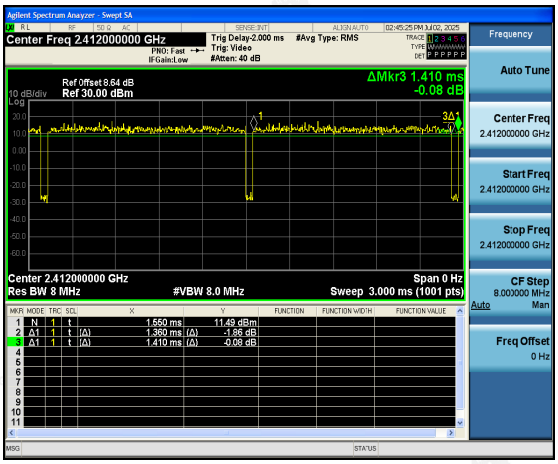
## 802.11b



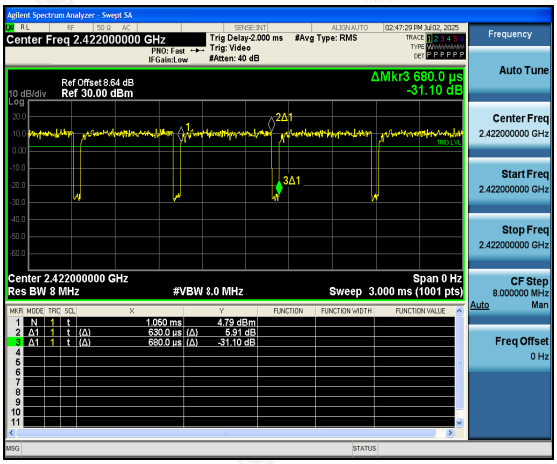

## 802.11g




## 802.11n(HT20)




## 802.11n(HT40)

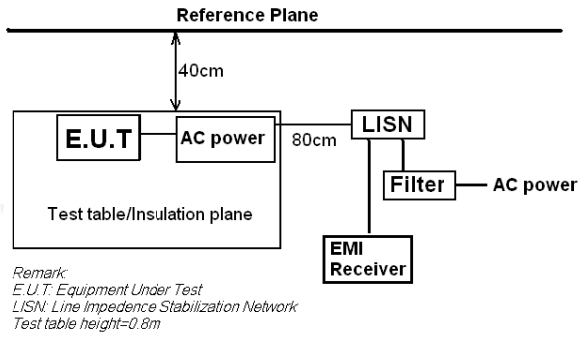



The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

# 4. Test Results and Measurement Data

## 4.1. AC Power Line Conducted Emission

**Test Specification**

| | |
|---|---|
| **Test Requirement:** | FCC Part15 C Section 15.207 |
| **Test Method:** | ANSI C63.10:2013 |
| **Frequency Range:** | 150 kHz to 30 MHz |
| **Receiver setup:** | RBW=9 kHz, VBW=30 kHz, Sweep time=auto |
| **Limits:** | Frequency range (MHz) / Limit (dBuV): Quasi-peak / Average<br>0.15-0.5: 66 to 56* / 56 to 46*<br>0.5-5: 56 / 46<br>5-30: 60 / 50 |
| **Test Setup:** |  |
| **Test Mode:** | transmitting with modulation |
| **Test Procedure:** | 1. The E.U.T is connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.<br>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).<br>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement. |
| **Test Result:** | N/A |

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## Test Instruments

| Conducted Emission Shielding Room Test Site (843) | | | | | |
|---|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Date** | **Calibration Due** |
| Receiver | R&S | ESR | HKE-005 | Feb. 19, 2025 | Feb. 18, 2026 |
| LISN | R&S | ENV216 | HKE-002 | Feb. 19, 2025 | Feb. 18, 2026 |
| LISN | R&S | ENV216 | HKE-059 | Feb. 19, 2025 | Feb. 18, 2026 |
| Coax cable (9KHz-30MHz) | Times | 381806-002 | N/A | Feb. 19, 2025 | Feb. 18, 2026 |
| EMI Test Software | Tonscend | JS32-CE 2.5.0.6 | HKE-081 | N/A | N/A |
| 10dB Attenuator | Schwarzbeck | VTSD9561F | HKE-153 | Feb. 19, 2025 | Feb. 18, 2026 |

***Note:*** *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## 4.2. Test Result

Not applicable
Note: Since EUT is only for on-car use, so this test item not applicable.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## 4.3. Maximum Peak Conducted Output Power

### Test Specification

| | |
|---|---|
| **Test Requirement:** | FCC Part15 C Section 15.247 (b)(3) |
| **Test Method:** | KDB 558074 D01 15.247 Meas Guidance v05r02 |
| **Limit:** | 30dBm |
| **Test Setup:** | |
| **Test Mode:** | Transmitting mode with modulation |
| **Test Procedure:** | 1. The testing follows the Measurement Procedure of FCC KDB 558074 D01 15.247 Meas Guidance v05r02.<br>2. The RF output of EUT was connected to the RF automatic control unit by RF cable. The path loss was compensated to the results for each measurement.<br>3. Set to the maximum power setting and enable the EUT transmit continuously.<br>4. Measure the Peak output power and record the results in the test report. |
| **Test Result:** | PASS |

### Test Instruments

| RF Test Room | | | | | |
|---|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Date** | **Calibration Due** |
| Spectrum analyzer | Agilent | N9020A | HKE-025 | Feb. 19, 2025 | Feb. 18, 2026 |
| Spectrum analyzer | Agilent | N9020A | HKE-117 | Feb. 19, 2025 | Feb. 18, 2026 |
| Power meter | Agilent | E4419B | HKE-085 | Feb. 19, 2025 | Feb. 18, 2026 |
| Power Sensor | Agilent | E9300A | HKE-086 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF cable | Times | 1-40G | HKE-034 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF automatic control unit | Tonscend | JS0806-2 | HKE-060 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF Test Software | Tonscend | JS1120-3 Version 3.5.39 | HKE-083 | N/A | N/A |

***Note:*** *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## Test Data

| Mode | Test Channel | Frequency | Maximum Peak Conducted Output Power | LIMIT |
|---|---|---|---|---|
| | | (MHz) | (dBm) | dBm |
| 802.11b | CH01 | 2412 | 13.40 | 30 |
| 802.11b | CH06 | 2437 | 13.23 | 30 |
| 802.11b | CH11 | 2462 | 13.55 | 30 |
| 802.11g | CH01 | 2412 | 13.31 | 30 |
| 802.11g | CH06 | 2437 | 13.38 | 30 |
| 802.11g | CH11 | 2462 | 12.39 | 30 |
| 802.11n(HT20) | CH01 | 2412 | 12.89 | 30 |
| 802.11n(HT20) | CH06 | 2437 | 13.92 | 30 |
| 802.11n(HT20) | CH11 | 2462 | 12.76 | 30 |
| 802.11n(HT40) | CH03 | 2422 | 12.81 | 30 |
| 802.11n(HT40) | CH06 | 2437 | 12.23 | 30 |
| 802.11n(HT40) | CH09 | 2452 | 13.66 | 30 |

Note: 1.The test results including the cable lose.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## 4.4. Emission Bandwidth

### Test Specification

| | |
|---|---|
| **Test Requirement:** | FCC Part15 C Section 15.247 (a)(2) |
| **Test Method:** | KDB 558074 D01 15.247 Meas Guidance v05r02 |
| **Limit:** | >500kHz |
| **Test Setup:** | |
| **Test Mode:** | Transmitting mode with modulation |
| **Test Procedure:** | 1. The testing follows FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.<br>2. Set to the maximum power setting and enable the EUT transmit continuously.<br>3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz.<br>4. Measure and record the results in the test report. |
| **Test Result:** | PASS |

### Test Instruments

| RF Test Room | | | | | |
|---|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Date** | **Calibration Due** |
| Spectrum analyzer | Agilent | N9020A | HKE-025 | Feb. 19, 2025 | Feb. 18, 2026 |
| Spectrum analyzer | Agilent | N9020A | HKE-117 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF cable | Times | 1-40G | HKE-034 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF automatic control unit | Tonscend | JS0806-2 | HKE-060 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF Test Software | Tonscend | JS1120-3 Version 3.5.39 | HKE-083 | N/A | N/A |

***Note:*** *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**Test data**

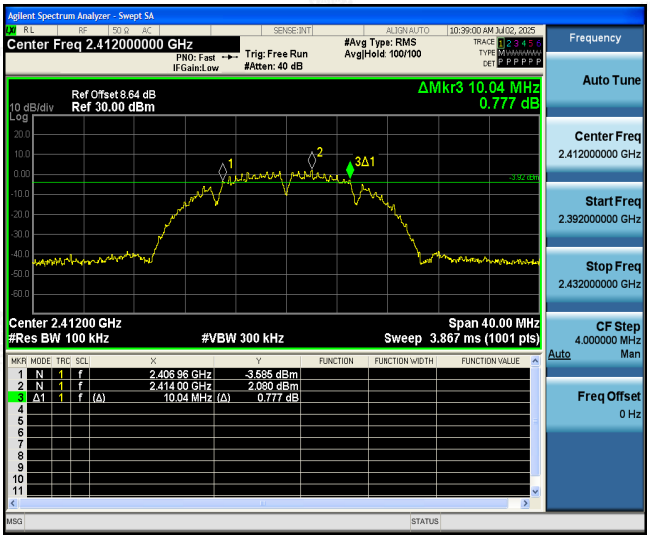
| Test channel | 6dB Emission Bandwidth (MHz) | | | |
|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(HT20) | 802.11n(HT40) |
| Lowest | 10.04 | 16.28 | 17.32 | 35.28 |
| Middle | 10.08 | 16.28 | 17.60 | 36.32 |
| Highest | 10.04 | 16.36 | 16.96 | 35.28 |
| Limit: | >500kHz | | | |
| Test Result: | PASS | | | |

**Test plots as follows:**

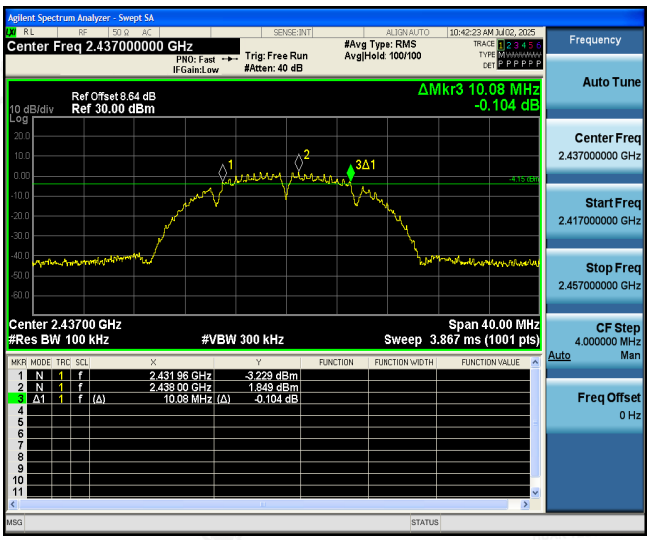
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**802.11b Modulation**

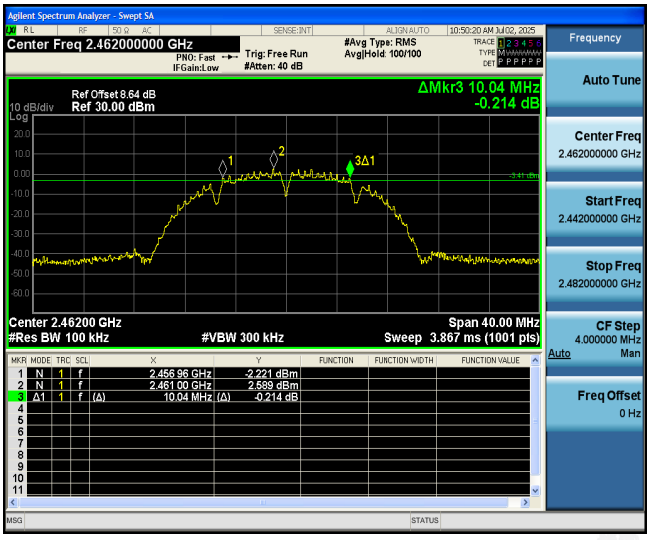
Lowest channel




Middle channel



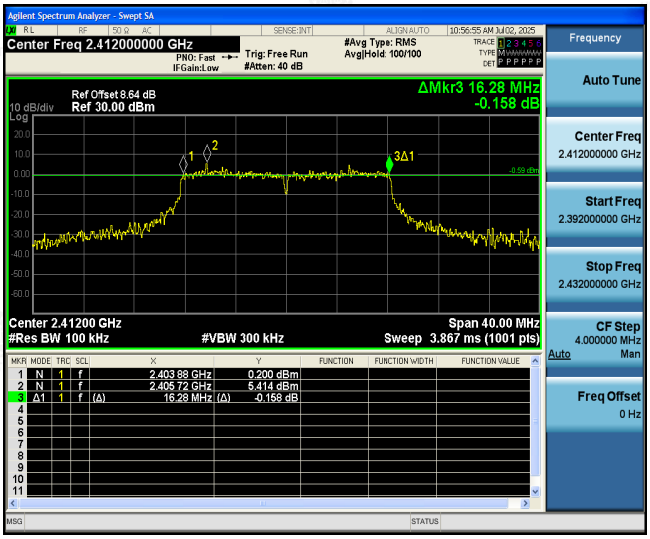

Highest channel



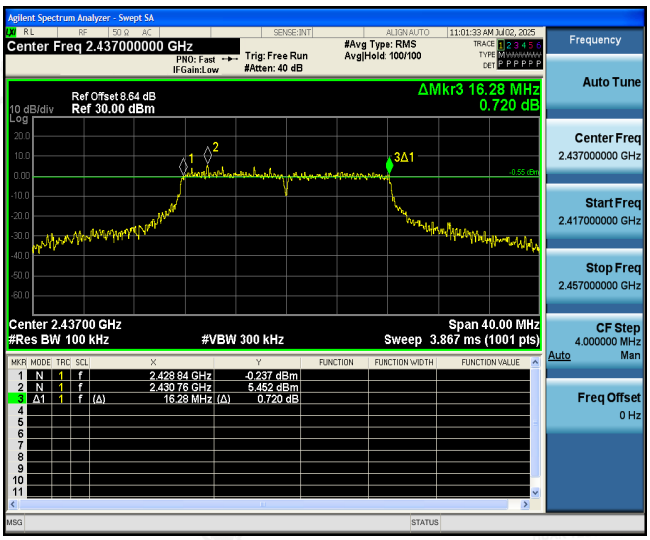

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**802.11g Modulation**

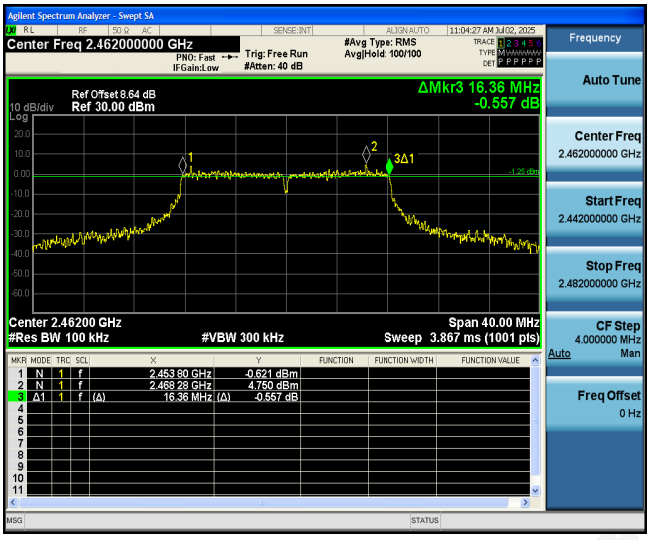
Lowest channel




Middle channel



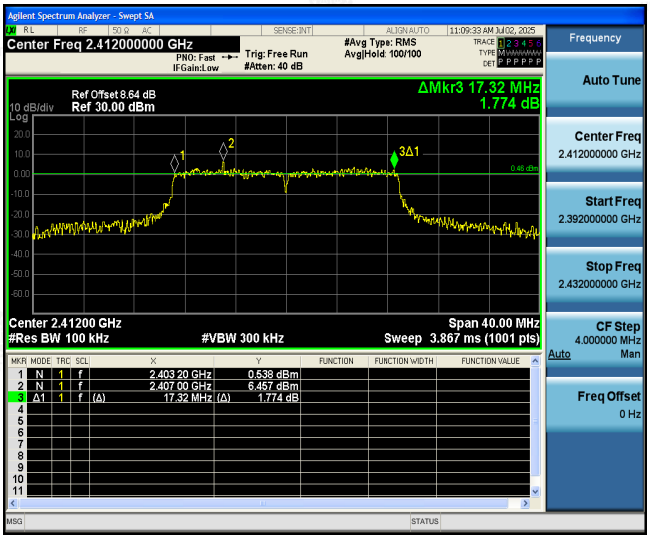

Highest channel



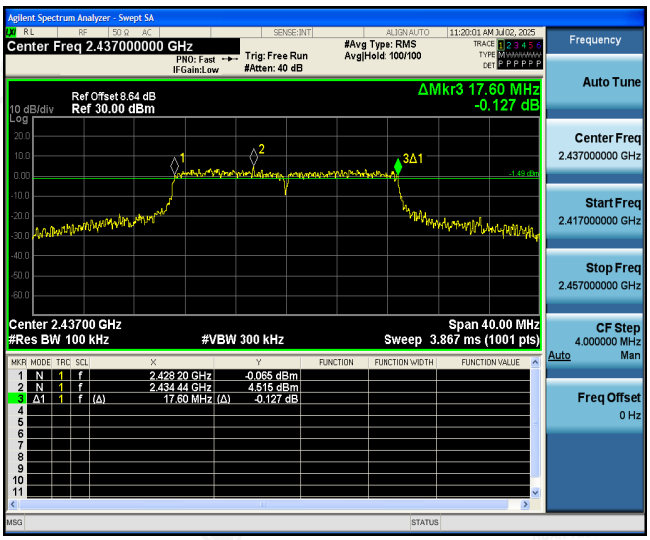

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**802.11n (HT20) Modulation**

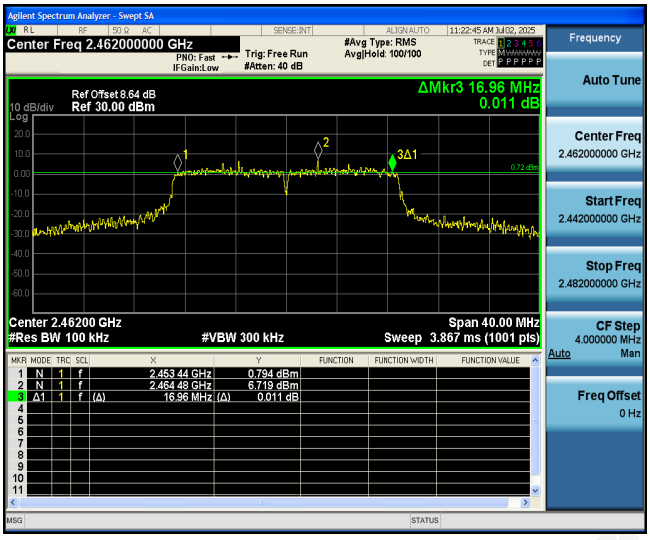
Lowest channel




Middle channel



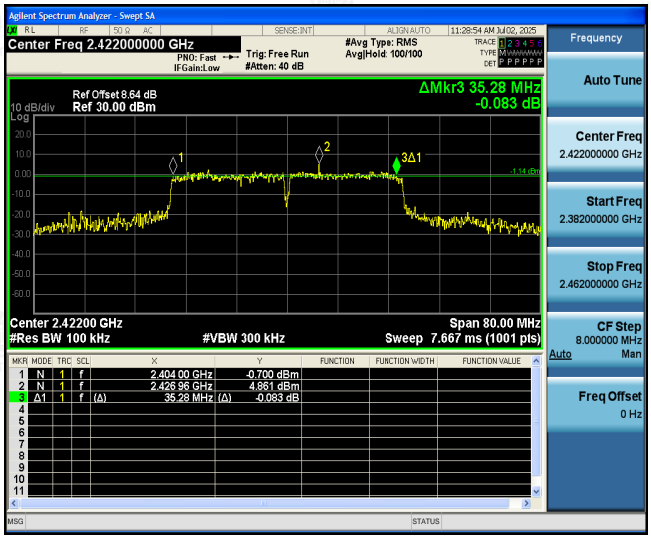

Highest channel



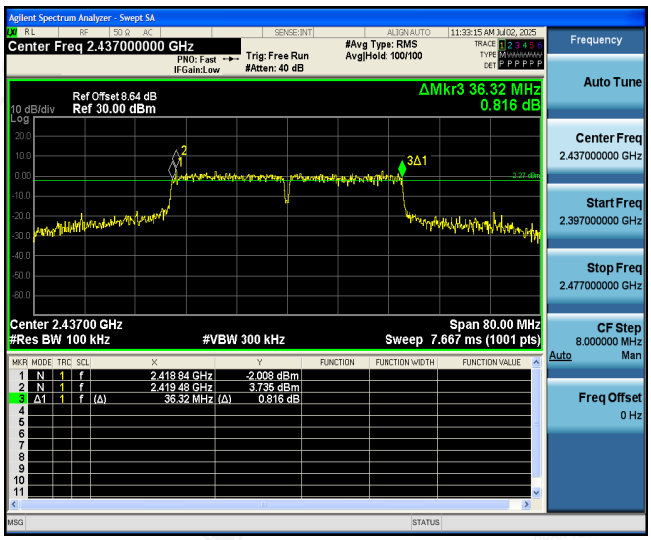

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**802.11n (HT40) Modulation**

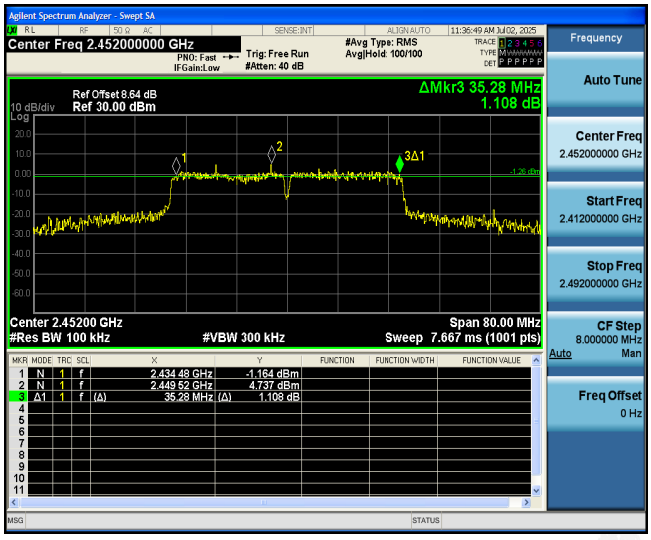
Lowest channel




Middle channel




Highest channel




The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## 4.5. Power Spectral Density

### Test Specification

| | |
|---|---|
| **Test Requirement:** | FCC Part15 C Section 15.247 (e) |
| **Test Method:** | KDB 558074 D01 15.247 Meas Guidance v05r02 |
| **Limit:** | The average power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission. |
| **Test Setup:** | |
| **Test Mode:** | Transmitting mode with modulation |
| **Test Procedure:** | 1. The testing follows Measurement procedure 10.2 method PKPSD of FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.<br>2. The RF output of EUT was connected to the spectrum analyzer by RF cable. The path loss was compensated to the results for each measurement.<br>3. Set to the maximum power setting and enable the EUT transmit continuously.<br>4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW): 3 kHz ≤ RBW ≤ 100 kHz. Video bandwidth VBW ≥ 3 x RBW. Set the span to at least 1.5 times the OBW.<br>5. Detector = Peak, Sweep time = auto couple.<br>6. Employ trace averaging (Peak) mode over a minimum of 100 traces. Use the peak marker function to determine the maximum power level.<br>7. Measure and record the results in the test report. |
| **Test Result:** | PASS |

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

## Test Instruments

| RF Test Room | | | | | |
|---|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model** | **Serial Number** | **Calibration Date** | **Calibration Due** |
| Spectrum analyzer | Agilent | N9020A | HKE-025 | Feb. 19, 2025 | Feb. 18, 2026 |
| Spectrum analyzer | Agilent | N9020A | HKE-117 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF cable | Times | 1-40G | HKE-034 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF automatic control unit | Tonscend | JS0806-2 | HKE-060 | Feb. 19, 2025 | Feb. 18, 2026 |
| RF Test Software | Tonscend | JS1120-3 Version 3.5.39 | HKE-083 | N/A | N/A |

***Note:*** *The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).*

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**Test data**

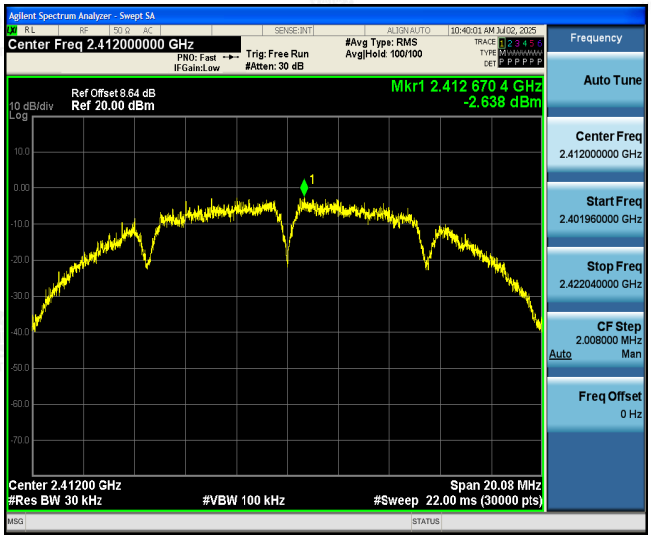
| EUT Set Mode | Channel | Test Result (dBm/30kHz) | Result (dBm/3kHz) |
|---|---|---|---|
| 802.11b | Lowest | -2.64 | -12.64 |
| | Middle | -2.38 | -12.38 |
| | Highest | -1.70 | -11.70 |
| 802.11g | Lowest | 0.96 | -9.04 |
| | Middle | 1.02 | -8.98 |
| | Highest | 0.15 | -9.85 |
| 802.11n(HT20) | Lowest | 1.33 | -8.67 |
| | Middle | 1.88 | -8.12 |
| | Highest | 1.97 | -8.03 |
| 802.11n(HT40) | Lowest | 0.30 | -9.70 |
| | Middle | 0.47 | -9.53 |
| | Highest | 0.80 | -9.20 |
| PSD test result (dBm/3kHz)= PSD test result (dBm/30kHz)-10 | | | |
| Limit: 8dBm/3kHz | | | |
| Test Result: | PASS | | |

**Test plots as follows:**

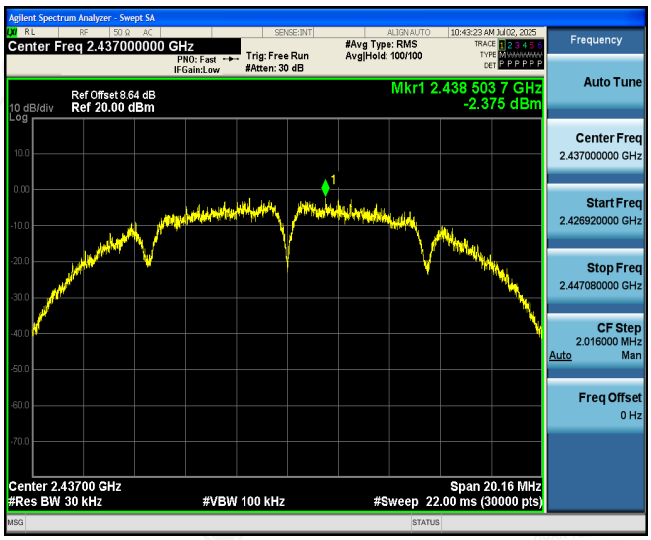
The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**802.11b Modulation**

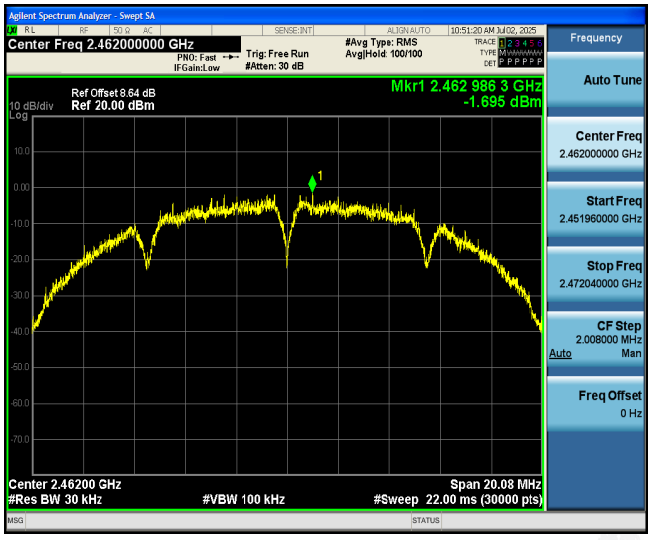
Lowest channel




Middle channel



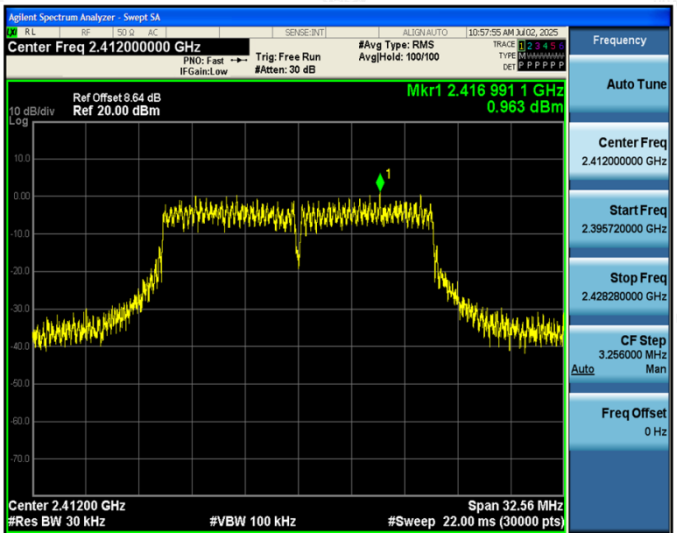

Highest channel



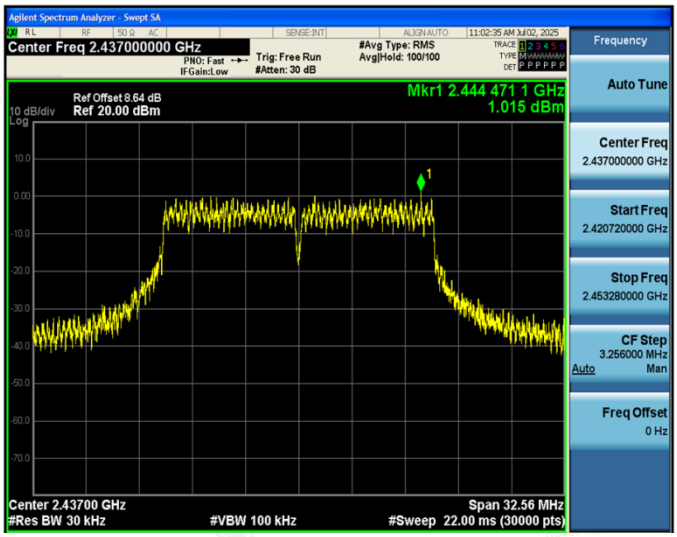

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**802.11g Modulation**

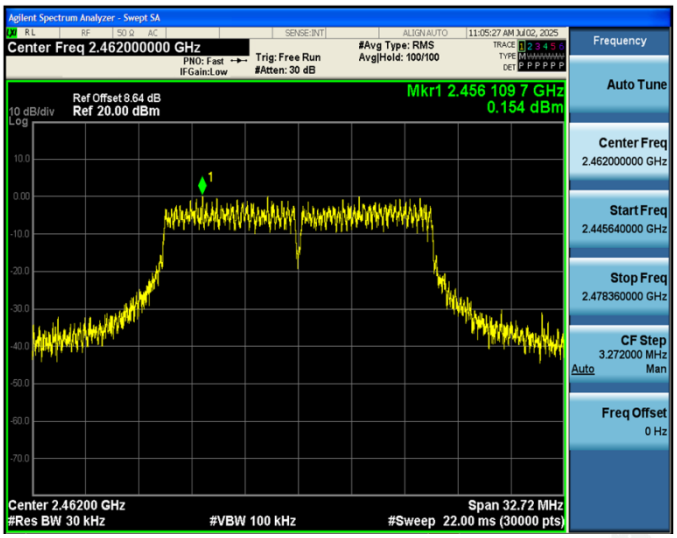
Lowest channel




Middle channel



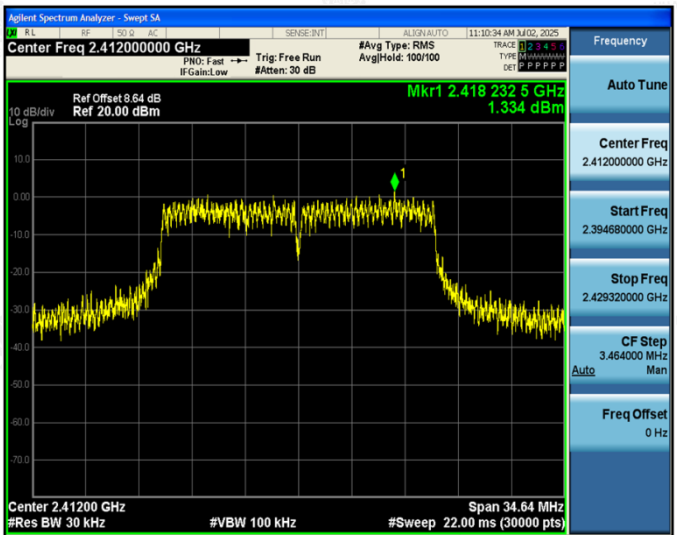

Highest channel



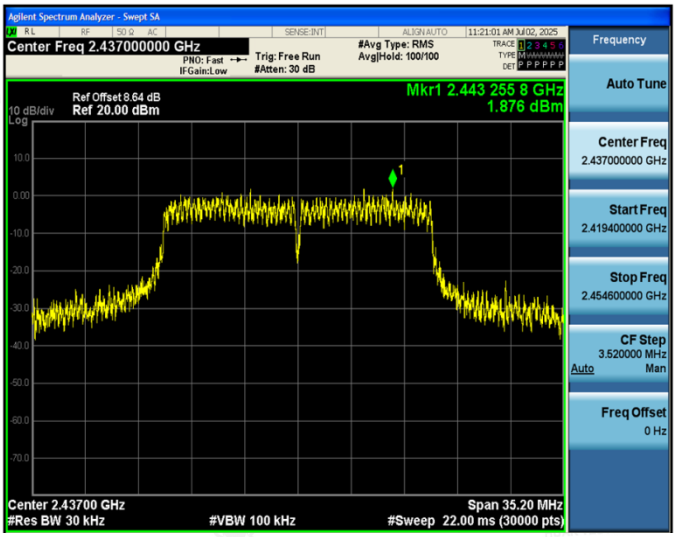

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**802.11n (HT20) Modulation**

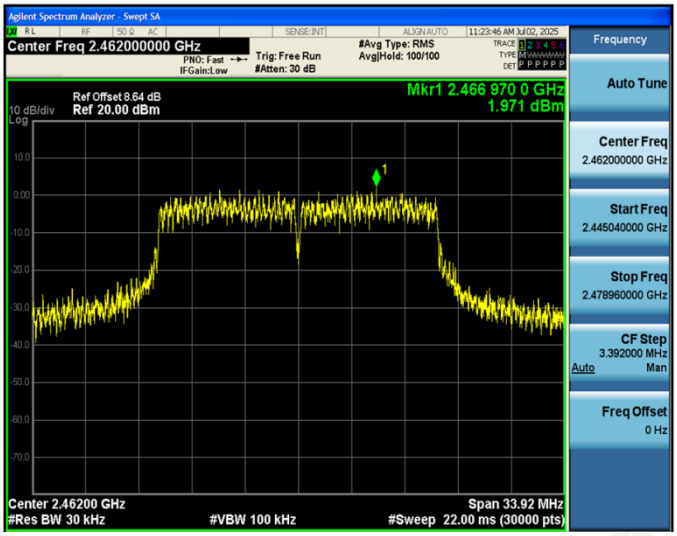
Lowest channel




Middle channel



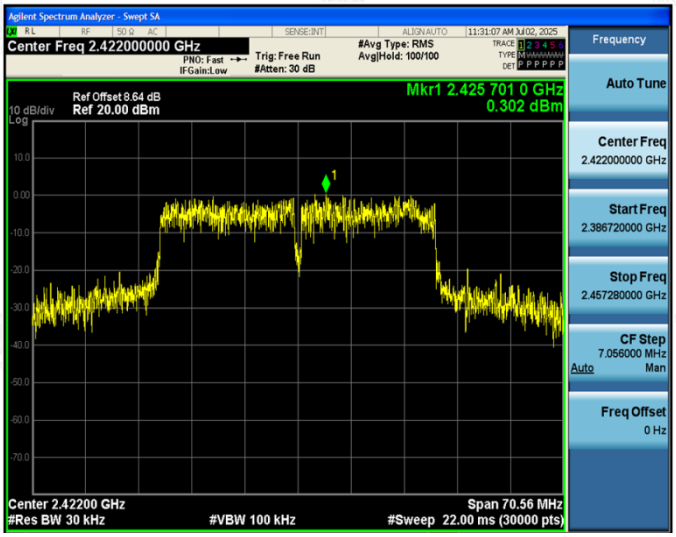

Highest channel



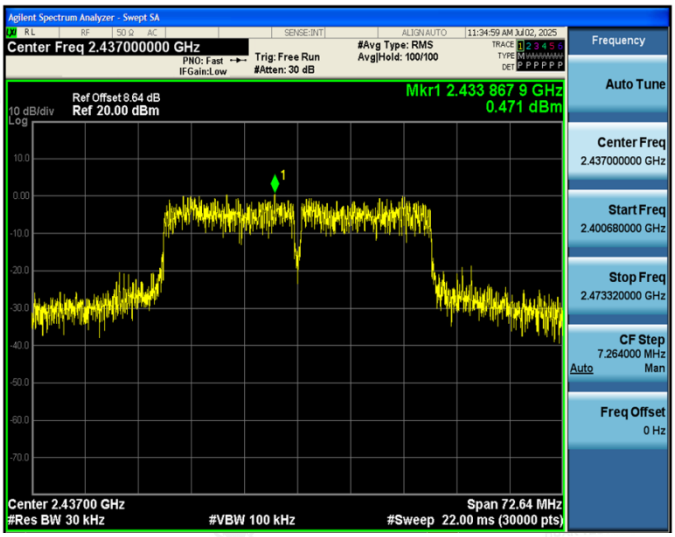

The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.

**802.11n (HT40) Modulation**

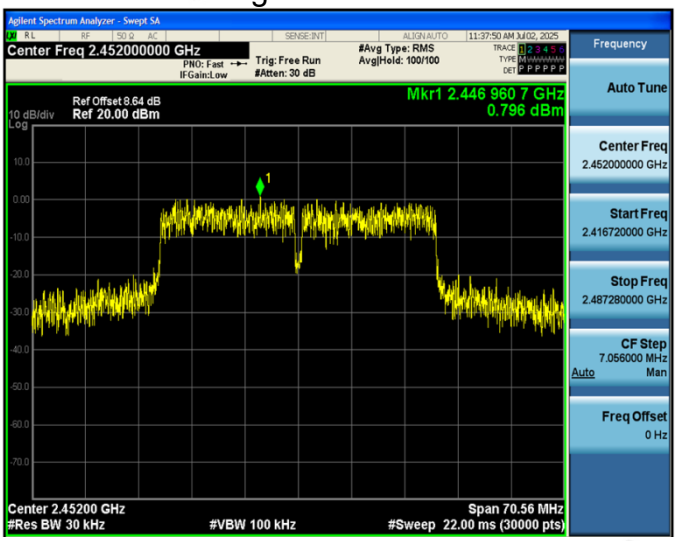
Lowest channel




Middle channel




Highest channel




The results shown in this test report refer only to the sample(s) tested unless otherwise stated and the sample(s) are retained for 15 days only. The document is issued by Shenzhen HUAK Testing Technology Co., Ltd., this document cannot be reproduced except in full with our prior written permission.