

## FCC 47 CFR PART 15 SUBPART C ISED RSS-247 ISSUE 3

### **TEST REPORT**

For

**Wired Security Camera** 

**MODEL NUMBER: P320** 

PROJECT NUMBER: 4791415692.4

REPORT NUMBER: 4791415692.4-2

FCC ID: 2BHGF-0235C8GK

IC: 32743-0235C8GK

**ISSUE DATE: Nov. 12, 2024** 

Prepared for

**KeyLife International Technology Limited** 

Prepared by

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## **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	11/12/2024	Initial Issue	



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### 1. APPLICANT INFORMATION

### **Applicant Information**

Company Name: KeyLife International Technology Limited

Address: 27th Floor, Alexandra House, 18 Chater Road, Central, Hong Kong

**Manufacturer Information** 

Company Name: KeyLife International Technology Limited

Address: 27th Floor, Alexandra House, 18 Chater Road, Central, Hong Kong

**EUT Description** 

Product Name: Wired Security Camera

Model Number: P320 Series Model Number: / Model Difference: /

Sample Number: 7435776

Data of Receipt Sample: Jul. 25, 2024

Test Date: Jul. 25, 2024~ Nov. 06, 2024

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR Part 15 Subpart C	PASS
ISED RSS-247 Issue 3	PASS
ISED RSS-GEN Issue 5	PASS



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Summary of Test Results					
Clause	Test Items FCC&ISED Rules Test Resu				
1	6 dB Bandwidth and 99% Occupied Bandwidth	FCC 15.247 (a) (2) RSS-247 Clause 5.2 (a) RSS-Gen Clause 6.7	PASS		
2	Conducted Power	FCC 15.247 (b) (3) RSS-247 Clause 5.4 (d) RSS-Gen Clause 6.12	PASS		
3	Power Spectral Density	FCC 15.247 (e) RSS-247 Clause 5.2 (b)	PASS		
4	Conducted Band edge And Spurious emission	FCC 15.247 (d) RSS-247 Clause 5.5 RSS-GEN Clause 6.13	PASS		
5	Radiated Band edges and Spurious emission	FCC 15.247 (d) FCC 15.209 FCC 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 6.13 RSS-GEN Clause 8.9 RSS-GEN Clause 8.10	PASS		
6	Conducted Emission Test for AC Power Port	FCC 15.207 RSS-GEN Clause 8.8	PASS		
7	Antenna Requirement FCC 15.203 PASS RSS-GEN Clause 6.8		PASS		

Note:

Kevin Shen

The measurement result for the sample received is <Pass> according to < ANSI C63.10-2013, FCC 47 CFR Part 2, FCC 47 CFR Part 15C, ISED RSS-247, ISED RSS-Gen > when < Simple Acceptance > decision rule is applied.

Prepared By:	Reviewed By:		
Tom Tang	Emily Waney		
Tom Tang	Emily Wang		
Authorized By:			

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### 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, 414788 D01 Radiated Test Site v01r01, FCC 47 CFR Part 2, FCC 47 CFR Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 3 and ISED RSS-GEN Issue 5.

### 3. FACILITIES AND ACCREDITATION

Accreditation Certificate	A2LA (Certificate No.: 4829.01)  UL-CCIC COMPANY LIMITED has been assessed and proved to be in compliance with A2LA.  FCC (FCC Designation No.: CN1247)  UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.  IC (IC Designation No.: 25056; CAB No.: CN0073)  UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.
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Note 1: All tests measurement facilities use to collect the measurement data are located at No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122, China.

Note 2: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. These measurements below 30MHz had been correlated to measurements performed on an OFS.

Note 3: The test anechoic chamber in UL-CCIC COMPANY LIMITED had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.



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## 4. CALIBRATION AND UNCERTAINTY

## 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	3.1 dB
DTS Bandwidth	1.9 %
Maximum Conducted Output Power	1.3 dB
Maximum Power Spectral Density Level	1.5 dB
Band-edge Compliance	1.9%
Unwanted Emissions in Non-restricted Freq Bands	9kHz-30MHz: ±0.90dB 30MHz-1GHz: ±1.5 dB 1GHz-12.75GHz: ±1.9dB 12.75GHz-26.5GHz: ±2.1dB
Radiation Emission test (include Fundamental emission) (9kHz-30MHz)	3.4dB
Radiation Emission test (include Fundamental emission) (30MHz-1GHz)	3.4dB
Radiation Emission test (1GHz to 26GHz) (include Fundamental emission)	3.5dB (1GHz-18GHz)
Note: This uncertainty represents an expanded unc	3.9dB (18GHz-26.5GHz)

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



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# 5. EQUIPMENT UNDER TEST

# 5.1. DESCRIPTION OF EUT

Product Name:	Wired Security Camera		
Model No.:	P320		
Operating Frequency:	IEEE 802.11B/G/N(HT20)/AX(HE20): 2412MHz to 2462MHz IEEE 802.11N(HT40)/AX(HE40): 2422MHz to 2452MHz		
Type of Modulation:	IEEE 802.11B: DSSS (DBPSK, DQPSK, CCK) IEEE 802.11G: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11N (HT20 and HT40): OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11AX (HE20 and HE40): OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)		
Channels Step:	Channels with 5MHz step		
Test Software of EUT:	SecureCRT (manufacturer declare)		
Antenna Type:	Patch Antenna		
Antenna Gain:	3.10 dBi  Note: This data is provided by customer and our lab isn't responsible for this data.		



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# 5.2. MAXIMUM OUTPUT POWER

Number of Transmit Chains	IEE Std. 802.11	Channel	Max PK Conducted Power
(NTX)	1EE 3tu. 802.11	Number	(dBm)
1	IEEE 802.11B	1-11[11]	17.99
1	IEEE 802.11G	1-11[11]	22.83
1	IEEE 802.11N HT20	1-11[11]	22.86
1	IEEE 802.11N HT40	3-9[7]	22.79
1	IEEE 802.11AX HE20	1-11[11]	23.22
1	IEEE 802.11AX HE40	3-9[7]	23.37

# 5.3. CHANNEL LIST

	Channel List for 802.11B/G/N/AX (20 MHz)						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	4	2427	7	2442	10	2457
2	2417	5	2432	8	2447	11	2462
3	2422	6	2437	9	2452		

	Channel List for 802.11N/AX (40 MHz)						
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
3	2422	5	2432	7	2442	9	2452
4	2427	6	2437	8	2447		



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# 5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel (MHz)
	LCH: CH01 2412
IEEE 802.11B	MCH: CH06 2437
	HCH: CH11 2462
	LCH: CH01 2412
IEEE 802.11G	MCH: CH06 2437
	HCH: CH11 2462
	LCH: CH01 2412
IEEE 802.11N HT20	MCH: CH06 2437
	HCH: CH11 2462
	LCH: CH03 2422
IEEE 802.11N HT40	MCH: CH06 2437
	HCH: CH09 2452
	LCH: CH01 2412
IEEE 802.11N AX20	MCH: CH06 2437
	HCH: CH11 2462
	LCH: CH03 2422
IEEE 802.11N AX40	MCH: CH06 2437
	HCH: CH09 2452

## 5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Test Softv	vare			Secur	eCRT		
	Transmit			Test C	hannel		
Modulation Mode	Antenna	N	ICB: 20MH	Z	NCB: 40MHz		
Wiode	Number	CH 1	CH 6	CH 11	CH3 CH6 CH		CH 9
802.11B	1	default	default	default			
802.11G	1	default	default	default	/		
802.11N HT20	1	default	default	default			
802.11N HT40	1		/		default default default		
802.11AX HE20	1	default	default	ult default /			
802.11AX HE40	1		/		default	default	default



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### 5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2400-2483.5	Patch Antenna	3.10

Note: This data is provided by customer and our lab isn't responsible for this data.

Test Mode	Transmit and Receive Mode	Description
IEEE 802.11B	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11G	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11N HT20	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11N HT40	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11AX HE20	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.
IEEE 802.11AX HE40	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.

### 5.7. THE WORSE CASE CONFIGURATIONS

For WIFI module, all the modes and data rates have been test, the worst-case data rates for every mode was recorded as below:

802.11B mode: 1 Mbps 802.11G mode: 6 Mbps 802.11N HT20 mode: MCS0 802.11N HT40 mode: MCS0 802.11AX HE mode: MCS0 802.11AX HE mode: MCS0

### **5.8. TEST ENVIRONMENT**

Environment Parameter	Selected Values During Tests			
Relative Humidity:	55 ~ 65%			
Atmospheric Pressure:	1025Pa			
Temperature:	TN	23 ~ 28°C		
	VL	N/A		
Voltage:	VN	AC 120V		
	VH	N/A		

Note: VL= Lower Extreme Test Voltage

VN= Nominal Voltage

VH= Upper Extreme Test Voltage

TN= Normal Temperature

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# 5.9. DESCRIPTION OF TEST SETUP

## **SUPPORT EQUIPMENT**

Item	Equipment	Brand Name	Model Name	Description
1	Laptop	ThinkPad	E590	/

## **I/O PORT**

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	USB-TTL	USB	100cm Length	/

### **ACCESSORY**

Item	Accessory	Brand Name	Model Name	Description
1	AC/DC Dachuan		DCT24W120150US-A3	Input: 100-240V~, 50/60Hz 0.7A max
	ADAPTOR	Daciluali	DO124W12013000-A3	Output: 12.0V=1.5A

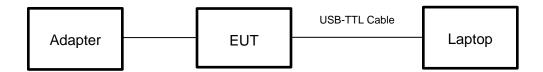


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## **TEST SETUP**

The EUT can work in an engineer mode with a software through a laptop.

## **SETUP DIAGRAM FOR TESTS**





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# 5.10. MEASURING INSTRUMENT AND SOFTWARE USED

	Conducted Emissions Test (Instrument)							
Used	Equipment	Manufacturer	Mod	del No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
$\overline{\checkmark}$	EMI Test Receiver	R&S	Е	SR3	126700	2022-11-26	2023-11-25	2024-11-24
$\overline{\checkmark}$	Two-Line V-Network	R&S	ENV216		126701	2022-11-26	2023-11-25	2024-11-24
		Cond	ucted	Emission	ons Test (So	ftware)		
Used	Desc	ription		Man	ufacturer	Name	Version	
$\overline{\checkmark}$	Software for Condu	cted Emissions	est		R&S	EMC32	9.25.00	
		Radia	ted E	mission	s Test (Instr	ument)		
Used Equipment Manufacturer Model No. Serial No. Upper Last Cal.						Last Cal.	Next Cal.	
$\overline{\checkmark}$	EMI test receiver	R&S	Е	SR7	222993	2023-04-08	2024-03-23	2025-03-22
$\overline{\checkmark}$	EMI test receiver	R&S	ES	SR26	126703	2022-11-26	2023-11-25	2024-11-24
$\overline{\checkmark}$	Spectrum Analyzer	R&S	FS'	V3044	222992	2023-04-08	2024-03-23	2025-03-22
	Receiver Antenna (9kHz-30MHz)	Schwarzbeck	FMZ	ß 1513	155456	2021-06-03	2024-05-27	2027-05-26
	Receiver Antenna (30MHz-1GHz)	Schwarzbeck	VUL	B 9168	171952	2021-07-05	2024-07-04	2027-07-03
V	Receiver Antenna (1GHz-18GHz)	R&S	Н	F907	126705	2019-01-27	2022-02-28	2025-02-27
V	Receiver Antenna (18GHz-26.5GHz)	Schwarzbeck	BBH	1A9170	126706	2019-02-29	2022-02-28	2025-02-27
<b>V</b>	Pre-amplification (To 18GHz)	Tonscned	TAP0	1018050	224539	2023-10-10	2024-10-10	2025-10-09
<b>V</b>	Pre-amplification (To 18GHz)	R&S	SC	U-18D	134667	2022-11-26	2023-11-25	2024-11-24
<b>V</b>	Pre-amplification (To 26.5GHz)	R&S	SC	U-26D	135391	2022-11-26	2023-11-25	2024-11-24
V	Band Reject Filter	Wainwright	2375 2485	CGV12- 5-2400- 5-2510- 0SS	1	2022-12-19	2023-12-18	2024-12-17
<b>V</b>	High Pass Filter	COM-MW		3-3-18G- 01	2	2022-12-19	2023-12-18	2024-12-17
		Rad	ated	Emissio	ns Test (Soft	tware)		
Used	Desc	ription		Man	ufacturer	Name	Version	
$\overline{\mathbf{V}}$	Software for Radia	ated Emissions To	est	To	nscend	JS32-RE	5.0.0.2	
		Α	ntenn	a Port Te	est (Instrume	ent)		
Used	Equipment	Manufacturer	Mod	del No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
V	Spectrum Analyzer	Keysight	N9	010B	155368	2023-04-08	2024-03-23	2025-03-22
V	Power Meter	MWT	MW10	00-RFCB	221694	2023-04-08	2024-03-23	2025-03-22
<b>V</b>	Power Meter	Anritsu	MA2	24406A	12896	2023-04-08	2024-03-23	2025-03-22
$\checkmark$	Attenuator	PASTERNACK	PE	7087-6	1624	/	2024-11-04	2025-11-03
			nten	na Port 1	est (Softwa	re)		
Used	Desc	ription		Man	ufacturer	Name	Version	
<b>V</b>	Software for Ar	ntenna Port Test		То	nscend	JS1120-3 Test System	V3.2.22	



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# 6. MEASUREMENT METHODS

No.	Test Item	KDB Name	Section
1	6 dB Bandwidth and 99% Occupied Bandwidth	KDB 558074 D01 15.247 Meas Guidance v05r02	8.2
2	Output Power	KDB 558074 D01 15.247 Meas	8.3.2.3 (11.9.1.3 PKPM1 Peak power meter method of ANSI C63.10)
	'	Guidance v05r02	8.3.2.3 (11.9.2.3.1 Method AVGPM of ANSI C63.10)
3	Power Spectral Density	KDB 558074 D01 15.247 Meas Guidance v05r02	8.4 (11.10.2 Method PKPSD of ANSI C63.10)
4	Out-of-band emissions in non-restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.5
5	Out-of-band emissions in restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.6
6	Band-edge	KDB 558074 D01 15.247 Meas Guidance v05r02	8.7
7	Conducted Emission Test for AC Power Port	ANSI C63.10-2013	6.2



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# 7. ANTENNA PORT TEST RESULTS

## 7.1. ON TIME AND DUTY CYCLE

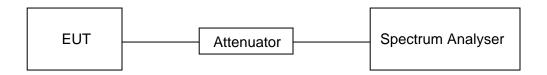
### **LIMITS**

None; for reporting purposes only

#### **PROCEDURE**

FCC KDB 558074 Zero-Span Spectrum Analyzer Method

#### **TEST SETUP**



#### **TEST ENVIRONMENT**

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

#### **TEST RESULTS TABLE**

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/T Minimum VBW (kHz)	Final VBW (kHz)
11B	8.24	8.40	0.9810	98.10%	0.08	0.12	0.01
11G	1.36	1.48	0.9189	91.89%	0.37	0.74	1.0
802.11N HT20	12.34	12.52	0.9856	98.56%	0.06	0.08	0.01
802.11N HT40	0.64	0.76	0.8421	84.21%	0.75	1.56	2.0
802.11AX HE20	1.00	1.11	0.9009	90.09%	0.45	1.00	1.0
802.11AX HE40	0.53	0.64	0.8281	82.81%	0.82	1.89	2.0

Note: 1) Duty Cycle Correction Factor=10log(1/x).

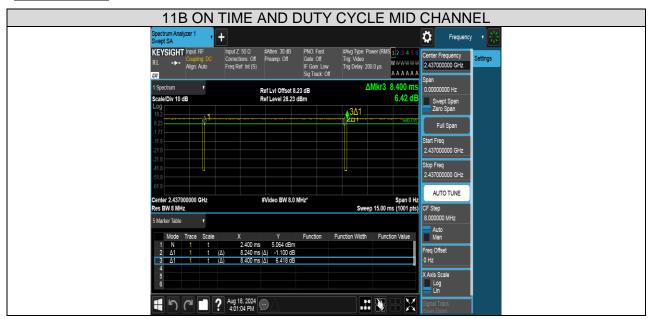
- 2) Where: x is Duty Cycle (Linear)
- 3) Where: T is On Time (transmit duration)
- 4) If the duty cycle is above 98%, the Final VBW is 10Hz.

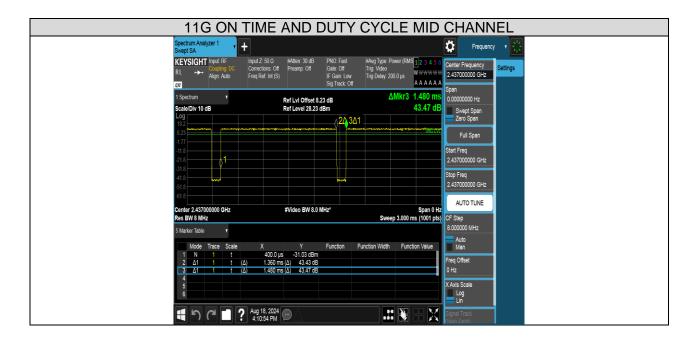
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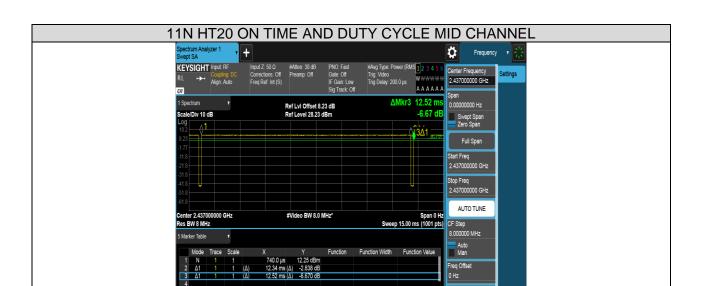
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#### **TEST GRAPHS**





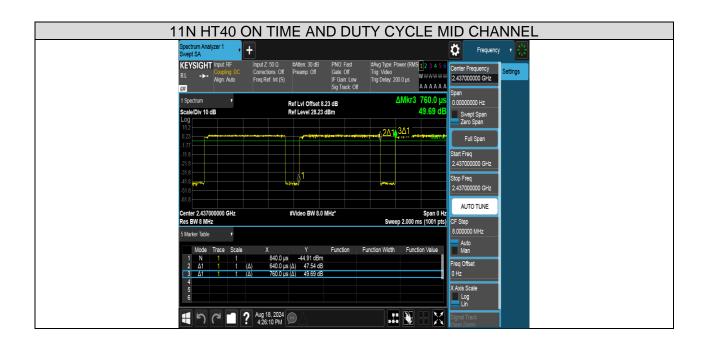


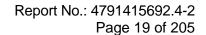


Aug 18, 2024 (m)

Log Lin

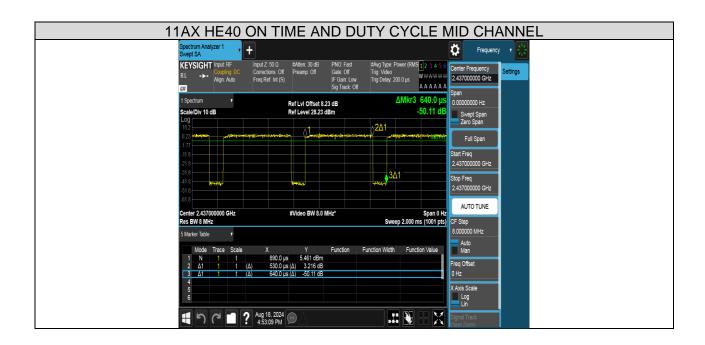
... 🔻







11AX HE20 ON TIME AND DUTY CYCLE MID CHANNEL Ö KEYSIGHT Input RF 2.437000000 GHz AAAAAA ΔMkr3 1.110 ms Ref LvI Offset 8.23 dB Ref Level 28.23 dBm -0.01 dE Start Freq 2.437000000 GHz Stop Freq 2.437000000 GHz AUTO TUNE Span 0 Hz Sweep 2.000 ms (1001 pts) Res BW 8 MHz Auto Man Function Function Width Function Value req Offset Log Lin 4:42:30 PM ... 🔻





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### 7.2. 6 dB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

### **LIMITS**

FCC Part15 (15.247), Subpart C					
Section Test Item Limit Frequency Range (MHz)					
FCC 47 CFR 15.247(a)(2) ISED RSS-247 5.2 (a)	6dB Bandwidth	>= 500kHz	2400-2483.5		
ISED RSS-Gen Clause 6.7	99% Occupied Bandwidth	For reporting purposes only	2400-2483.5		

### **TEST PROCEDURE**

Refer to ANSI C63.10-2013 clause 11.8 for DTS bandwidth and clause 6.9 for Occupied Bandwidth.

Connect the EUT to the spectrum analyser and use the following settings:

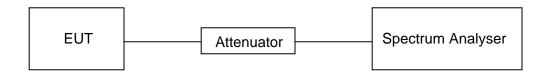
Center Frequency	The centre frequency of the channel under test	
Detector	Peak	
IRR///	For 6 dB Bandwidth: 100 kHz For 99% Occupied Bandwidth: 1% to 5% of the occupied bandwidth	
1\(\B\\\\\	For 6 dB Bandwidth: ≥3 × RBW For 99% Occupied Bandwidth: ≥3 × RBW	
Trace	Max hold	
Sweep	Auto couple	

- a) Use the 99% power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.
- b) Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



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## **TEST SETUP**

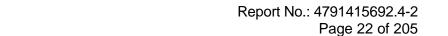


## **TEST ENVIRONMENT**

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

## **TEST RESULTS TABLE**

Test Mode	Test Channel	6dB bandwidth (MHz)	99% bandwidth (MHz)	Result
	LCH	9.553	14.879	Pass
11B	MCH	9.552	14.839	Pass
	HCH	9.567	14.923	Pass
	LCH	15.989	16.586	Pass
11G	MCH	15.880	16.597	Pass
	HCH	15.916	16.584	Pass
	LCH	17.612	17.798	Pass
11N HT20	MCH	17.577	17.798	Pass
	HCH	17.552	17.808	Pass
	LCH	35.691	36.320	Pass
11N HT40	MCH	35.320	36.299	Pass
	HCH	35.456	36.311	Pass
	LCH	17.264	18.985	Pass
11AX HE20	MCH	17.623	18.990	Pass
	HCH	18.567	18.993	Pass
	LCH	35.507	37.734	Pass
11AX HE40	MCH	36.424	37.799	Pass
	HCH	37.587	37.790	Pass



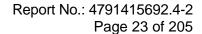


#### **TEST GRAPHS**

### 6dB Bandwdith

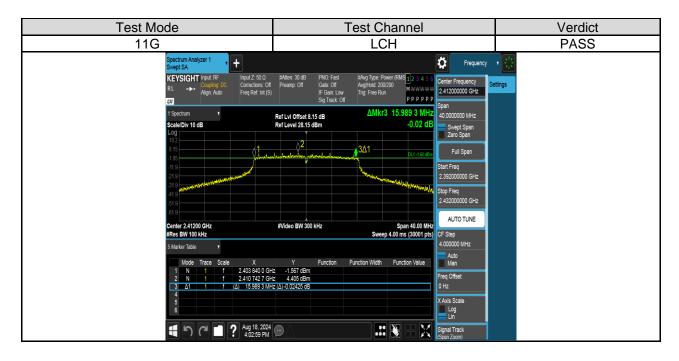


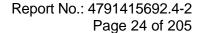




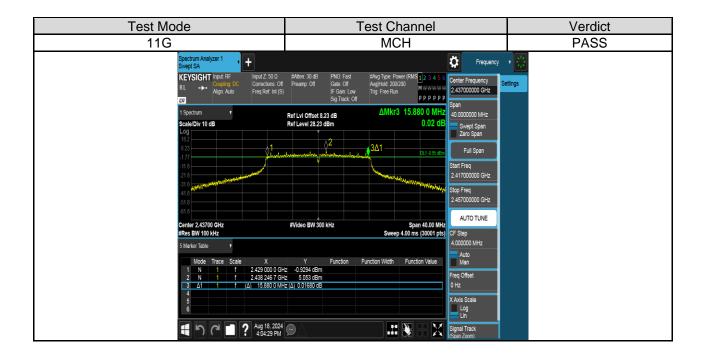


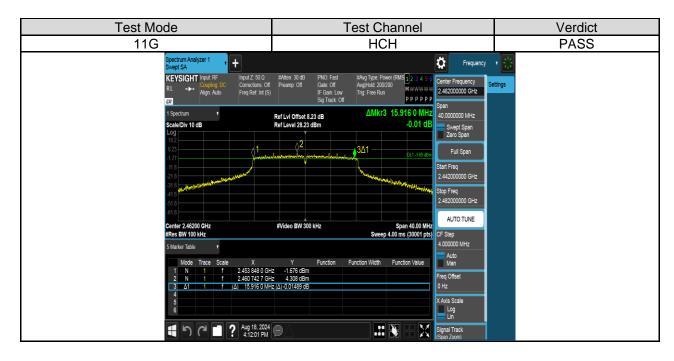


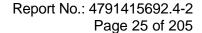






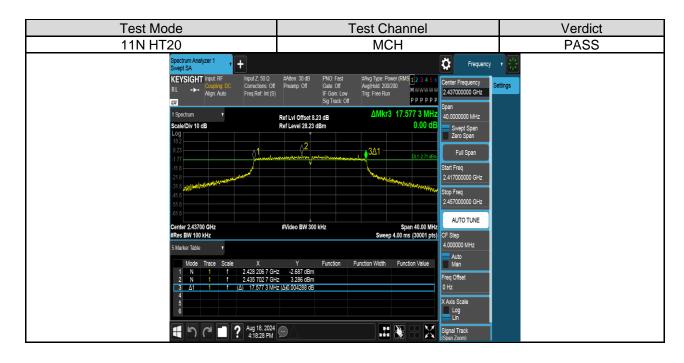


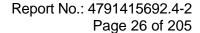




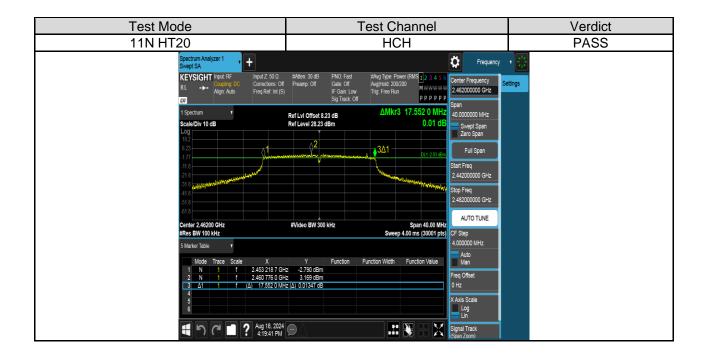




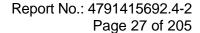






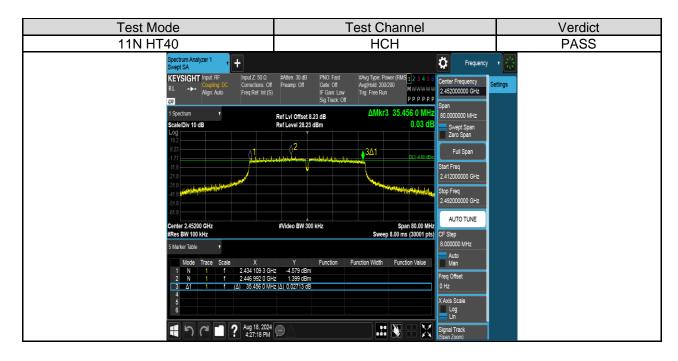








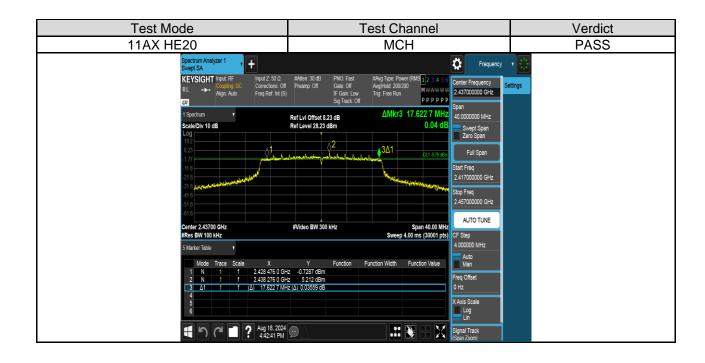


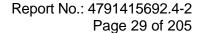




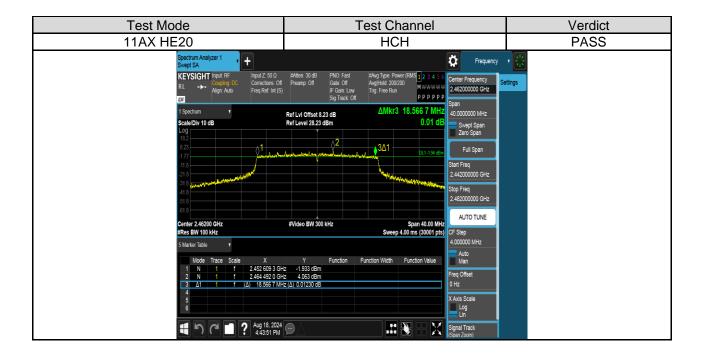


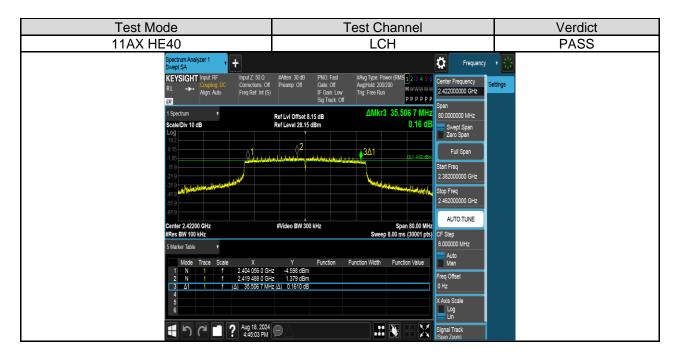
**Test Mode Test Channel** Verdict 11AX HE20 LCH **PASS** oectrum Analyzer 1 wept SA Ü KEYSIGHT Input RF Center Frequency 2.412000000 GHz PPPPPP 17.264 0 MH 40.0000000 MHz Ref LvI Offset 8.15 dB Ref Level 28.15 dBm 0.04 dB Swept Span Zero Span 2.392000000 GHz Stop Freq 2.432000000 GHz AUTO TUNE Span 40.00 MHz Sweep 4.00 ms (30001 pts) #Video BW 300 kHz Auto Man X Axis Scale Log Lin 440:43 PM .:: 🐧









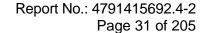










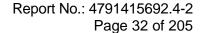




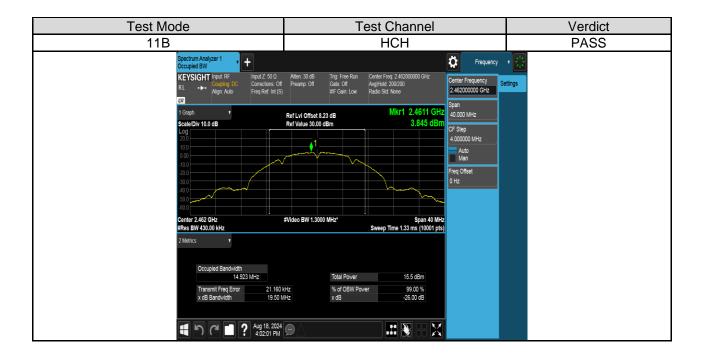
99% Bandwidth

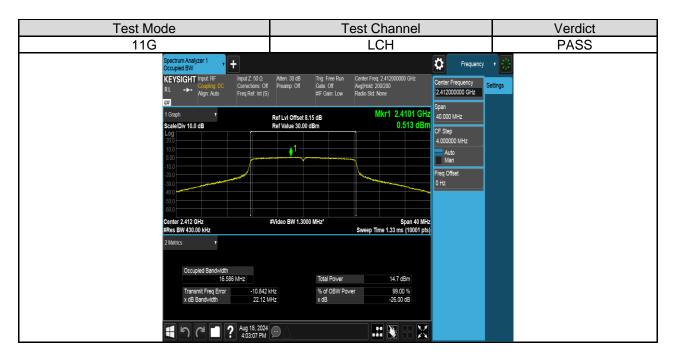


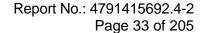




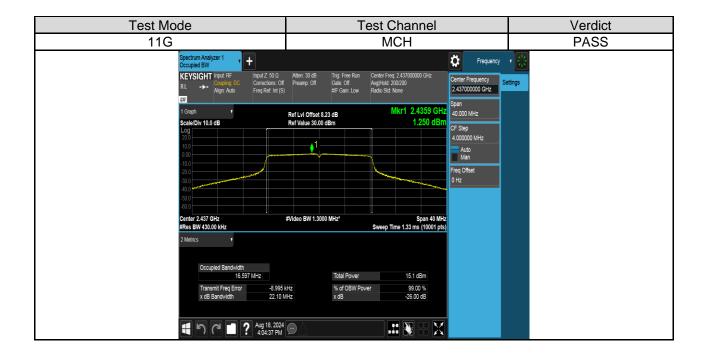




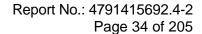






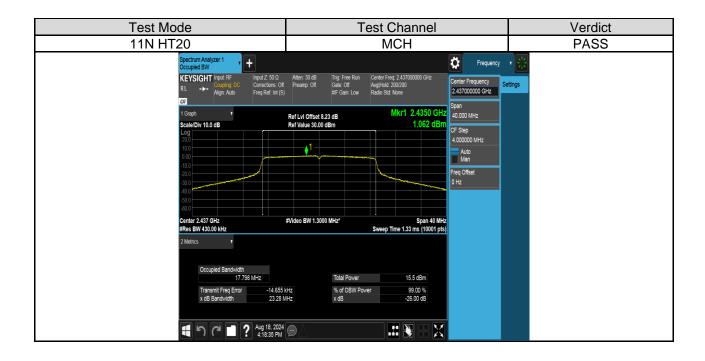


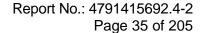






Test Channel **Test Mode** Verdict 11N HT20 LCH **PASS** pectrum Analyzer 1 ccupied BW ¢ KEYSIGHT Input RF Center Frequency 2.412000000 GHz Span 40.000 MHz Mkr1 2.4128 GH Ref LvI Offset 8.15 dB Ref Value 30.00 dBm 0.992 dBr Auto Man Freq Offset 0 Hz Span 40 MHz Sweep Time 1.33 ms (10001 pts) enter 2.412 GHz Res BW 430.00 kHz #Video BW 1.3000 MHz\* Occupied Bandwidth 17.798 MHz Total Power 15.2 dBm 99.00 % -26.00 dB 4:13:11 PM 

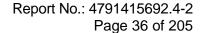




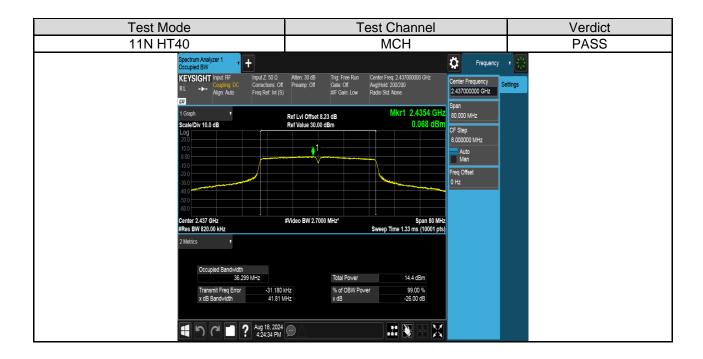


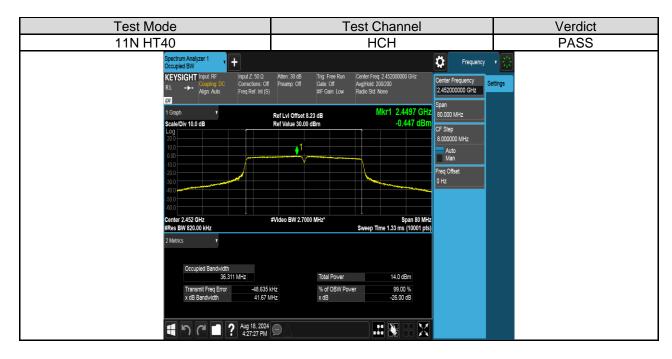
**Test Mode Test Channel** Verdict 11N HT20 HCH **PASS** pectrum Analyzer 1 ccupied BW ¢ KEYSIGHT Input RF Center Frequency 2.462000000 GHz Span 40.000 MHz Mkr1 2.4633 GH Ref LvI Offset 8.23 dB Ref Value 30.00 dBm 0.677 dBn CF Step 4.000000 MHz Auto Man Freq Offset 0 Hz Span 40 MHz Sweep Time 1.33 ms (10001 pts) #Video BW 1.3000 MHz\* Occupied Bandwidth 17.808 MHz Total Power 15.1 dBm 99.00 % -26.00 dB 18, 2024 Aug 18, 2024 At 19:49 PM 

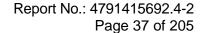




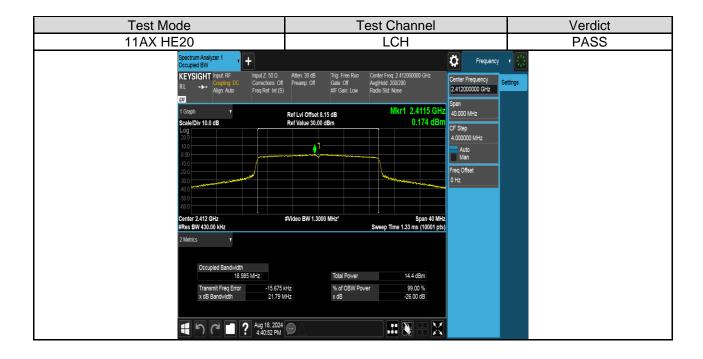


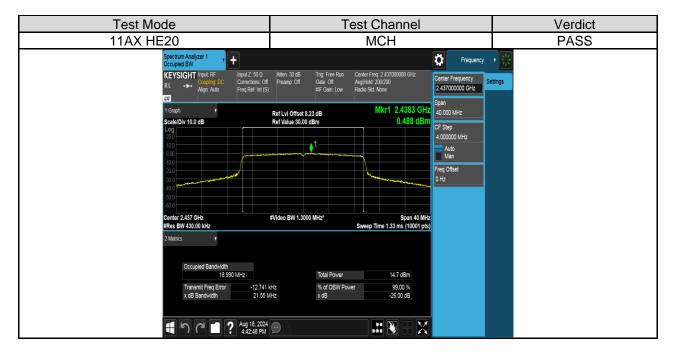


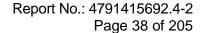




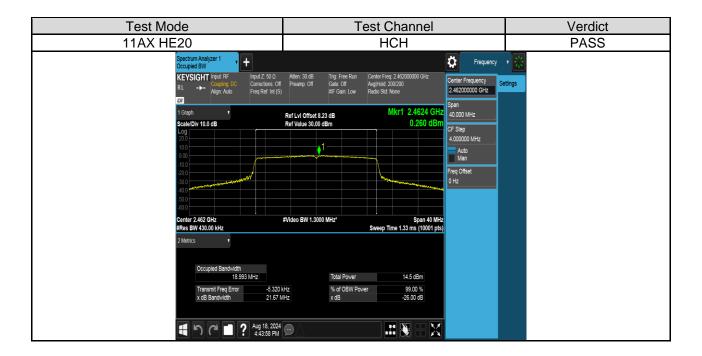


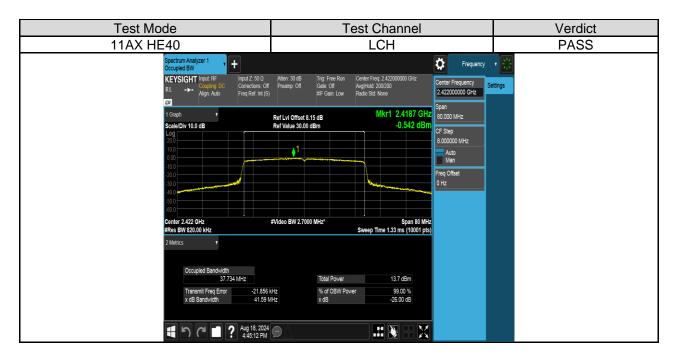


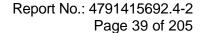




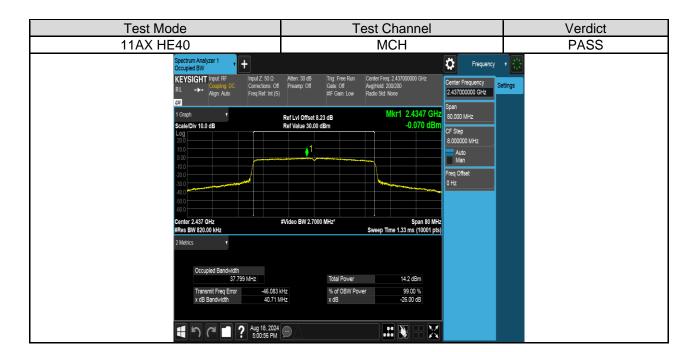


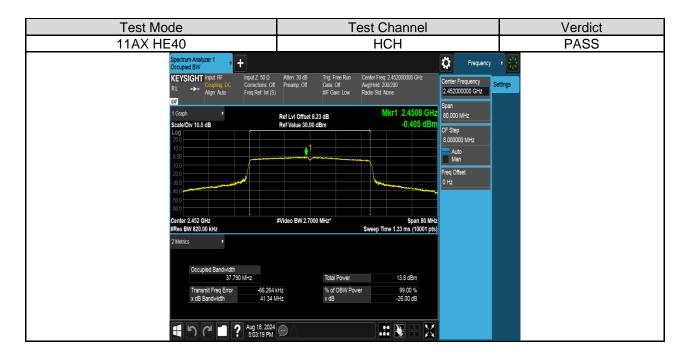














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## 7.3. CONDUCTED OUTPUT POWER

## **LIMITS**

FCC Part15 (15.247), Subpart C				
Section Test Item Limit Frequency Range (MHz)				
FCC 15.247(b)(3) ISED RSS-247 5.4 (d) RSS-Gen Clause 6.12	Output Power	1 watt or 30dBm	2400-2483.5	

### **TEST PROCEDURE**

Place the EUT on the table and set it in the transmitting mode.

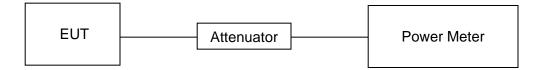
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.

Measure the power of each channel.

PK Detector used for PK result.

AV Detector used for AV result.

### **TEST SETUP**





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## **TEST ENVIRONMENT**

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

## **TEST RESULTS TABLE**

Test Mode	Test Channel	Measurement Output Power dBm		LIMIT
root mode	rest offamile	AV	PK	dBm
	LCH	14.65	16.99	30
11B	MCH	14.50	16.91	30
	HCH	15.52	17.99	30
	LCH	15.35	22.54	30
11G	MCH	15.51	22.83	30
	HCH	15.20	22.43	30
	LCH	15.22	22.55	30
11N HT20	MCH	15.52	22.86	30
	HCH	15.15	22.46	30
11N HT40	LCH	15.21	22.28	30
	MCH	15.23	22.79	30
	HCH	14.59	22.29	30
	LCH	15.11	22.89	30
11AX HE20	MCH	15.24	23.22	30
	HCH	15.20	23.14	30
	LCH	15.11	22.65	30
11AX HE40	MCH	15.08	23.37	30
	HCH	15.06	22.89	30



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### 7.4. POWER SPECTRAL DENSITY

## **LIMITS**

FCC Part15 (15.247), Subpart C			
Section Test Item Limit Frequency (MF			
FCC §15.247 (e) ISED RSS-247 5.2 (b)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

### **TEST PROCEDURE**

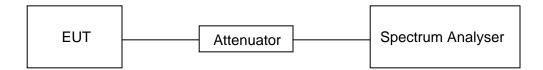
Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

oottii igo.		
Center Frequency	The centre frequency of the channel under test	
Detector	Peak	
RBW	3 kHz ≤ RBW ≤100 kHz	
VBW	≥3 × RBW	
Span	1.5 x DTS bandwidth	
Trace	Max hold	
Sweep time	Auto couple.	

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

### **TEST SETUP**





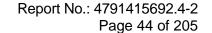
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## **TEST ENVIRONMENT**

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

## **TEST RESULTS TABLE**

Test Mode	Test Channel	Maximum Peak power spectral density (dBm/30kHz)	Result
	LCH	3.67	Pass
11B	MCH	3.02	Pass
	HCH	4.55	Pass
	LCH	-0.53	Pass
11G	MCH	0.10	Pass
	HCH	0.17	Pass
	LCH	-0.87	Pass
11N HT20	MCH	-0.11	Pass
	HCH	-0.30	Pass
	LCH	-2.95	Pass
11N HT40	MCH	-2.36	Pass
	HCH	-2.96	Pass
	LCH	0.06	Pass
11AX HE20	MCH	0.29	Pass
	HCH	0.01	Pass
	LCH	-2.95	Pass
11AX HE40	MCH	-2.36	Pass
	HCH	-2.91	Pass





**TEST GRAPHS** 

