



# FCC Test Report

**Test Report  
On Behalf of  
Shenzhen Desaijia Technology Co., Ltd  
For  
Smart Net Camera  
Model No.: VTS30A-W-F**

**FCC ID: 2BRS5-VTS30A-W-F**

**Prepared For:** Shenzhen Desaijia Technology Co., Ltd  
201, Building B, No. 81 Renwu Road, Fuchengao Community, Pinghu Street,  
Longgang District, Shenzhen, China

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

**Date of Test:** Jul. 31, 2025 ~ Aug. 13, 2025  
**Date of Report:** Aug. 13, 2025  
**Report Number:** HK2507314243-E

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## Test Result Certification

**Applicant's Name** ..... : Shenzhen Desaijia Technology Co., Ltd  
Address ..... : 201, Building B, No. 81 Renwu Road, Fuchengao Community, Pinghu Street, Longgang District, Shenzhen, China

**Manufacturer's Name** ..... : Guangdong Wortu Technology Co., Ltd  
Address ..... : 2-4/F, Hongshi Industrial Park, No.120 Zhenxing Road, Dinghu District, Zhaoqing City, Guangdong Province, China

### Product Description

Trade Mark ..... : N/A  
Product Name ..... : Smart Net Camera  
Model and/or Type Reference : VTS30A-W-F  
Standards ..... : FCC Rules and Regulations Part 15 Subpart C Section 15.247  
ANSI C63.10: 2020

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**Date of Test** ..... :

Date (s) of Performance of Tests ..... : Jul. 31, 2025 ~ Aug. 13, 2025

Date of Issue ..... : Aug. 13, 2025

Test Result ..... : Pass

Testing Engineer

len liao

Len Liao

Technical Manager

Sliver Wan

Sliver Wan

Authorized Signatory

Jason Zhou

Jason Zhou

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## \*\* Modified History \*\*

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Aug. 13, 2025	Jason Zhou
		HUAK TESTING	

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## 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	PASS
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

### 1.3 Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , 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%



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## 2. EUT Description

## 2.1 General Description of EUT

Equipment:	Smart Net Camera
Model Name:	VTS30A-W-F
Series Model:	N/A
Model Difference:	N/A
FCC ID:	2BRS5-VTS30A-W-F
Antenna Type:	External Antenna
Antenna Gain:	3.87dBi
Operation Frequency:	802.11b/g/n (HT20):2412~2462 MHz
Number of Channels:	802.11b/g/n(HT20): 11CH
Modulation Type:	DSSS, OFDM
Power Source:	DC 5V From Type-C or DC 3.7V From Battery
Power Rating:	DC 5V From Type-C or DC 3.7V From Battery
<b>Note:</b>	
1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.	
2. Antenna gain Refer to the antenna specifications.	
3. The cable loss data is obtained from the supplier.	
4. The test results in the report only apply to the tested sample.	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
  2. Antenna gain Refer to the antenna specifications.
  3. The cable loss data is obtained from the supplier.
  4. The test results in the report only apply to the tested sample.



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## 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	--	--

### 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

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## 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	Note
1	Smart Net Camera	N/A	VTS30A-W-F	N/A	EUT
2	USB cable	N/A	N/A	Length:1.0m	Accessory
3	Adapter	N/A	MDY-10-EH	Input: 100-240V, 50/60Hz, 0.7A Output: 5V, 3A/9V, 3A/12V, 2.25A/20V, 1.35A	Peripheral
4	Adapter	N/A	N/A	Input: 100-240V, 50/60Hz, 0.5A Output: 5VDC, 2A	Peripheral
5	Desktop	N/A	DESKTOP-R5DQ5P1	N/A	Peripheral

### 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.



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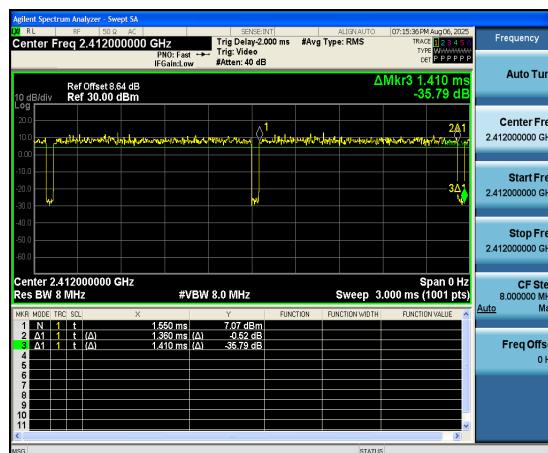
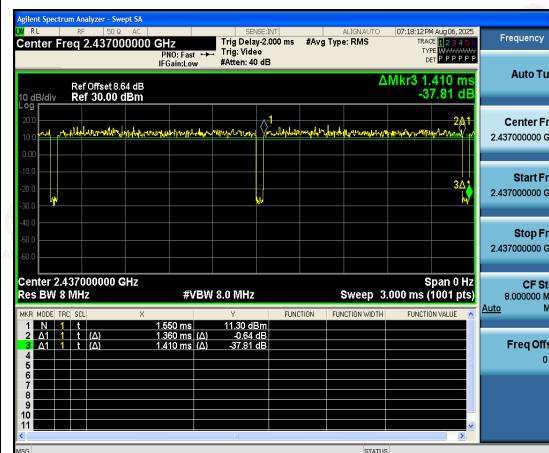
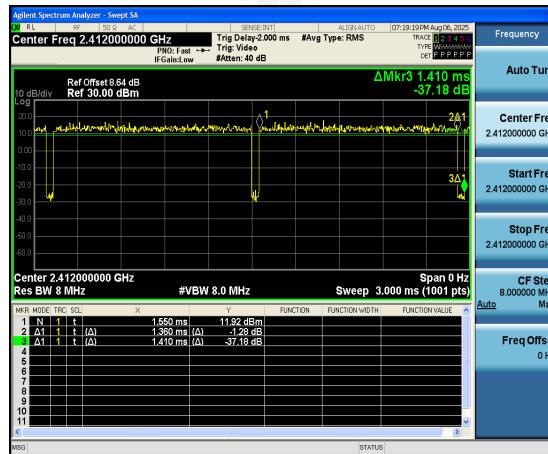
**Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.**

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	6.5Mbps

**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).									
3. Mode Test Duty Cycle									
<table border="1"> <thead> <tr> <th>Mode</th> <th>Duty Cycle</th> </tr> </thead> <tbody> <tr> <td>802.11b</td> <td>0.9645</td> </tr> <tr> <td>802.11g</td> <td>0.9645</td> </tr> <tr> <td>802.11n(HT20)</td> <td>0.9645</td> </tr> </tbody> </table>		Mode	Duty Cycle	802.11b	0.9645	802.11g	0.9645	802.11n(HT20)	0.9645
Mode	Duty Cycle								
802.11b	0.9645								
802.11g	0.9645								
802.11n(HT20)	0.9645								

Test plots as follows:

**802.11b****802.11g****802.11n(HT20)**

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## 4. Test Results and Measurement Data

### 4.1 AC Conducted Emission

#### Test Specification

<b>Test Requirement:</b>	FCC Part15 C Section 15.207														
<b>Test Method:</b>	ANSI C63.10:2020														
<b>Frequency Range:</b>	150 kHz to 30 MHz														
<b>Receiver Setup:</b>	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
<b>Limits:</b>	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
<b>Test Setup:</b>	<p>Reference Plane</p> <p>Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
<b>Test Mode:</b>	Transmitting with modulation														
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>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.</li> <li>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).</li> <li>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: 2020 on conducted measurement.</li> </ol>														
<b>Test Result:</b>	PASS														

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## 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).

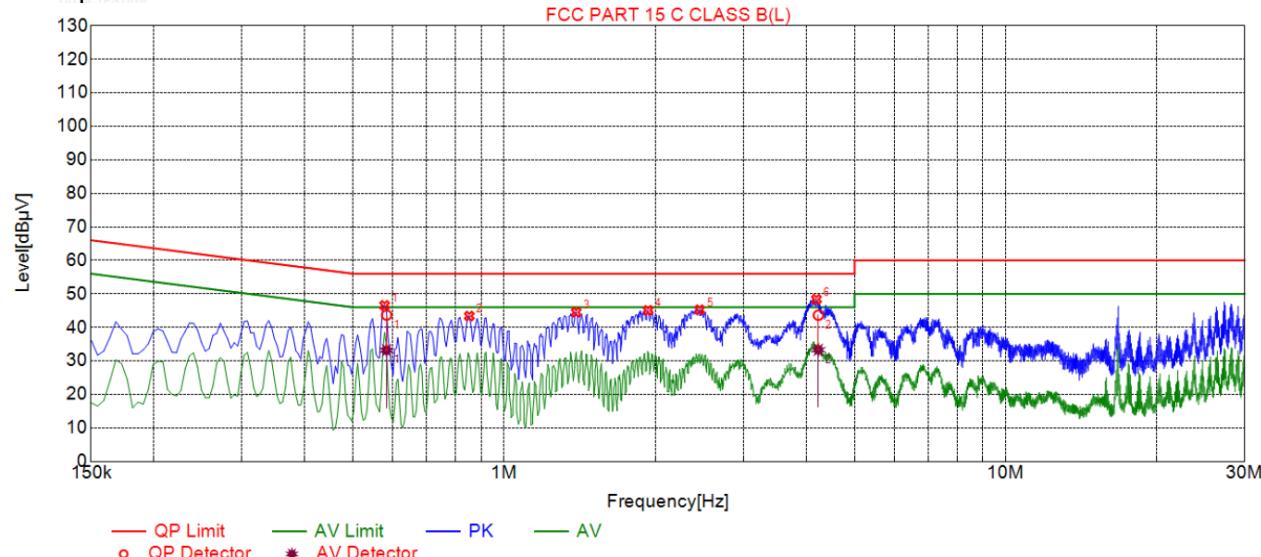
## 4.2 Test Result

**Remark: All the test modes completed for test. only the worst result**

Of was reported as below:

**Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)**

Test Specification: Line



### Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.5775	46.56	19.77	56.00	9.44	26.79	PK	L
2	0.8520	43.39	19.71	56.00	12.61	23.68	PK	L
3	1.3920	44.53	19.93	56.00	11.47	24.60	PK	L
4	1.9365	45.07	20.12	56.00	10.93	24.95	PK	L
5	2.4540	45.25	20.21	56.00	10.75	25.04	PK	L
6	4.1955	48.37	20.36	56.00	7.63	28.01	PK	L

### Final Data List

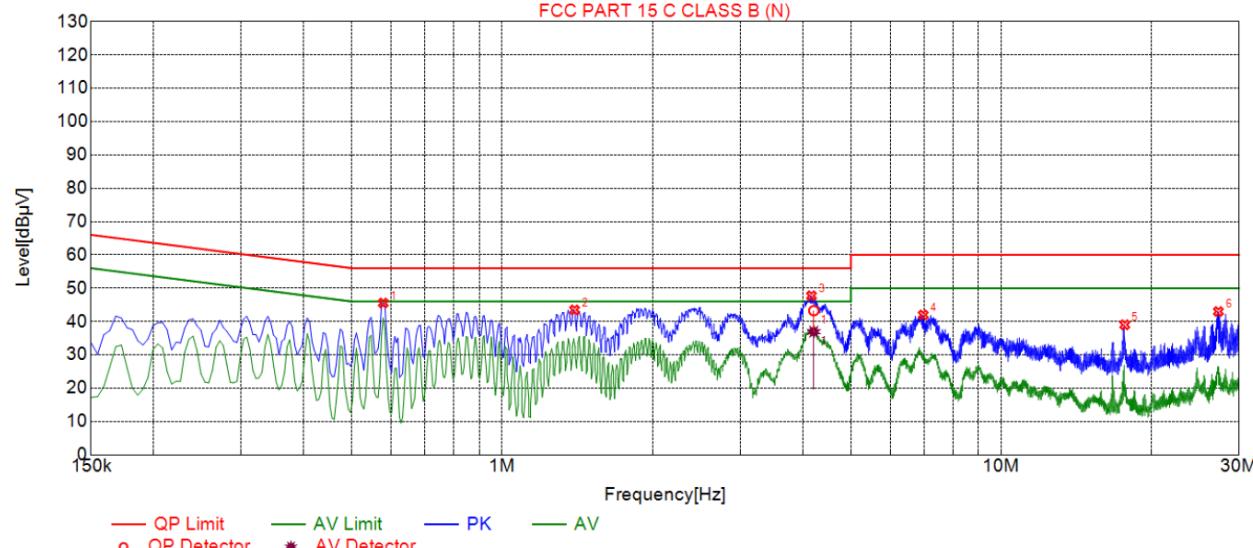
NO.	Freq. [MHz]	Correction factor[dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	QP Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	AV Reading [dBμV]	Type
1	0.5826	19.77	43.67	56.00	12.33	23.90	33.17	46.00	12.83	13.40	L
2	4.2323	20.36	43.64	56.00	12.36	23.28	33.29	46.00	12.71	12.93	L

Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

## Test Specification: Neutral



## Suspected List

NO.	Freq. [MHz]	Level [dBμV]	Factor [dB]	Limit [dBμV]	Margin [dB]	Reading [dBμV]	Detector	Type
1	0.5775	45.55	19.75	56.00	10.45	25.80	PK	N
2	1.3965	43.49	19.85	56.00	12.51	23.64	PK	N
3	4.1685	47.73	20.17	56.00	8.27	27.56	PK	N
4	6.9810	41.98	20.50	60.00	18.02	21.48	PK	N
5	17.7000	39.02	22.47	60.00	20.98	16.55	PK	N
6	27.2625	43.01	24.86	60.00	16.99	18.15	PK	N

## Final Data List

NO.	Freq. [MHz]	Correction factor [dB]	QP Value [dBμV]	QP Limit [dBμV]	QP Margin [dB]	QP Reading [dBμV]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	AV Reading [dBμV]	Type
1	4.2124	20.18	43.26	56.00	12.74	23.08	36.96	46.00	9.04	16.78	N

Remark: Margin = Limit – Level

Correction factor = Cable loss + LISN insertion loss

Level = Test receiver reading + correction factor

### 4.3 Maximum Peak Conducted Output Power

## Test Specification

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## 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).

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**Test Data**

Mode	Test Channel	Frequency	Maximum Peak Conducted Output Power	LIMIT
		(MHz)	(dBm)	dBm
802.11b	CH01	2412	14.08	30
802.11b	CH06	2437	14.11	30
802.11b	CH11	2462	14.05	30
802.11g	CH01	2412	13.97	30
802.11g	CH06	2437	13.69	30
802.11g	CH11	2462	13.58	30
802.11n(HT20)	CH01	2412	13.67	30
802.11n(HT20)	CH06	2437	13.70	30
802.11n(HT20)	CH11	2462	13.39	30

Note: The test results including the cable loss.

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## Test Data

Test channel	6dB Emission Bandwidth (MHz)		
	802.11b	802.11g	802.11n(H20)
Lowest	10.04	16.36	17.56
Middle	10.08	16.40	17.60
Highest	10.08	16.44	17.64
Limit:	>500kHz		
Test Result:	PASS		

Test plots as follows:

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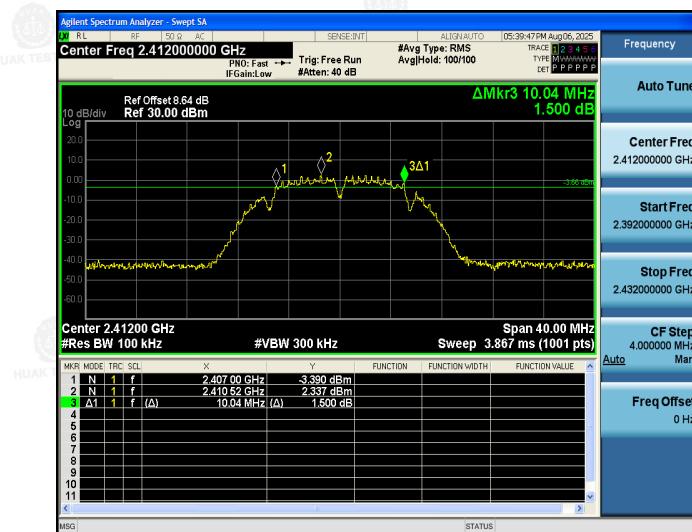
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## Lowest channel



## Middle channel



## Highest channel



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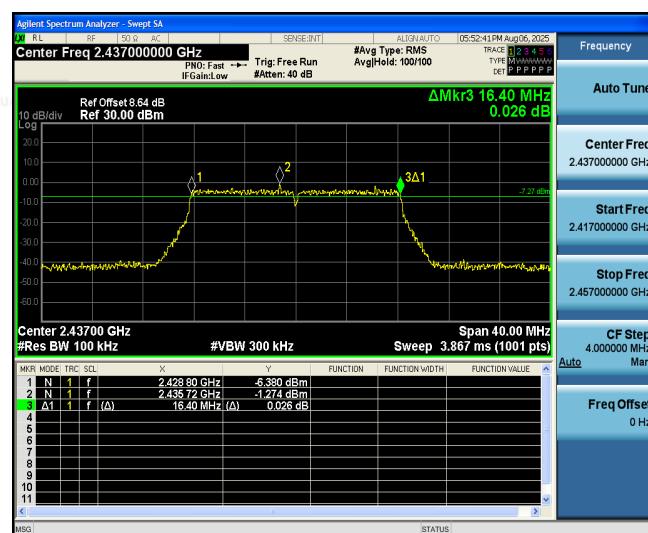


## 802.11g Modulation

## Lowest channel



## Middle channel



## Highest channel



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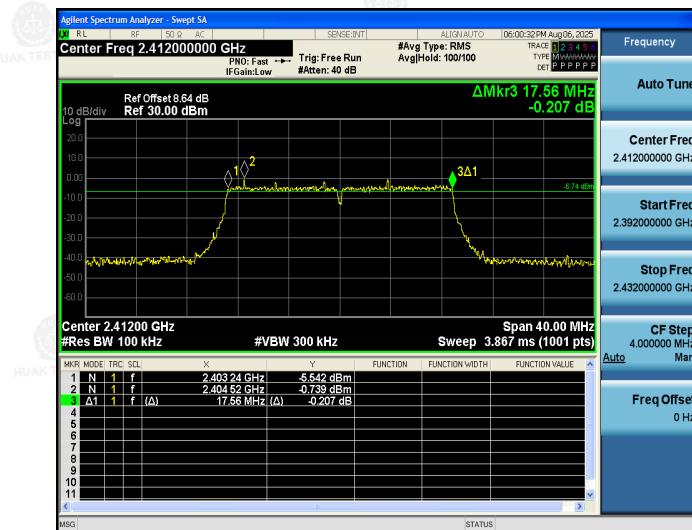
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## 802.11n (HT20) Modulation

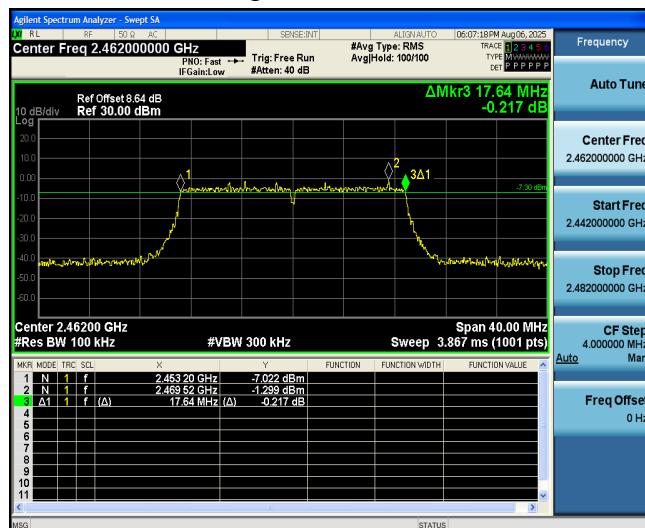
## Lowest channel



## Middle channel



## Highest channel



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## 4.5 Power Spectral Density

### Test Specification

<b>Test Requirement:</b>	FCC Part15 C Section 15.247 (e)
<b>Test Method:</b>	KDB 558074 D01 15.247 Meas Guidance v05r02
<b>Limit:</b>	The average power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.
<b>Test Setup:</b>	 <p><b>Spectrum Analyzer</b>      <b>EUT</b></p>
<b>Test Mode:</b>	Transmitting mode with modulation
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The testing follows Measurement procedure 10.2 method PKPSD of FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.</li> <li>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.</li> <li>3. Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW): <math>3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}</math>. Video bandwidth VBW <math>\geq 3 \times \text{RBW}</math>. Set the span to at least 1.5 times the OBW.</li> <li>5. Detector = Peak, Sweep time = auto couple.</li> <li>6. Employ trace averaging (Peak) mode over a minimum of 100 traces. Use the peak marker function to determine the maximum power level.</li> <li>7. Measure and record the results in the test report.</li> </ol>
<b>Test Result:</b>	PASS

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## 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).

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**Test data**

EUT Set Mode	Channel	Test Result (dBm/30kHz)	Result (dBm/3kHz)
802.11b	Lowest	-2.20	-12.2
	Middle	-2.10	-12.1
	Highest	-1.80	-11.8
802.11g	Lowest	-4.13	-14.13
	Middle	-4.84	-14.84
	Highest	-4.49	-14.49
802.11n(HT20)	Lowest	-5.33	-15.33
	Middle	-5.02	-15.02
	Highest	-5.25	-15.25
PSD Test Result (dBm/3kHz)= PSD Test Result (dBm/30kHz)-10			
Limit: 8dBm/3kHz			
Test Result:	PASS		

**Test plots as follows:**

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## 802.11b Modulation

## Lowest channel



## Middle channel



## Highest channel



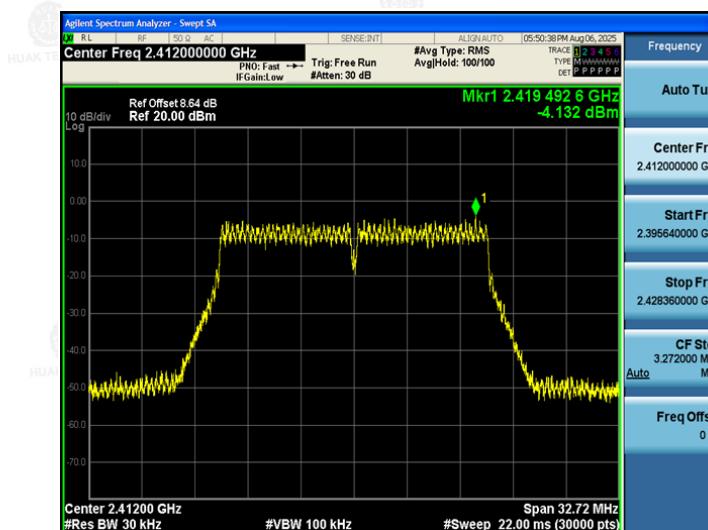
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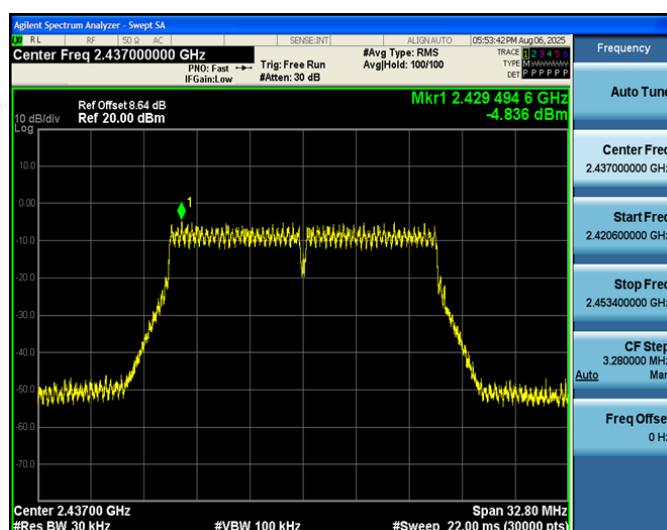
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## 802.11g Modulation

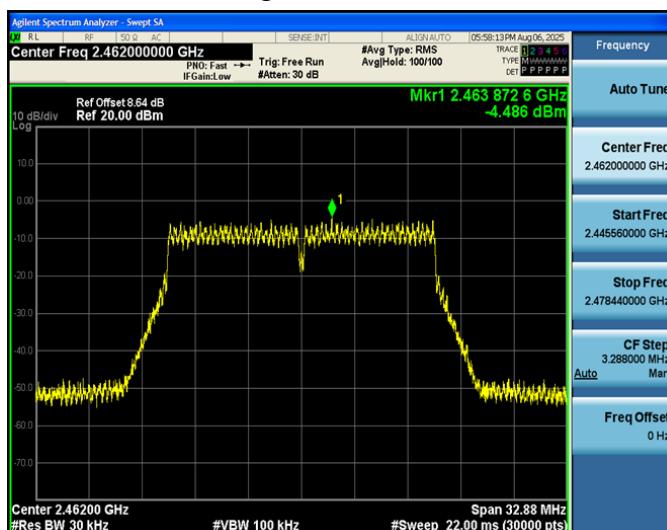
## Lowest channel



## Middle channel



## Highest channel



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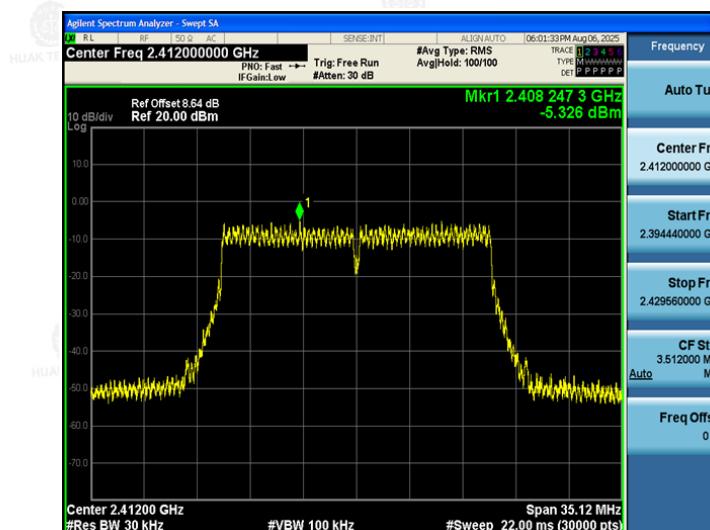
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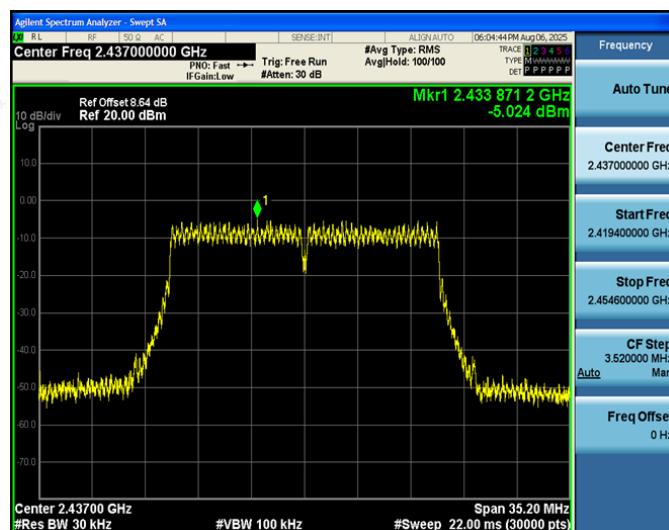
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## 802.11n (HT20) Modulation

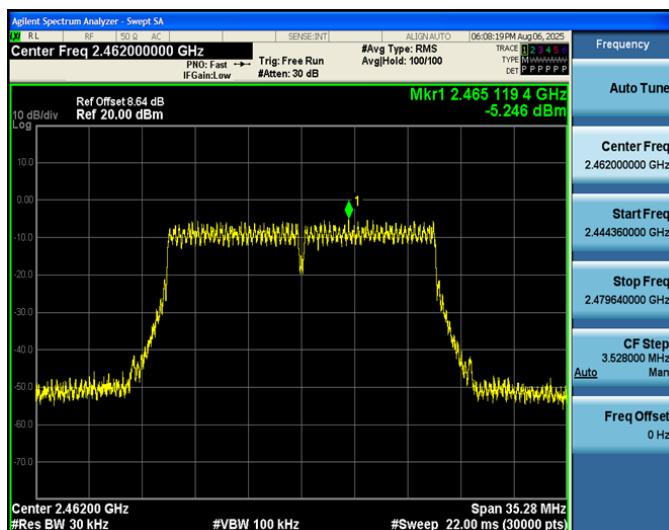
## Lowest channel



## Middle channel



## Highest channel



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