



# **FCC TEST REPORT**

Test report
On Behalf of
Shenzhen Eybond Co., Ltd
For
Wi-Fi Plug Pro
Model No.: Wi-Fi Plug Pro-03

FCC ID: 2ASAF-PLUGPRO03

Prepared for: Shenzhen Eybond Co., Ltd

Building 10, Zhiheng Science & Technology Park, Nantou Street, Nanshan District,

Shenzhen City, Guangdong Province, China

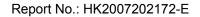
Prepared By: Shenzhen HUAK Testing Technology Co., Ltd.

1F, B2 Building, JunfengZhongchengZhizao Innovation Park, Fuhai Street,

Bao'an District, Shenzhen City, China

Date of Test: Jul. 23, 2020 ~ Aug. 13, 2020

Date of Report: Aug. 13, 2020
Report Number: HK2007202172-E





### **TEST RESULT CERTIFICATION**

Applicant's name:	Shenzhen Eybond Co., Ltd			
Address:	Building 10, Zhiheng Science & Technology Park, Nantou Street, Nanshan District, Shenzhen City, Guangdong Province, China			
Manufacture's Name:				
Address:	Building 10, Zhiheng Science & Technology Park, Nantou Street, Nanshan District, Shenzhen City, Guangdong Province, China			
Product description				
Trade Mark:	Eybond			
Product name:	Wi-Fi Plu	g Pro		
Model and/or type reference :	Wi-Fi Plu	g Pro-03		
Standards:	FCC Rule ANSI C63	es and Regulations Part 15 Subpart C Section 15.247 3.10: 2013		
the Shenzhen HUAK Testing T source of the material. Shenzhe	Technology en HUAK for damag lacement	nole or in part for non-commercial purposes as long as y Co., Ltd. is acknowledged as copyright owner and Testing Technology Co., Ltd. takes no responsibility for ges resulting from the reader's interpretation of the and context.		
Date (s) of performance of tests.	······································	Jul. 23, 2020 ~ Aug. 13, 2020		
Date of Issue		-		
Test Result	:	Pass		
		C-1-Aim		
Testing Enginee	er : -	Good Diane		
		(Gary Qian)		
Technical Mana	ager :	Edan Mu		
	<del>-</del>	(Eden Hu)		

Authorized Signatory:

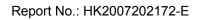
Jason Zhou

(Jason Zhou)



# **TABLE OF CONTENTS**

1.	Test Result Summary	5
	1.1. TEST PROCEDURES AND RESULTS	5
	1.2. TEST FACILITY	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
3.	Genera Information	10
	3.1. TEST ENVIRONMENT AND MODE	10
	3.2. DESCRIPTION OF SUPPORT UNITS	11
4.	Test Results and Measurement Data	12
	4.1. CONDUCTED EMISSION	12
	4.2. TEST RESULT	14
	4.3. MAXIMUM CONDUCTED OUTPUT POWER	15
	4.4. EMISSION BANDWIDTH	17
	4.5. POWER SPECTRAL DENSITY	22
	4.6. CONDUCTED BAND EDGE AND SPURIOUS EMISSION MEASUREMENT	27
	4.7. RADIATED SPURIOUS EMISSION MEASUREMENT	35
	4.8. ANTENNA REQUIREMENT	
	4.9. PHOTOGRAPH OF TEST	57
	4.10. PHOTOS OF THE EUT	58





# \*\* Modifited History \*\*

Revison	Description	Issued Data	Remark
Revsion 1.0 Initial Test Report Release		2020/08/13	Jason Zhou





# 1. Test Result Summary

### 1.1. TEST PROCEDURES AND RESULTS

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203/§15.247 (c)	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	1§5.247(d)	PASS
Spurious Emission	§15.205/§15.209	PASS

#### Note:

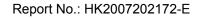
- 1. PASS: Test item meets the requirement.
- 2. Fail: Test item does not meet the requirement.
- 3. N/A: Test case does not apply to the test object.
- 4. The test result judgment is decided by the limit of test standard.

#### 1.2. TEST FACILITY

Test Firm : Shenzhen HUAK Testing Technology Co., Ltd.

Address 1F, B2 Building, JunfengZhongchengZhizao Innovation Park, Fuhai

Street, Bao'an District, Shenzhen City, China

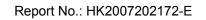




# 1.3. Measurement Uncertainty

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	±2.56dB
2	RF power, conducted	±0.12dB
3	Spurious emissions, conducted	±0.11dB
4	All emissions, radiated(<1G)	±3.92dB
5	All emissions, radiated(>1G)	±4.28dB
6	Temperature	±0.1°C
7	Humidity	±1.0%

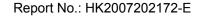




# 2. EUT Description

# 2.1. GENERAL DESCRIPTION OF EUT

Equipment	Wi-Fi Plug Pro
Model Name	Wi-Fi Plug Pro-03
Serial No.	N/A
Model Difference	N/A
FCC ID	2ASAF-PLUGPRO03
Antenna Type	External Antenna
Antenna Gain	0dBi
Operation frequency	802.11b/g/n 20: 2412~2462 MHz
Number of Channels	802.11b/g/n20: 11CH
Modulation Type	CCK/OFDM/DBPSK/DAPSK
Power Source	DC 4.2V/3.3V
Power Rating	DC 4.2V/3.3V





# 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:

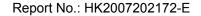
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

### 2.3. Operation of EUT during testing

**Operating Mode** 

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

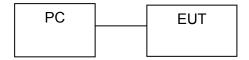
Low Channel: 2412MHz Middle Channel: 2437MHz High Channel: 2462MHz





#### 2.4. DESCRIPTION OF TEST SETUP

Operation of EUT during below 1GHz and Above1GHz Radiation testing:

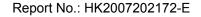


PC information Model: TP00067A

Input: DC20V, 2.25A-3.25A

Output: 5VDC, 0.5A

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





### 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(The value of duty cycle is 98.46%)			

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.

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:

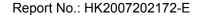
# Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

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

#### Final Test 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). Duty cycle setting during the transmission is 98.5% with maximum power setting for all modulations.





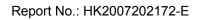
### 3.2. Description of Support Units

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.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
1	1	1	1	1

#### 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.



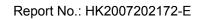


# 4. Test Results and Measurement Data

### 4.1. Conducted Emission

### **Test Specification**

	500 D 445 0 0 0	45.005	
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
	Frequency range Limit (dBuV) (MHz) Quasi-peak Average		
Limits:	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	Reference	e Plane	_
Test Setup:	Remark: E.U.T: Equipment Under Test LISN Filter AC power  EMI Receiver  Remark: E.U.T: Equipment Under Test LISN Line Impedence Stabilization Network Test table height=0.8m		
Test Mode:	Charging + transmitting with modulation		
Test Procedure:	<ol> <li>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.</li> <li>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).</li> <li>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.</li> </ol>		
Test Result:	N/A		

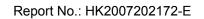




#### **Test Instruments**

Conducted Emission Shielding Room Test Site (843)							
Equipment Manufacturer Model Serial Number Calibration Date Calibration							
Receiver	R&S	ESCI 7	HKE-010	Dec. 26, 2019	Dec. 25, 2020		
L.I.S.N. Artificial Mains Network	R&S	ENV216	HKE-002	Dec. 26, 2019	Dec. 25, 2020		
LISN	R&S	ENV216	HKE-059	Dec. 26, 2019	Dec. 25, 2020		
Conducted test software	Tonscend	TS+ Rev 2.5.0.0	HKE-081	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).

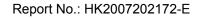




### 4.2. Test Result

N/A

Not applicable for dervice which is DC Power supply.





# 4.3. Maximum Conducted Output Power

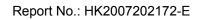
# **Test Specification**

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)				
Test Method:	KDB 558074				
Limit:	30dBm				
Test Setup:	Power meter FIIT				
	1999-1997 - 1999-1997 - 1999-1997 - 1999-1997 - 1999-1997 - 1999-1997 - 1999-1997 - 1999-1997 - 1999-1997 - 1				
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 power meter 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				

#### **Test Instruments**

RF Test Room						
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due	
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 26, 2019	Dec. 25, 2020	
Power meter	Agilent	E4419B	HKE-085	Dec. 26, 2019	Dec. 25, 2020	
Power Sensor	Agilent	E9300A	HKE-086	Dec. 26, 2019	Dec. 25, 2020	
RF cable	Times	1-40G	HKE-034	Dec. 26, 2019	Dec. 25, 2020	
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 26, 2019	Dec. 25, 2020	

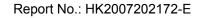
**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).





### **Test Data**

	TX 802.11b Mode						
Test	Frequency	MaximumPeak Conducted Output Power	LIMIT				
Channe	(MHz)	(dBm)	dBm				
CH01	2412	19.32	30				
CH06	2437	19.19	30				
CH11	CH11 2462 18.25		30				
	TX 802.11g Mode						
CH01	2412	18.09	30				
CH06	2437	17.04	30				
CH11	CH11 2462 16.20		30				
		TX 802.11n20 Mode					
CH01	CH01 2412 16.18		30				
CH06	2437	16.06	30				
CH11	2462	16.23	30				





### 4.4. Emission Bandwidth

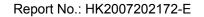
# **Test Specification**

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)				
Test Method:	KDB 558074				
Limit:	>500kHz				
Test Setup:	Spectrum Analyzer EUT				
Test Mode:	Transmitting mode with modulation				
Test Procedure:	<ol> <li>The testing follows FCC KDB 558074 D01 15.247         Meas Guidance v05r02.</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) = 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.</li> <li>Measure and record the results in the test report.</li> </ol>				
Test Result:	PASS				

#### **Test Instruments**

RF Test Room						
Equipment Manufacturer Model Serial Number Calibration Date Calibration						
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 26, 2019	Dec. 25, 2020	
RF cable	Times	1-40G	HKE-034	Dec. 26, 2019	Dec. 25, 2020	
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 26, 2019	Dec. 25, 2020	

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

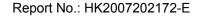




### Test data

Test channel	6dB Emission Bandwidth (MHz)					
rest channel	802.11b	802.11g	802.11n(H20)			
Lowest	8.128	16.43	17.63			
Middle	8.108	16.40	17.62			
Highest	8.125	16.38	17.61			
Limit:	>500KHz					
Test Result:	PASS					

Test plots as follows:





#### 802.11b Modulation

#### Lowest channel



#### Middle channel







#### 802.11g Modulation

#### Lowest channel



#### Middle channel







#### 802.11n (HT20) Modulation

#### Lowest channel

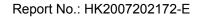


Middle channel



Highest channel







# 4.5. Power Spectral Density

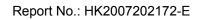
# **Test Specification**

Test Requirement:	FCC Part15 C Section 15.247 (e)				
rest Requirement.	(0)				
Test Method:	KDB 558074				
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 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				

#### **Test Instruments**

RF Test Room						
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due	
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 26, 2019	Dec. 25, 2020	
RF Cable (9KHz-26.5GHz)	Tonscend	170660	N/A	Dec. 26, 2019	Dec. 25, 2020	
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 26, 2019	Dec. 25, 2020	
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).

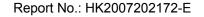




### Test data

EUT Set Mode	Channel	Result (dBm/30kHz)	Result (dBm/3kHz)			
	Lowest	3.9	-6.1			
802.11b	Middle	3.95	-6.05			
	Highest	4.97	-5.03			
	Lowest	-7.95	-17.95			
802.11g	Middle	-8.27	-18.27			
	Highest	-7.83	-17.83			
	Lowest	-8.14	-18.14			
802.11n(H20)	Middle	-7.45	-17.45			
	Highest	-7.39	-17.39			
PSD test result (dBm/3kHz)= PSD test result (dBm/30kHz)-10						
Limit: 8dBm/3kHz						
Test Result:		PASS				

### Test plots as follows:





#### 802.11b Modulation

#### Lowest channel



### Middle channel







### 802.11g Modulation

#### Lowest channel



### Middle channel

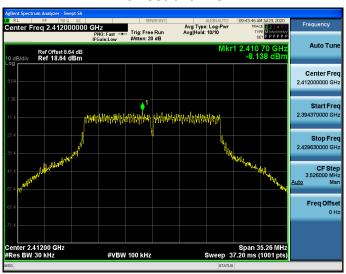




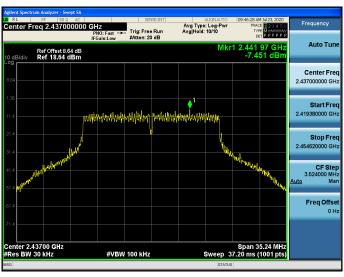


#### 802.11n (HT20) Modulation

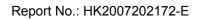
#### Lowest channel



#### Middle channel





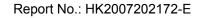




# 4.6. Conducted Band Edge and Spurious Emission Measurement

# **Test Specification**

Test Requirement:	FCC Part15 C Section 15.247 (d)				
Test Method:	KDB558074				
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 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				





### **Test Instruments**

RF Test Room						
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due	
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 26, 2019	Dec. 25, 2020	
High pass filter unit	Tonscend	JS0806-F	HKE-055	Dec. 26, 2019	Dec. 25, 2020	
RF Cable (9KHz-26.5GHz)	Tonscend	170660	N/A	Dec. 26, 2019	Dec. 25, 2020	
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Dec. 26, 2019	Dec. 25, 2020	
RF test software	Tonscend	JS1120-B Version 2.6	HKE-083	N/A	N/A	

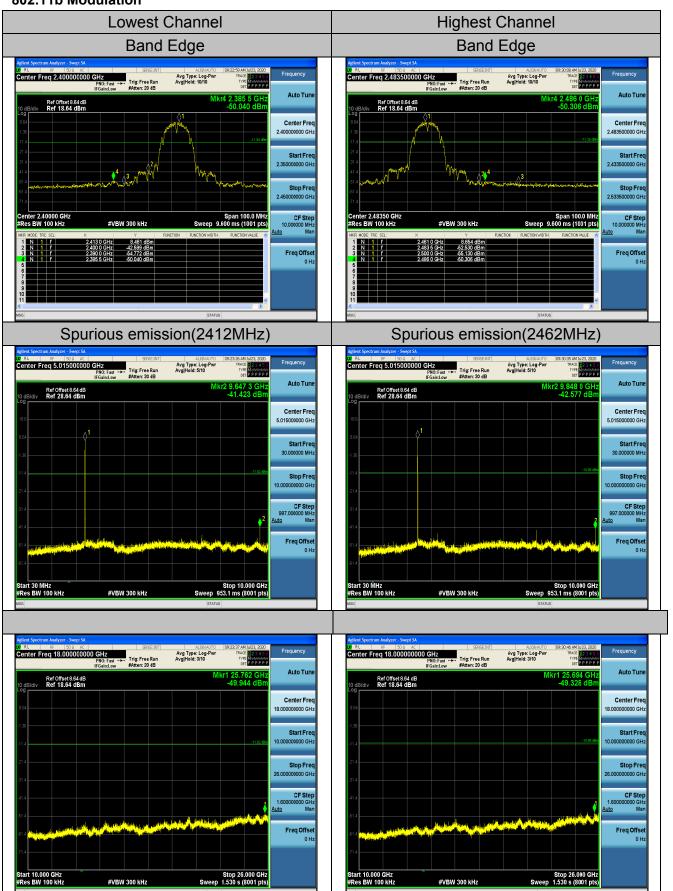
**Note:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

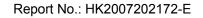




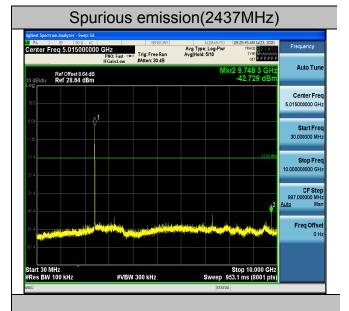
#### **Test Data**

#### 802.11b Modulation

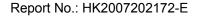






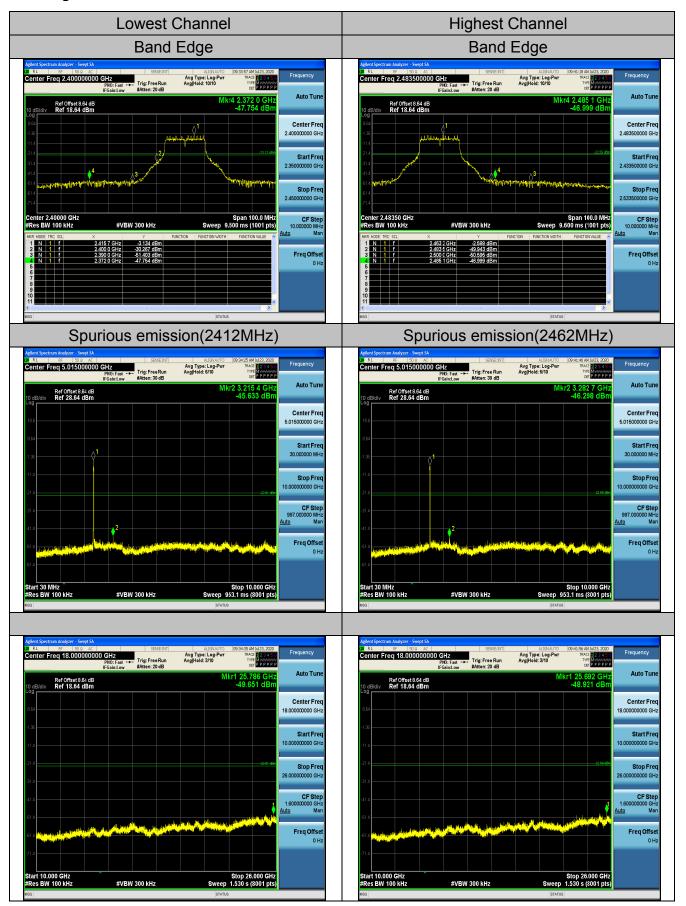






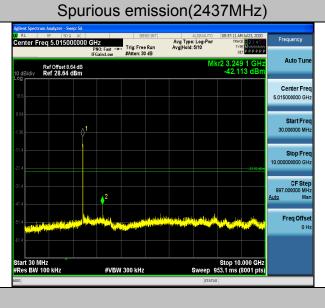


#### 802.11g Modulation







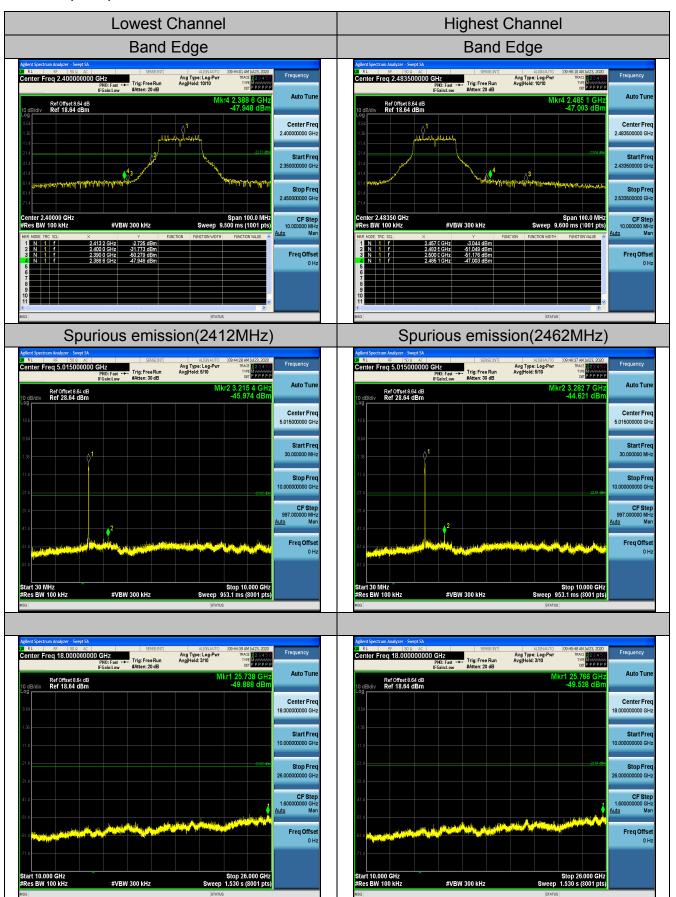


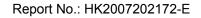




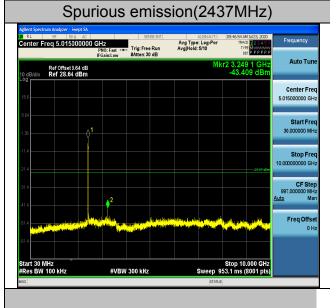


#### 802.11n (HT20) Modulation

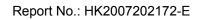










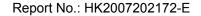




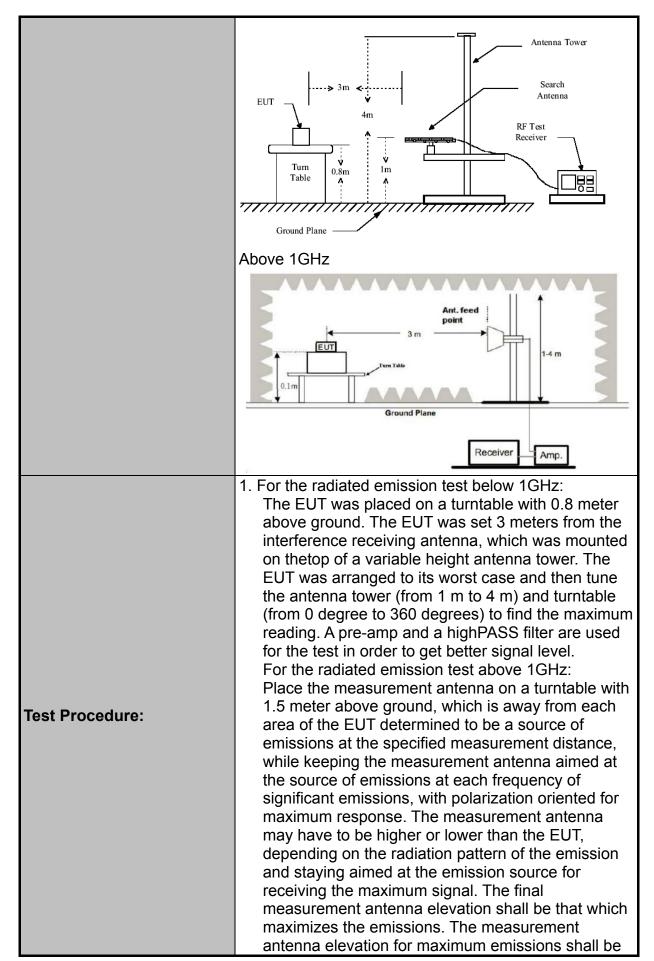
# 4.7. Radiated Spurious Emission Measurement

# **Test Specification**

Test Requirement:	FCC Part15 C Section 15.209													
Test Method:	ANSI C63.10: 2013													
Frequency Range:	9 kHz to 25 GHz													
Measurement Distance:	3 m													
Antenna Polarization:	Horizontal & Vertical													
Operation mode:	Transmitting mode with modulation													
Receiver Setup:	Frequency	Detector		RBW	VBW	Remark								
	9kHz- 150kHz	Quasi-peak		200Hz	1kHz									
	150kHz- 30MHz	Quasi-peak		9kHz	30kHz	Quasi-peak Value								
	30MHz-1GHz	Quasi-peak		120KHz	300KHz	Quasi-peak Value								
	Above 1GHz	Peak		1MHz	3MHz	Peak Value								
		Peak		1MHz	10Hz	Average Value								
Limit:	Frequency		Field Stre		-	Measurement								
	0.009-0.490			(microvolts		Distance (meters) 300								
	0.490-1.705			2400/F(KHz) 24000/F(KHz)		300								
	1.705-30		30		30									
	30-88			100		3								
	88-216 216-960		150 200		3									
	Above 960		500		3									
	1 300 1						J							
	Frequency		Field Strength (microvolts/meter)		Measure Distan		Detector							
					(meters)									
	Above 1GHz		500		3		Average							
			5000 3				Peak							
Test setup:	For radiated emissions below 30MHz													
	RX Antenna  3 m  FEUT  Turn Table  Ground Plane													
									Receiver					
								30MHz to 1GHz						
								301VII 12 to 10	· 12					

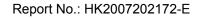














### **Test Instruments**

	Rad	iated Emissior	Test Site (96	6)	
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Receiver	R&S	ESCI-7	HKE-010	Dec. 26, 2019	Dec. 25, 2020
Spectrum analyzer	Agilent	N9020A	HKE-048	Dec. 26, 2019	Dec. 25, 2020
Spectrum analyzer	R&S	FSP40	HKE-025	Dec. 26, 2019	Dec. 25, 2020
High gain antenna	Schwarzbeck	LB-180400KF	HKE-054	Dec. 26, 2019	Dec. 25, 2020
Preamplifier	Schwarzbeck	BBV 9743	HKE-006	Dec. 26, 2019	Dec. 25, 2020
Preamplifier	EMCI	EMC051845S E	HKE-015	Dec. 26, 2019	Dec. 25, 2020
Preamplifier	Agilent	83051A	HKE-016	Dec. 26, 2019	Dec. 25, 2020
Loop antenna	Schwarzbeck	FMZB 1519 B	HKE-014	Dec. 26, 2019	Dec. 25, 2020
Broadband antenna	Schwarzbeck	VULB 9163	HKE-012	Dec. 26, 2019	Dec. 25, 2020
Horn antenna	Schwarzbeck	9120D	HKE-013	Dec. 26, 2019	Dec. 25, 2020
High pass filter unit	Tonscend	JS0806-F	HKE-055	Dec. 26, 2019	Dec. 25, 2020
Antenna Mast	Keleto	CC-A-4M	N/A	N/A	N/A
Position controller	Taiwan MF	MF7802	HKE-011	Dec. 26, 2019	Dec. 25, 2020
Radiated test software	Tonscend	TS+ Rev 2.5.0.0	HKE-082	N/A	N/A
RF cable	Times	9kHz-1GHz	HKE-117	Dec. 26, 2019	Dec. 25, 2020
RF cable	Times	1-40G	HKE-034	Dec. 26, 2019	Dec. 25, 2020
Horn Antenna	Schewarzbeck	BBHA 9170	HKE-017	Dec. 26, 2019	Dec. 25, 2020

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



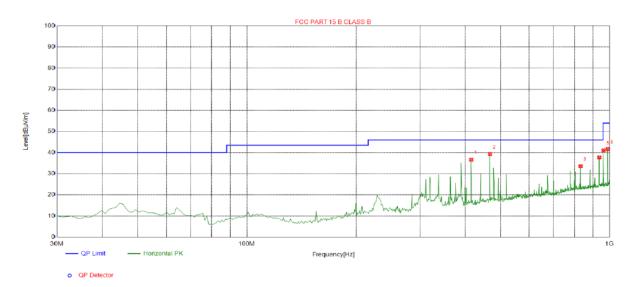


### **Test Data**

# All the test modes completed for test. only the worst result of (802.11b at 2412MHz) was reported as below:

### **Below 1GHz**

### Horizontal

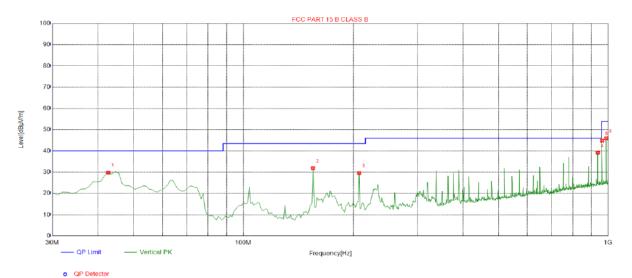


Suspe	cted List								
NO.	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Dolovity
NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity
1	415.4755	-10.12	46.77	36.65	46.00	9.35	100	175	Horizontal
2	467.9079	-8.41	47.74	39.33	46.00	6.67	100	175	Horizontal
3	832.0220	-2.46	36.04	33.58	46.00	12.42	100	175	Horizontal
4	936.8869	-1.63	39.36	37.73	46.00	8.27	100	175	Horizontal
5	962.1321	-1.40	42.51	41.11	54.00	12.89	100	175	Horizontal
6	988.3483	-1.03	42.70	41.67	54.00	12.33	100	175	Horizontal

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level;



### Vertical



Suspected List									
NO.	Freq.	Factor	Reading	Level	Limit	Margin	Height	Angle	Dolovity
NO.	[MHz]	[dB]	[dBµV/m]	[dBµV/m]	[dBµV/m]	[dB]	[cm]	[°]	Polarity
1	42.6226	-14.07	43.84	29.77	40.00	10.23	100	358	Vertical
2	155.2553	-18.56	50.42	31.86	43.50	11.64	100	208	Vertical
3	207.6877	-14.86	44.46	29.60	43.50	13.90	100	208	Vertical
4	936.8869	-1.63	40.79	39.16	46.00	6.84	100	205	Vertical
5	962.1321	-1.40	46.26	44.86	54.00	9.14	100	205	Vertical
6	988.3483	-1.03	47.03	46.00	54.00	8.00	100	205	Vertical

Remark: Factor = Cable loss + Antenna factor - Preamplifier; Level = Reading + Factor; Margin = Limit - Level;

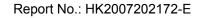
### **Harmonics and Spurious Emissions**

### Frequency Range (9 kHz-30MHz)

Frequency (MHz)	Level@3m (dBµV/m)	Limit@3m (dBµV/m)
	-	

Note: 1. Emission Level=Reading+ Cable loss-Antenna factor-Amp factor

2. The emission levels are 20 dB below the limit value, which are not reported. It is deemed to comply with the requirement





### **Above 1GHz**

### **RADIATED EMISSION TEST**

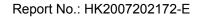
LOW CH1 (802.11b Mode)/2412

Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	60.35	-3.64	56.71	74	-17.29	peak
4824	44.02	-3.64	40.38	54	-13.62	AVG
7236	57.48	-0.95	56.53	74	-17.47	peak
7236	43.65	-0.95	42.7	54	-11.3	AVG
Remark: Factor	= Antenna Factor	+ Cable Loss –	Pre-amplifier.			-

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4824	60.48	-3.64	56.84	74	-17.16	peak		
4824	47.15	-3.64	43.51	54	-10.49	AVG		
7236	57.62	-0.95	56.67	74	-17.33	peak		
7236	44.12	-0.95	43.17	54	-10.83	AVG		
Remark: Factor	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							





### MID CH6 (802.11b Mode)/2437

### Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре		
4874	61.58	-3.51	58.07	74	-15.93	peak		
4874	46.32	-3.51	42.81	54	-11.19	AVG		
7311	58.79	-0.82	57.97	74	-16.03	peak		
7311	43.02	-0.82	42.2	54	-11.8	AVG		
Remark: Factor	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	60.47	-3.51	56.96	74	-17.04	peak
4874	47.12	-3.51	43.61	54	-10.39	AVG
7311	58.34	-0.82	57.52	74	-16.48	peak
7311	44.28	-0.82	43.46	54	-10.54	AVG
Domark: Factor	= Δntenna Factor	+ Cable Loss	Dro amplifior			



Report No.: HK2007202172-E

### HIGH CH11 (802.11b Mode)/2462

### Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	60.32	-3.43	56.89	74	-17.11	peak
4924	46.15	-3.43	42.72	54	-11.28	AVG
7386	57.98	-0.75	57.23	74	-16.77	peak
7386	44.16	-0.75	43.41	54	-10.59	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

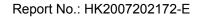
### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	60.35	-3.43	56.92	74	-17.08	peak
4924	46.25	-3.43	42.82	54	-11.18	AVG
7386	56.71	-0.75	55.96	74	-18.04	peak
7386	42.31	-0.75	41.56	54	-12.44	AVG

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier.

#### Remark:

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes bandedge frequency.
- (3) \* denotes emission frequency which appearing within the Restricted Bands specified inprovision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) The emissions are attenuated more than 20dB below the permissible limits are not record in the report.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHzfor measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, theAverage Detected is not need completed. For example: Top Channel at Fundamental73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54dBuV/m(AV Limit), the Average Detected not need to completed.





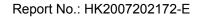
### LOW CH1 (802.11g Mode)/2412

### Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	60.35	-3.64	56.71	74	-17.29	peak
4824	46.32	-3.64	42.68	54	-11.32	AVG
7236	55.72	-0.95	54.77	74	-19.23	peak
7236	43.15	-0.95	42.2	54	-11.8	AVG
Remark: Factor	= Antenna Factor	+ Cable Loss -	Pre-amplifier.			

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
4824	59.64	-3.64	56	74	-18	peak
4824	47.16	-3.64	43.52	54	-10.48	AVG
7236	55.31	-0.95	54.36	74	-19.64	peak
7236	42.08	-0.95	41.13	54	-12.87	AVG





### MID CH6 (802.11g Mode)/2437

### Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	60.48	-3.51	56.97	74	-17.03	peak
4874	45.32	-3.51	41.81	54	-12.19	AVG
7311	58.14	-0.82	57.32	74	-16.68	peak
7311	40.38	-0.82	39.56	54	-14.44	AVG
Remark: Factor	= Antenna Factor	+ Cable Loss –	Pre-amplifier.			

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	60.32	-3.51	56.81	74	-17.19	peak
4874	47.15	-3.51	43.64	54	-10.36	AVG
7311	57.44	-0.82	56.62	74	-17.38	peak
7311	44.32	-0.82	43.5	54	-10.5	AVG





### HIGH CH11 (802.11g Mode)/2462

#### Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4924	59.87	-3.43	56.44	74	-17.56	peak
4924	46.32	-3.43	42.89	54	-11.11	AVG
7386	56.15	-0.75	55.4	74	-18.6	peak
7386	41.32	-0.75	40.57	54	-13.43	AVG
Remark: Factor	= Antenna Factor	+ Cable Loss –	Pre-amplifier.			

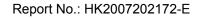
### Vertical:

vertical.							
	Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
	(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
	4924	58.97	-3.43	55.54	74	-18.46	peak
	4924	45.32	-3.43	41.89	54	-12.11	AVG
I	7386	57.13	-0.75	56.38	74	-17.62	peak
	7386	38.33	-0.75	37.58	54	-16.42	AVG

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier.

### Remark:

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes bandedge frequency.
- (3) \* denotes emission frequency which appearing within the Restricted Bands specified inprovision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4)The emissions are attenuated more than 20dB below the permissible limits are not record in the r eport
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHzfor measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, theAverage Detected is not need completed. For example: Top Channel at Fundamental73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54dBuV/m(AV Limit), the Average Detected not need to completed.





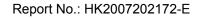
### LOW CH1 (802.11n/H20 Mode)/2412

### Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	60.32	-3.64	56.68	74	-17.32	peak
4824	45.18	-3.64	41.54	54	-12.46	AVG
7236	55.37	-0.95	54.42	74	-19.58	peak
7236	42.98	-0.95	42.03	54	-11.97	AVG
Remark: Factor	= Antenna Factor	+ Cable Loss –	Pre-amplifier.			

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4824	60.35	-3.64	56.71	74	-17.29	peak
4824	46.18	-3.64	42.54	54	-11.46	AVG
7236	58.64	-0.95	57.69	74	-16.31	peak
7236	44.03	-0.95	43.08	54	-10.92	AVG





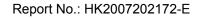
### MID CH6 (802.11n/H20 Mode)/2437

### Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
4874	57.64	-3.51	54.13	74.00	-19.87	peak
4874	46.32	-3.51	42.81	54.00	-11.19	AVG
7311	55.19	-0.82	54.37	74.00	-19.63	peak
7311	44.32	-0.82	43.50	54.00	-10.50	AVG
Remark: Factor	= Antenna Factor	+ Cable Loss -	Pre-amplifier.		-	

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
4874	60.35	-3.51	56.84	74.00	-17.16	peak
4874	45.18	-3.51	41.67	54.00	-12.33	AVG
7311	55.46	-0.82	54.64	74.00	-19.36	peak
7311	39.71	-0.82	38.89	54.00	-15.11	AVG





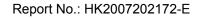
### HIGH CH11 (802.11n/H20 Mode)/2462

### Horizontal:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type			
4924	61.32	-3.43	57.89	74	-16.11	peak			
4924	46.18	-3.43	42.75	54	-11.25	AVG			
7386	56.72	-0.75	55.97	74	-18.03	peak			
7386	42.65	-0.75	41.9	54	-12.1	AVG			
Remark: Factor	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type			
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type			
4924	62.35	-3.43	58.92	74	-15.08	peak			
4924	46.18	-3.43	42.75	54	-11.25	AVG			
7386	56.33	-0.75	55.58	74	-18.42	peak			
7386	44.72	-0.75	43.97	54	-10.03	AVG			
Remark: Factor	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								





### Test Result of Radiated Spurious at Band edges

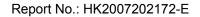
Operation Mode: 802.11b Mode TX CH Low (2412MHz)

### Horizontal

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type						
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type						
2310.00	60.3	-5.81	54.49	74	-19.51	peak						
2310.00	47.15	-5.81	41.34	54	-12.66	AVG						
2390.00	60.38	-5.84	54.54	74	-19.46	peak						
2390.00	49.37	-5.84	43.53	54	-10.47	AVG						
Remark: Factor	= Antenna Factor	+ Cable Loss -	Pre-amplifier.	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.								

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2310.00	61.11	-5.81	55.3	74	-18.7	peak
2310.00	49.67	-5.81	43.86	54	-10.14	AVG
2390.00	63.15	-5.84	57.31	74	-16.69	peak
2390.00	47.33	-5.84	41.49	54	-12.51	AVG





Operation Mode: TX CH High (2462MHz)

### Horizontal

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type		
2483.50	60.58	-5.81	54.77	74	-19.23	peak		
2483.50	49.37	-5.81	43.56	54	-10.44	AVG		
2500.00	60.32	-6.06	54.26	74	-19.74	peak		
2500.00	47.15	-6.06	41.09	54	-12.91	AVG		
Domark: Factor	Pomark: Factor - Antonna Factor + Cable Loss - Pro amplifier							

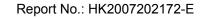
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.50	61.35	-5.81	55.54	74	-18.46	peak
2483.50	48.58	-5.81	42.77	54	-11.23	AVG
2500.00	60.34	-6.06	54.28	74	-19.72	peak
2500.00	49.72	-6.06	43.66	54	-10.34	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.





Operation Mode: 802.11g Mode TX CH Low (2412MHz)

### Horizontal

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type	
2310.00	60.19	-5.81	54.38	74	-19.62	peak	
2310.00	46.35	-5.81	40.54	54	-13.46	AVG	
2390.00	60.87	-5.84	55.03	74	-18.97	peak	
2390.00	48.15	-5.84	42.31	54	-11.69	AVG	
Remark: Factor	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

### Vertical:

Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
60.47	-5.81	54.66	74	-19.34	peak
47.65	-5.81	41.84	54	-12.16	AVG
62.22	-5.84	56.38	74	-17.62	peak
48.72	-5.84	42.88	54	-11.12	AVG
	(dBμV) 60.47 47.65 62.22	(dBµV) (dB) 60.47 -5.81 47.65 -5.81 62.22 -5.84	(dBμV)     (dB)     (dBμV/m)       60.47     -5.81     54.66       47.65     -5.81     41.84       62.22     -5.84     56.38	(dBμV)     (dB)     (dBμV/m)     (dBμV/m)       60.47     -5.81     54.66     74       47.65     -5.81     41.84     54       62.22     -5.84     56.38     74	(dBμV)     (dB)     (dBμV/m)     (dBμV/m)     (dBμV/m)       60.47     -5.81     54.66     74     -19.34       47.65     -5.81     41.84     54     -12.16       62.22     -5.84     56.38     74     -17.62





Operation Mode: TX CH High (2462MHz)

### Horizontal

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type	
2483.50	60.35	-5.65	54.7	74	-19.3	peak	
2483.50	48.72	-5.65	43.07	54	-10.93	AVG	
2500.00	60.33	-5.65	54.68	74	-19.32	peak	
2500.00	46.18	-5.65	40.53	54	-13.47	AVG	
Remark: Factor	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.50	62.35	-5.65	56.7	74	-17.3	peak
2483.50	47.15	-5.65	41.5	54	-12.5	AVG
2500.00	61.32	-5.65	55.67	74	-18.33	peak
2500.00	45.22	-5.65	39.57	54	-14.43	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.





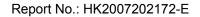
Operation Mode: 802.11n/H20 Mode TX CH Low (2412MHz)

### Horizontal

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2310.00	61.28	-5.81	55.47	74	-18.53	peak
2310.00	47.6	-5.81	41.79	54	-12.21	AVG
2390.00	60.52	-5.84	54.68	74	-19.32	peak
2390.00	48.22	-5.84	42.38	54	-11.62	AVG
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type	
2310.00	60.25	-5.81	54.44	74	-19.56	peak	
2310.00	46.00	-5.81	40.19	54	-13.81	AVG	
2390.00	60.71	-5.84	54.87	74	-19.13	peak	
2390.00	48.25	-5.84	42.41	54	-11.59	AVG	
Remark: Factor	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						





Operation Mode: TX CH High (2462MHz)

### Horizontal

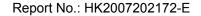
Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type		
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type		
2483.50	60.32	-5.65	54.67	74	-19.33	peak		
2483.50	47.19	-5.65	41.54	54	-12.46	AVG		
2500.00	60.25	-5.65	54.6	74	-19.4	peak		
2500.00	45.88	-5.65	40.23	54	-13.77	AVG		
Remark: Factor	Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

### Vertical:

Frequency	Reading Result	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.50	60.48	-5.65	54.83	74	-19.17	peak
2483.50	47.16	-5.65	41.51	54	-12.49	AVG
2500.00	60.35	-5.65	54.7	74	-19.3	peak
2500.00	44.32	-5.65	38.67	54	-15.33	AVG

Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Remark: All the other emissions not reported were too low to read and deemed to comply with FCC limit.





### ANTENNA REQUIREMENT

### **Standard Applicable**

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed toensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

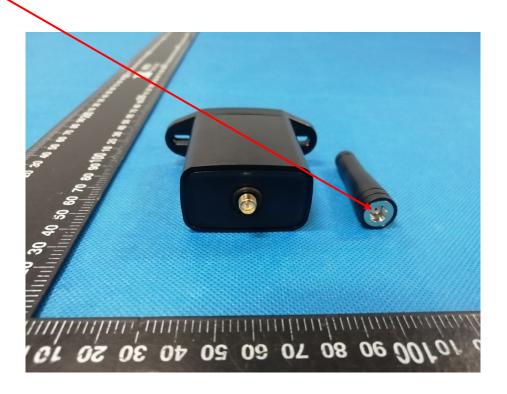
#### Refer to statement below for compliance.

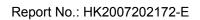
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of astandard antenna jack or electrical connector is prohibited. Further, this requirement does not apply tointentional radiators that must be professionally installed.

#### **Antenna Connected Construction**

The antenna used in this product is a external Antenna with non-standard SMA connector. which coupled antennas It conforms to the standard requirements. The directional gains of antenna used for transmitting is 0dBi.

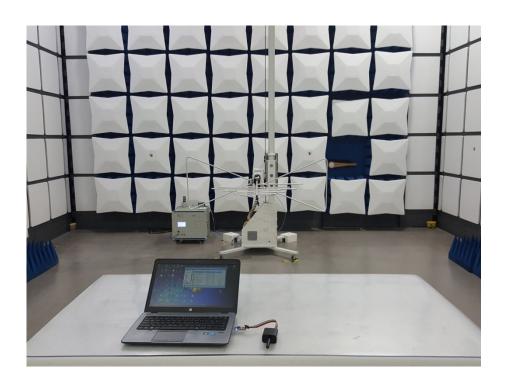
### WIFI ANTENNA

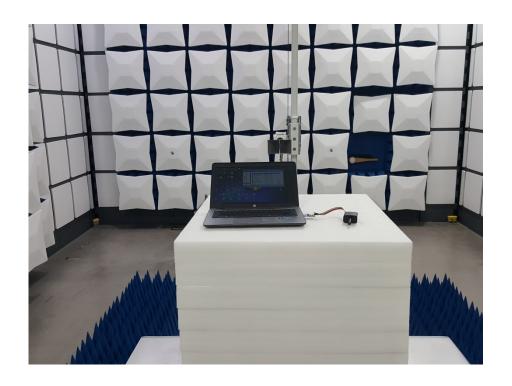


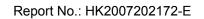




# 4.8. PHOTOGRAPH OF TEST









# 4.9. PHOTOS OF THE EUT

Reference to the reporter : ANNEX A of external photos and ANNEX B of internal ${\mathfrak p}$	hotos
End of test report	