

# **FCC Test Report**

Test Report
On Behalf of
Shenzhen Yidian International Digital Co., LTD
For

Wifi Camera

Model No.: K14, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11, K12, K13, K15, K16, K17, K18, K19, K20, K21, K22, K23, K24, X8, X9, X10, X10, X11, X12, X13, X14, X15, X16, X17, X18

FCC ID: 2BCLC-K14

Prepared For: Shenzhen Yidian International Digital Co., LTD

Floor 3, Block B, Gushu Runfeng Industrial Park, Xixiang Street, Bao 'an

District, Shenzhen, China

Prepared By: Shenzhen HUAK Testing Technology Co., Ltd.

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Date of Test: Oct. 30, 2024 ~ Nov. 08, 2024

Date of Report: Nov. 08, 2024

Report Number: HK2410306410-E

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**Test Result Certification** 

Applicant's Name.....: Shenzhen Yidian International Digital Co., LTD

Floor 3, Block B, Gushu Runfeng Industrial Park, Xixiang Street, Address .....

Bao 'an District, Shenzhen, China

Manufacturer's Name ..... Shenzhen Yidian International Digital Co., LTD

Floor 3, Block B, Gushu Runfeng Industrial Park, Xixiang Street, Address .....

Bao 'an District, Shenzhen, China

**Product Description** 

Trade Mark ..... N/A

Product Name...... Wifi Camera

K14, K2, K3, K4, K5, K6, K7, K8, K9, K10, K11, K12, K13, K15,

Report No.: HK2410306410-E

Model and/or Type Reference: K16, K17, K18, K19, K20, K21, K22, K23, K24, X8, X9, X10, X10,

X11, X12, X13, X14, X15, X16, X17, X18

FCC Rules and Regulations Part 15 Subpart C Section 15.247 Standards .....

ANSI C63.10: 2013

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Date of Test

Date (s) of Performance of Tests .....: Oct. 30, 2024 ~ Nov. 08, 2024

Date of Issue....: Nov. 08, 2024

Test Result.....

Testing Engineer

Len Liao

Technical Manager

Sliver Wan

Authorized Signatory

Jason Zhou

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\*\* Modified History \*\*

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Nov. 08, 2024	Jason Zhou
JAN HUAN	HUAN HUAN	HUAN	

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Add: 1-2F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China



# 1. Test Result Summary

#### 1.1 Test Procedures and Results

-711	-711	_7111"
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.

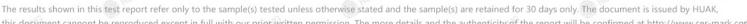
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# 1.3 Measurement Uncertainty

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%



TIOM



# 2. EUT Description

# 2.1 General Description of EUT

Equipment:	Wifi Camera		
Model Name:	K14	0	0
Series Model:	K2, K3, K4, K5, K6, K7, K8, K9 K17, K18, K19, K20, K21, K22 1, X12, X13, X14, X15, X16, X	2, K23, K24, X8, X9	- Co
Model Difference:	All model's the function, software, only with product model model: K14.		
FCC ID:	2BCLC-K14		
Antenna Type:	Ceramic Antenna		
Antenna Gain:	2.7dBi	HUAKTESTING	- HUAK TESTIN
Operation Frequency:	802.11b/g/n 20:2412~2462 MI	Hz	
Number of Channels:	802.11b/g/n20: 11CH	HUAKTEST	TESTING
Modulation Type:	DSSS, OFDM	O THE	HUAR
Power Source:	DC5V from micro USB or DC3	3.7V from battery	G TNG
Power Rating:	DC5V from micro USB or DC3	3.7V from battery	HUAKTEST

#### 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	<sup>AUP 10</sup>	2457	
02	2417	05	2432	08	2447	11	2462	
03	2422	06	2437	09	2452	-STING		

#### 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

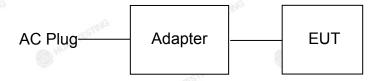
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# 2.4 Description of Test Setup

Operation of EUT during Conducted and below 1GHz Radiation testing:



Operation of EUT during above 1GHz Radiation testing:

EUT

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.

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### 3. General Information

### 3.1 Test Environment and Mode

perating Environment:			
Temperature:	25.0 °C	HUAKTESII	HUAKT
Humidity:	56 % RH	(a)	9
Atmospheric Pressure:	1010 mbar	AKTESTING	
est Mode:		3.55	200-
Engineering Mode:	Keep the EUT by select chann		

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. For the full battery state and The output power to the maximum state.

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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(H20)	6.5Mbps

#### **Final Test Mode:**

Operation mode:

Keep the EUT in continuous transmitting with modulation

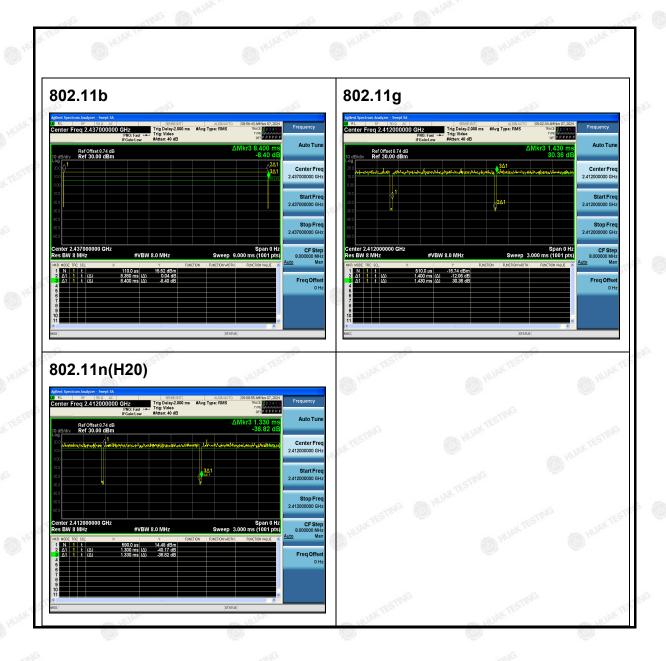
- 1. For WIFI function, the engineering test program was provided and enabled to make EUT continuous transmit/receive.
- 2.According to ANSI C63.10 standards, the test results are both the "worst case" and "worst setup" 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n(H20).

3. Mode Test Duty Cycle

Duty Cycle	Duty Cycle Factor (dB)
0.998	-0.010
0.979	-0.092
0.977	-0.099
	0.998

Test plots as follows:

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# 3.2 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.

- 46		4.7		- 1	
Item	Equipment	Trade Mark	Model/Type No.	Specification	Remark
11/G	Wifi Camera	N/A	K14	N/A	EUT
2	USB Cable	N/A	N/A	Length: 80cm	Accessory
3	Adapter	N/A	MDY-10-EH	Input: AC100-240V, 50/60Hz, 0.7A Output: DC5V/3A, 9V/3A, 12V/2.25A, 20V/1.35A	Peripheral
HUAKTE	MAKTES!	HUNK	TESTING HUANTES IN	HUAKTESTIN	WAKTEST

#### 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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# 4. Test Results and Measurement Data

# 4.1 Conducted Emission

### **Test Specification**

Test Method:  ANSI C63.10:2013  150 kHz to 30 MHz  Receiver Setup:  RBW=9 kHz, VBW=30 kHz, Sweep time=auto  Frequency range Limit (dBuV) (MHz) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46 5-30 60 50  Reference Plane    Com   Com   Company   Company	TING					
Receiver Setup:  RBW=9 kHz, VBW=30 kHz, Sweep time=auto  Frequency range Limit (dBuV) (MHz) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46 5-30 60 50  Reference Plane  Ac power  Rest Setup:  Test Mode:  Transmitting with modulation  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.  2. The peripheral devices are also connected to the main power through a Lisn that provides a 50ohm/50uH coupling impedance for the measuring equipment.  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).  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 Requirement:	FCC Part15 C Section 15.207				
Receiver Setup:    RBW=9 kHz, VBW=30 kHz, Sweep time=auto	Test Method:	ANSI C63.10:2013				
Frequency range   Limit (dBuV)   Quasi-peak   Average   0.15-0.5   66 to 56°   56 to 46°   0.5-5   56   46   5-30   60   50   50    Reference Plane   Plane	Frequency Range:	150 kHz to 30 MHz				
(MHz) Quasi-peak Average  0.15-0.5 66 to 56* 56 to 46*  0.5-5 56 46  5-30 60 50   Reference Plane  40cm  E.U.T AC power  Test table/Insulation plane  Figure Figure Figure Figure  1.50 Line Insulation Plane  Feet table height-0.8m  Transmitting with modulation  1. The E.U.T is connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 500hm/50uH coupling impedance for the measuring equipment.  2. The peripheral devices are also connected to the main power through a LISN that provides a 500hm/50uH coupling impedance with 500hm termination. (Please refer to the block diagram of the test setup and photographs).  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.	Receiver Setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto				
Test Setup:    Test table/Insulation plane   Filter   Ac power	Limits:	(MHz)         Quasi-peak         Average           0.15-0.5         66 to 56*         56 to 46*           0.5-5         56         46				
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.  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).  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 Setup:	40cm  E.U.T AC power 80cm Filter AC power  Test table/Insulation plane  Remark  E.U.T. Equipment Under Test  LISN: Line Impedence Stabilization Network				
line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.  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).  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 Mode:	Transmitting with modulation				
D <sub>1</sub> , D <sub>2</sub>	Test Procedure:	<ul> <li>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</li> </ul>				
	Test Result:					

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### **Test Instruments**

Conducted Emission Shielding Room Test Site (843)								
Equipment Manufacturer Model Serial Number Calibration Date D								
Receiver	R&S	ESR	HKE-005	Feb. 20, 2024	Feb. 19, 2025			
LISN	R&S	ENV216	HKE-002	Feb. 20, 2024	Feb. 19, 2025			
LISN	R&S	ENV216	HKE-059	Feb. 20, 2024	Feb. 19, 2025			
Coax cable (9KHz-30MHz)	Times	381806-002	N/A	Feb. 20, 2024	Feb. 19, 2025			
EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	Feb. 20, 2024	Feb. 19, 2025			
10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	Feb. 20, 2024	Feb. 19, 2025			

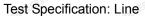
**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

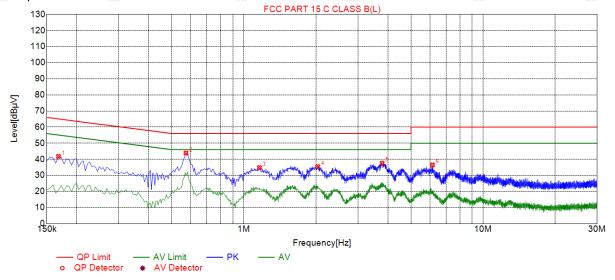
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4.2 Test Result

All modes have been tested. Only the worst result was reported as below:





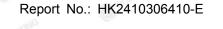
1	Suspected List								
	NO.	Freq. [MHz]	Level [dBµ∀]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµ∀]	Detector	Туре
	1	0.1680	41.76	19.81	65.06	23.30	21.95	PK	L
	2	0.5730	43.85	19.86	56.00	12.15	23.99	PK	L
	3	1.1625	34.83	19.90	56.00	21.17	14.93	PK	
	4	2.0355	35.44	19.97	56.00	20.56	15.47	PK	L
3	5	3.7860	37.57	20.09	56.00	18.43	17.48	PK	L
<	6	6.1440	36.48	20.09	60.00	23.52	16.39	PK	L

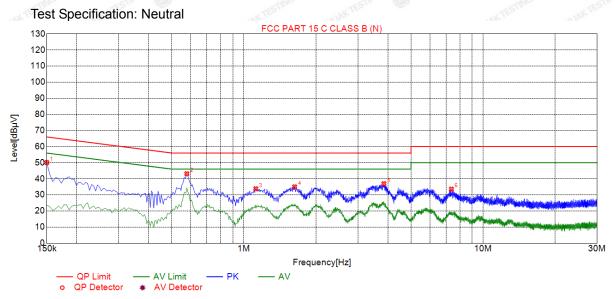
Remark: Margin = Limit - Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

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Sus	Suspected List								
NO.	Freq. [MHz]	Level [dBµ∀]	Factor [dB]	Limit [dBµV]	Margin [dB]	Reading [dBµ∀]	Detector	Туре	
1	0.1500	50.11	19.73	66.00	15.89	30.38	PK	N	
2	0.5775	43.15	19.74	56.00	12.85	23.41	PK	N	
3	1.1220	33.81	19.76	56.00	22.19	14.05	PK	N	
4	1.6305	35.01	19.80	56.00	20.99	15.21	PK	N	
5	3.8490	36.97	19.97	56.00	19.03	17.00	PK	N	
6	7.3770	33.56	19.95	60.00	26.44	13.61	PK	N	

Remark: Margin = Limit – Level

Correction factor = Cable lose + LISN insertion loss

Level=Test receiver reading + correction factor

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# 4.3 Maximum 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:	RF automatic control unit  EUT  HUMETER THE STATES THE				
Test Mode:	Transmitting mode with modulation				
Test Procedure:	<ol> <li>The testing follows the Measurement Procedure of FCC KDB 558074 D01 15.247 Meas Guidance v05r02.</li> <li>The RF output of EUT was connected to the RF automatic control unit by RF cable and attenuator. The path loss was compensated to the results for each measurement.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Measure the Peak output power and record the results in the test report.</li> </ol>				
Test Result:	PASS				

0

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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. 20, 2024	Feb. 19, 2025		
Power meter	Agilent	E4419B	HKE-085	Feb. 20, 2024	Feb. 19, 2025		
Power Sensor	Agilent	E9300A	HKE-086	Feb. 20, 2024	Feb. 19, 2025		
RF cable	Times	1-40G	HKE-034	Feb. 20, 2024	Feb. 19, 2025		
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 20, 2024	Feb. 19, 2025		
RF Test Software	Tonscend	JS1120-3 Version 3.3.23	HKE-083	Feb. 20, 2024	Feb. 19, 2025		

**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

3	NG	TX 802.11b Mode	G	
Test Channel	Frequency	Maximum Peak Conducted Output Power	LIMIT	
	(MHz)	(dBm)		
CH01	2412	12.23	30	
CH06	2437	12.33	30	
CH11	2462	12.41	30	
HUARA	6	TX 802.11g Mode		
CH01	2412	11.95	30	
CH06	2437	13.27	30	
CH11	2462	13.29	30	
-16	, KT	TX 802.11n20 Mode		
CH01	2412	12.77	30	
CH06	2437	13.08	30	
CH11	2462	13.15	30	

Note: The test results including the cable loss.

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### 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	KDB 558074 D01 15.247 Meas Guidance v05r02				
Limit:	>500kHz					
Test Setup:	Spectrum Analyzer EUT	TING				
Test Mode:	Transmitting mode with modulation					
1. The testing follows FCC KDB Publication 15.247 Meas Guidance v05r02. 2. Set to the maximum power setting and expected EUT transmit continuously. 3. Make the measurement with the spectrum resolution bandwidth (RBW) = 100 kHz. Video bandwidth (VBW) = 300 kHz. In owan accurate measurement. The 6dB bare be greater than 500 kHz. 4. Measure and record the results in the testing follows FCC KDB Publication 15.247 Meas Guidance v05r02.  2. Set to the maximum power setting and expected in the second transmit continuously.  3. Make the measurement with the spectrum resolution bandwidth (VBW) = 100 kHz.						
Test Result:	PASS					

#### **Test Instruments**

RF Test Room						
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due	
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 20, 2024	Feb. 19, 2025	
RF cable	Times	1-40G	HKE-034	Feb. 20, 2024	Feb. 19, 2025	
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 20, 2024	Feb. 19, 2025	
RF Test Software	Tonscend	JS1120-3 Version 3.3.23	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

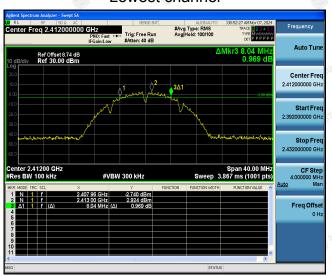
Test channel	6d	B Emission Bandwidt	h (MHz)
rest channel	802.11b	802.11g	802.11n(H20)
Lowest	8.040	14.520	15.040
Middle	7.080	15.320	15.600
Highest	7.080	15.280	15.080
Limit:		>500kHz	O HUAD
Test Result:	MAKTESTIN	PASS	Min

Test plots as follows:

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#### 802.11b Modulation

#### Lowest channel



#### Middle channel



#### Highest channel



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#### 802.11g Modulation

#### Lowest channel



#### Middle channel



#### Highest channel



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Report No.: HK2410306410-E



#### 802.11n (HT20) Modulation

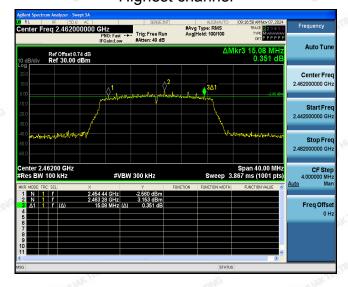
#### Lowest channel



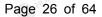
#### Middle channel



#### Highest channel



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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:	Spectrum Analyzer EUT					
Test Mode:	Transmitting mode with modulation					
Test Procedure:	<ol> <li>The testing follows Measurement procedure 10.2 method PKPSD of FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.</li> <li>The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>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.</li> <li>Detector = Peak, Sweep time = auto couple.</li> <li>Employ trace averaging (Peak) mode over a minimum of 100 traces. Use the peak marker function to determine the maximum power level.</li> <li>Measure and record the results in the test report.</li> </ol>					
Test Result:	PASS (MK TESTING)					

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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. 20, 2024	Feb. 19, 2025	
RF cable	Times	1-40G	HKE-034	Feb. 20, 2024	Feb. 19, 2025	
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 20, 2024	Feb. 19, 2025	
RF Test Software	Tonscend	JS1120-3 Version 3.3.23	HKE-083	N/A resince	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	Result (dBm/30KHz)	Result (dBm/3kHz)
	Lowest	4.43	-5.57
802.11b	Middle	3.92	-6.08
	Highest	4.61	-5.39
	Lowest	-3.19	-13.19
802.11g	Middle	-2.20	-12.2
	Highest	-2.26	-12.26
	Lowest	-1.83	-11.83
802.11n(H20)	Middle	-1.15	-11.15
	Highest	-1.23	-11.23
PSD Test Resu	lt (dBm/3kHz)= P	SD Test Result (dBm/30kl	Hz)-10
Limit: 8dBm/3kl			
Test Result:	TESTIN	PASS	TESTING
4.35.7	153-	±W.3	1037

Test plots as follows:

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#### 802.11b Modulation

#### Lowest channel



#### Middle channel



#### Highest channel



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#### 802.11g Modulation

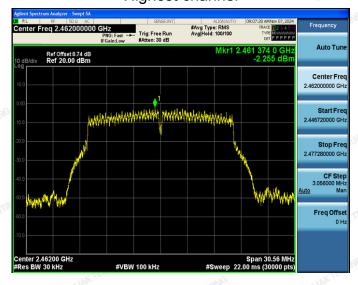
#### Lowest channel



Middle channel



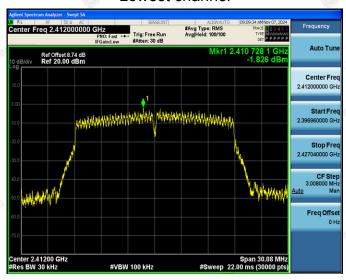
Highest channel



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#### 802.11n (HT20) Modulation

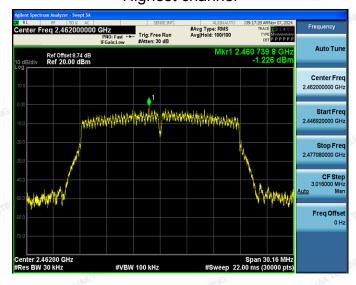
#### Lowest channel



Middle channel



Highest channel



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# 4.6 Conducted Band Edge and Spurious Emission Measurement

### **Test Specification**

Test Requirement:	FCC Part15 C Section 15.247 (d)			
Test Method:	KDB 558074 D01 15.247 Meas Guidance v05r02			
Limit:	In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).			
Test Setup:	Spectrum Analyzer EUT			
Test Mode:	Transmitting mode with modulation			
Test Procedure:	<ol> <li>The testing follows FCC KDB Publication 558074 D01 15.247 Meas Guidance v05r02.</li> <li>The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.</li> <li>Set to the maximum power setting and enable the EUT transmit continuously.</li> <li>Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).</li> <li>Measure and record the results in the test report.</li> <li>The RF fundamental frequency should be excluded against the limit line in the operating frequency band.</li> </ol>			
Test Result:	PASS			

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### **Test Instruments**

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RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 20, 2024	Feb. 19, 2025
High pass filter unit	Tonscend	JS0806-F	HKE-055	Feb. 20, 2024	Feb. 19, 2025
RF Cable (9KHz-26.5GHz)	Tonscend	170660	N/A	Feb. 20, 2024	Feb. 19, 2025
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 20, 2024	Feb. 19, 2025
RF Test software	Tonscend	JS1120-B Version 2.6	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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