

# **TEST REPORT**

FCC ID: 2AFIB-YAS2217

**Product: YI Discovery Action Camera** 

Model No.: YAS.2217

Additional Model No.: N/A

**Trade Mark: YI** 

Report No.: TCT171127E003

Issued Date: Nov. 17, 2017

#### Issued for:

Shanghai Xiaoyi Technology Co., Ltd. 6F,Building E,No.2889,Jinke Road,Shanghai,China

Issued By:

Shenzhen Tongce Testing Lab.

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This document may be altered or revised by Shenzhen Tongce Testing Lab. personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



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# 1. Test Certification

Product:	YI Discovery Action Camera					
Model No.:	YAS.2217					
Additional Model No.:	N/A (S) (S)					
Trade Mark:	YI					
Applicant:	Shanghai Xiaoyi Technology Co., Ltd.					
Address:	6F,Building E,No.2889,Jinke Road,Shanghai,China					
Manufacturer:	Shanghai Xiaoyi Technology Co., Ltd.					
Address:	6F,Building E,No.2889,Jinke Road,Shanghai,China					
Date of Test:	Nov. 14, 2017 - Nov. 16, 2017					
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247 KDB 558074 D01 DTS Meas Guidance v04					

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:

Date: Nov. 14, 2017

Brews Xu

Reviewed By:

Date:

Nov. 17, 2017

Joe Zhou

**Tomsin** 

Approved By:

Date:

Nov. 17, 2017



# 2. Test Result Summary

Requirement	CFR 47 Section	Result
Antenna requirement	§15.203/§15.247 (c)	PASS
AC Power Line Conducted Emission	§15.207	PASS
Conducted Peak Output Power	§15.247 (b)(3) §2.1046	PASS
6dB Emission Bandwidth	§15.247 (a)(2) §2.1049	PASS
Power Spectral Density	§15.247 (e)	PASS
Band Edge	1§5.247(d) §2.1051, §2.1057	PASS
Spurious Emission	§15.205/§15.209 §2.1053, §2.1057	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.



# 3. EUT Description

Product:	YI Discovery Action Camera
Model No.:	YAS.2217
Additional Model No.:	N/A
Trade Mark:	YI
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)) 2422MHz~2452MHz (802.11n(HT40))
Channel Separation:	5MHz
Number of Channel:	11 for 802.11b/802.11g/802.11n(HT20) 7 for 802.11n(HT40)
Modulation Technology: (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Modulation Technology: (IEEE 802.11g/802.11n)	Orthogonal Frequency Division Multiplexing(OFDM)
Data speed (IEEE 802.11b):	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data speed (IEEE 802.11g):	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data speed (IEEE 802.11n):	Up to 150Mbps
Antenna Type:	FPC antenna
Antenna Gain:	2.0dBi (declare by Applicant)
Power Supply:	DC 3.7V Li-ion Battery 900mAh 3.33Wh



Operation Frequency each of channel For 802.11b/g/n(HT20)

		7		9	9.1.(/		
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2412MHz	4	2427MHz	7	2442MHz	10	2457MHz
2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
3	2422MHz	6	2437MHz	9	2452MHz		(C)

Operation Frequency each of channel For 802.11n (HT40)

_									
	Channel	Frequ	uency	Channel	Frequency	Channel	Frequency	Channel	Frequency
	-	-		4	2427MHz	7	2442MHz		-
		-		5	2432MHz	8	2447MHz		
	3	2422	2MHz	6	2437MHz	9	2452MHz		

#### 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:

802.11b/802.11g/802.11n (HT20)

Channel	Frequency
The lowest channel	2412MHz
The middle channel	2437MHz
The Highest channel	2462MHz

802.11n (HT40)

Channel	Frequency
The lowest channel	2422MHz
The middle channel	2437MHz
The Highest channel	2452MHz



### 4. Genera Information

#### 4.1. Test environment and mode

25.0 °C
56 % RH
1010 mbar
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:

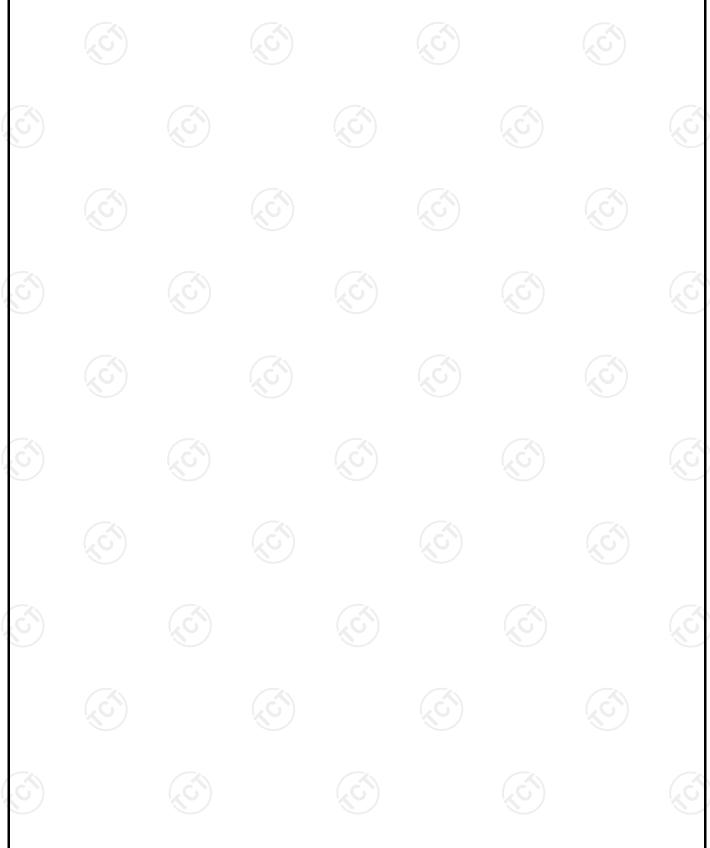
# Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11b	1Mbps
802.11g	6Mbps
802.11n(H20)	6.5Mbps
802.11n(H40)	13.5Mbps
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), 13.5Mbps for 802.11(H40). Duty cycle setting during the transmission is 98.5% with maximum power setting for all modulations.



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# 4.2. 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

#### 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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## 5. Facilities and Accreditations

#### 5.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

• FCC - Registration No.: 645098

Shenzhen Tongce Testing Lab

The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC - Registration No.: 10668A-1

The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

#### 5.2. Location

Shenzhen Tongce Testing Lab

Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District,

Shenzhen, Guangdong, China

TEL: +86-755-27673339

### 5.3. 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%



### 6. Test Results and Measurement Data

### 6.1. Antenna requirement

**Standard requirement:** FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

#### **E.U.T Antenna:**

The WIFI antenna is FPC antenna which permanently attached, and the best case gain of the antenna is 2.0dBi.



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# 6.2. Conducted Emission

# 6.2.1. Test Specification

	1			
Test Requirement:	FCC Part15 C Section	15.207		
Test Method:	ANSI C63.10:2013	(C)	(C)	
Frequency Range:	150 kHz to 30 MHz			
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto			
	Frequency range	Limit (c	dBuV)	
	(MHz)	Áverage		
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:	Test table/Insulation plane  Remark E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Net Test table height=0.8m	EMI Receiver	— AC power	
Test Mode:	Charging + transmitting with modulation			
Test Procedure:	<ol> <li>The E.U.T is connectine impedance stall provides a 50ohm/5 measuring equipment.</li> <li>The peripheral device power through a LI coupling impedance refer to the block photographs).</li> <li>Both sides of A.C. conducted interferer emission, the relative the interface cables ANSI C63.10: 2013</li> </ol>	bilization network 50uH coupling import.  Ses are also conners of the ses with 50ohm term diagram of the line are checked in the ses of equitions of	(L.I.S.N.). This pedance for the ected to the main a 500hm/50uH hination. (Please test setup and d for maximum and the maximum pment and all of ed according to	
Test Result:	PASS			



#### 6.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)					
Equipment	Manufacturer	Model	Serial Number	Calibration Due	
Test Receiver	R&S	ESPI	101401	Jun. 12, 2018	
LISN	Schwarzbeck	NSLK 8126	8126453	Sep. 27, 2018	
Coax cable (9KHz-30MHz)	тст	CE-05	N/A	Sep. 27, 2018	
EMI Test Software	Shurple Technology	EZ-EMC	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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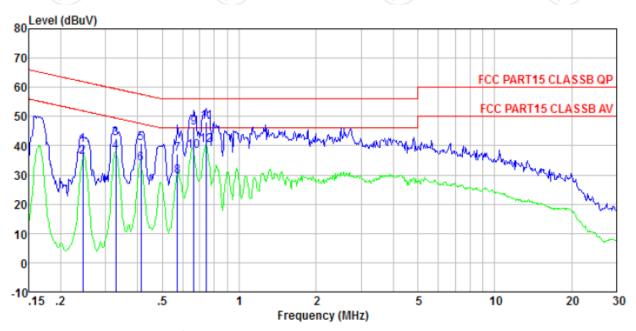
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#### 6.2.3. Test data

### Please refer to following diagram for individual

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



Freq MHz	Reading level dBuV	1ISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.244	39.54	0.40	0.11	40.05	61.95	-21.90	QP
0.244	35.69	0.40	0.11	36.20	51.95	-15.75	Average
0.329	42.05	0.38	0.10	42.53	59.49	-16.96	QP
0.329	37.49	0.38	0.10	37.97	49.49	-11.52	Average
0.413	40.45	0.35	0.11	40.91	57.59	-16.68	QP
0.413	33.33	0.35	0.11	33.79	47.59	-13.80	Average
0.573	36.69	0.29	0.12	37.10	56.00	-18.90	QP
0.573	29.21	0.29	0.12	29.62	46.00	-16.38	Average
0.665	45.71	0.27	0.13	46.11	56.00	-9.89	QP
0.665	37.79	0.27	0.13	38.19	46.00	-7.81	Average
0.743	47.65	0.25	0.13	48.03	56.00	-7.97	QP
0.743	39.90	0.25	0.13	40.28	46.00	-5.72	Average

#### Notes

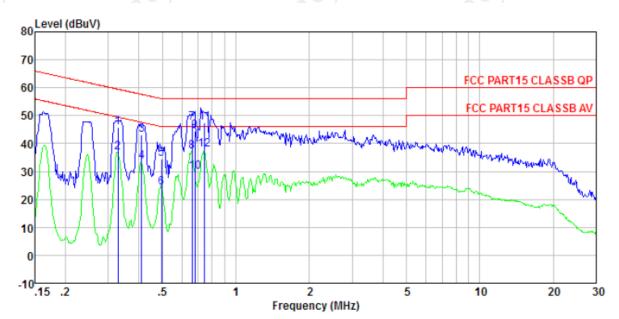
- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss
- 4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

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### Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Freq MHz	Reading level dBuV	1ISN/ISN factor dB	Cable loss dB	level dBuV	Limit level dBuV	Over limit dB	Remark
0.329	45.46	0.38	0.10	45.94	59.49	-13.55	QP
0.329	36.44	0.38	0.10	36.92	49.49	-12.57	Average
0.410	42.67	0.35	0.11	43.13	57.64	-14.51	QP
0.410	32.90	0.35	0.11	33.36	47.64	-14.28	Average
0.497	33.99	0.32	0.11	34.42	56.05	-21.63	QP
0.497	23.92	0.32	0.11	24.35	46.05	-21.70	Average
0.661	47.07	0.27	0.13	47.47	56.00	-8.53	QP
0.661	36.75	0.27	0.13	37.15	46.00	-8.85	Average
0.679	44.10	0.26	0.13	44.49	56.00	-11.51	QP
0.679	29.34	0.26	0.13	29.73	46.00	-16.27	Äverage
0.743	47.20	0.25	0.13	47.58	56.00	-8.42	QP
							7
0.743	37.29	0.25	0.13	37.67	46.00	-8.33	Average

#### Notes:

- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss
- 4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.



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# 6.3. Maximum Conducted Output Power

# 6.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)				
Test Method:	KDB 558074				
Limit:	30dBm				
Test Setup:	Power meter EUT				
Test Mode:	Transmitting mode with modulation				
Test Procedure:	<ol> <li>The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04.</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				

#### 6.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Power Meter	Anritsu	ML2495A	1005002	Sep. 27, 2018
Pulse Power Senor	Anritsu	MA2411B	0917070	Sep. 27, 2018
RF Cable (9KHz-26.5GHz)	тст	RE-06	N/A	Sep. 27, 2018
Antenna Connector	TCT	RFC-01	N/A	Sep. 27, 2018

**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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# 6.3.3. Test Data

802.11b mode			
Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result
Lowest	8.20	30.00	PASS
Middle	8.10	30.00	PASS
Highest	8.40	30.00	PASS

802.11g mode					
Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result		
Lowest	8.40	30.00	PASS		
Middle	8.40	30.00	PASS		
Highest	8.60	30.00	PASS		

802.11n(HT20) mode					
Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result		
Lowest	8.50	30.00	PASS		
Middle	8.60	30.00	PASS		
Highest	8.50	30.00	PASS		

802.11n(HT40) mode				
Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result	
Lowest	8.20	30.00	PASS	
Middle	8.00	30.00	PASS	
Highest	7.80	30.00	PASS	





## 6.4. Emission Bandwidth

# 6.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)				
Test Method:	KDB 558074				
Limit:	>500kHz				
Test Setup:	EUT.				
	Spectrum Analyzer				
Test Mode:	Transmitting mode with modulation				
Test Procedure:	<ol> <li>The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v04.</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				

#### 6.4.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Due	
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 27, 2018	
RF Cable (9KHz-26.5GHz)	тст	RE-06	N/A	Sep. 27, 2018	
Antenna Connector	тст	RFC-01	N/A	Sep. 27, 2018	

**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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## 6.4.3. Test data

Toot channel	6dB Emission Bandwidth (MHz)			)
Test channel	802.11b	802.11g	802.11n(H20)	802.11n(H40)
Lowest	10.129	16.403	17.629	36.122
Middle	10.124	16.402	17.659	35.916
Highest	10.132	16.436	17.660	35.874
Limit:	>500k			
Test Result:	PASS			

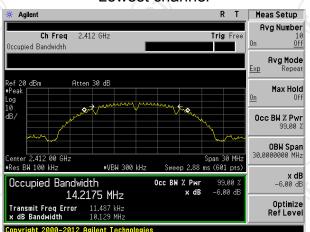
Test plots as follows:



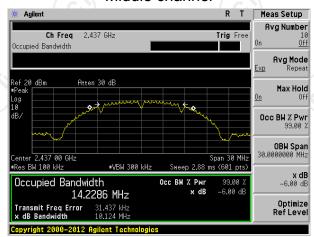


802.11b Modulation

#### Lowest channel



#### Middle channel



#### Highest channel

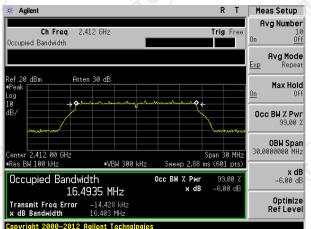


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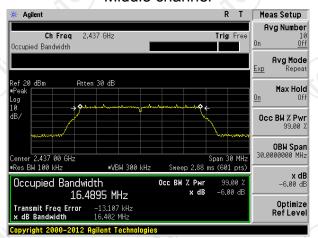


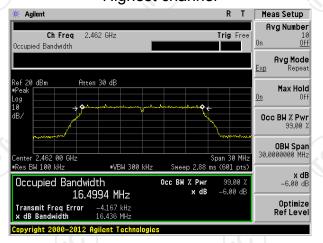
#### 802.11g Modulation

#### Lowest channel



#### Middle channel

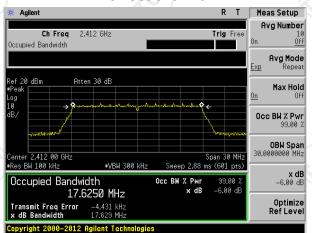




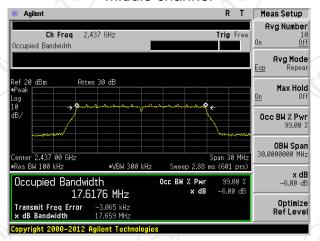


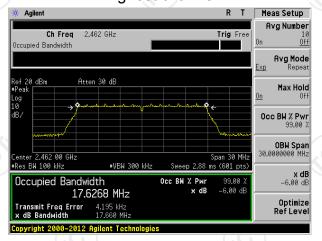
#### 802.11n (HT20) Modulation

#### Lowest channel



#### Middle channel

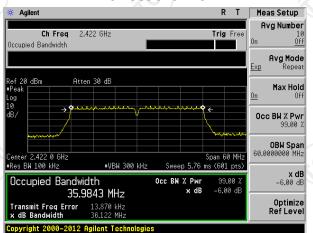




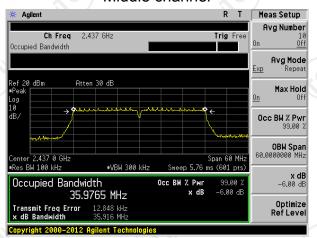


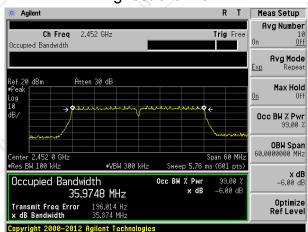
#### 802.11n (HT40) Modulation

#### Lowest channel



#### Middle channel









# 6.5. Power Spectral Density

# 6.5.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (e)
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 10.3         Method AVGPSD of FCC KDB Publication         No.558074 D01 DTS Meas. Guidance v04</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 = PK, Sweep time = auto couple.</li> <li>Measure and record the results in the test report.</li> </ol>
Test Result:	PASS

#### 6.5.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Due	
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 27, 2018	
RF Cable (9KHz-26.5GHz)	тст	RE-06	N/A	Sep. 27, 2018	
Antenna Connector	TCT	RFC-01	N/A	Sep. 27, 2018	

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



# 6.5.3. Test data

Toot channel	Power Spectral Density (dBm/3kHz)			
Test channel	802.11b	802.11g	802.11n(H20)	802.11n(H40)
Lowest	-16.60	-18.38	-20.43	-23.76
Middle	-16.46	-18.59	-19.85	-24.54
Highest	-16.75	-19.01	-19.78	-24.50
Limit:	8dBm/3kHz			
Test Result:	PASS			

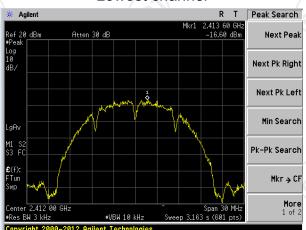
Test plots as follows:



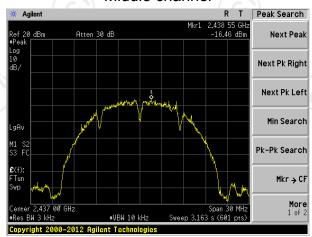


802.11b Modulation

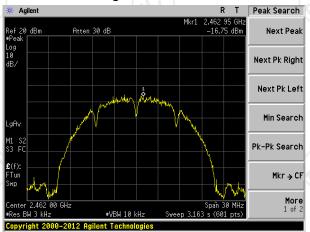
#### Lowest channel



#### Middle channel



#### Highest channel

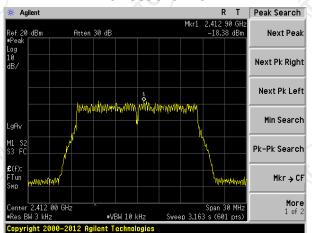


Report No.: TCT171127E003

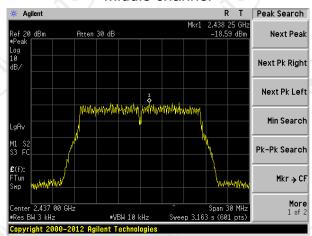


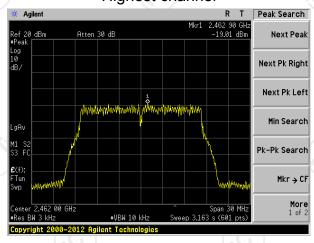
#### 802.11g Modulation

#### Lowest channel



#### Middle channel

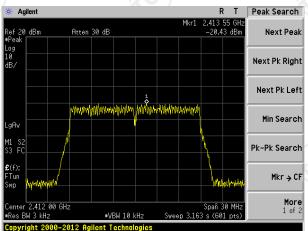




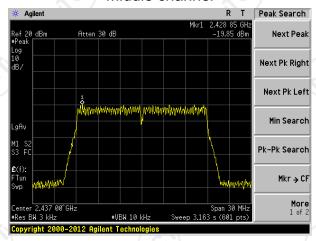


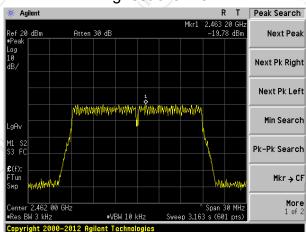
#### 802.11n (HT20) Modulation

#### Lowest channel



#### Middle channel

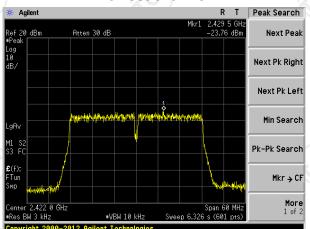




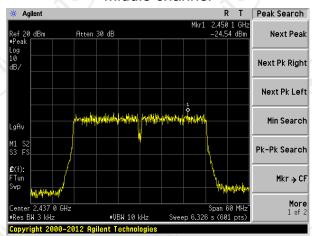


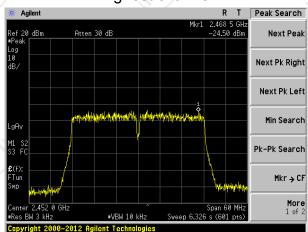
#### 802.11n (HT40) Modulation

#### Lowest channel



#### Middle channel







# 6.6. Conducted Band Edge and Spurious Emission Measurement

# 6.6.1. Test Specification

frequency band, the emissions which fall in non-restricted bands shall be attenuated at least 20 c 30dB relative to the maximum PSD level in 100 kHz RF conducted measurement and radiated emission 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					
In any 100 kHz bandwidth outside of the authorize frequency band, the emissions which fall in non-restricted bands shall be attenuated at least 20 cmonths and shall be attenuated at least 20 cmonths and restricted bands as defined in 100 kHz RF conducted measurement and radiated emission 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:  Test Mode:  Transmitting mode with modulation  1. The testing follows FCC KDB Publication No. 5580	Test Requirement:	FCC Part15 C Section 15.247 (d)			
Limit:  frequency band, the emissions which fall in non-restricted bands shall be attenuated at least 20 of 30dB relative to the maximum PSD level in 100 kHz RF conducted measurement and radiated emission 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  Test Mode:  Transmitting mode with modulation  1. The testing follows FCC KDB Publication No. 5580	Test Method:	KDB558074			
Test Setup:  Spectrum Analyzer  Test Mode:  Transmitting mode with modulation  1. The testing follows FCC KDB Publication No. 5580	Limit:	non-restricted bands shall be attenuated at least 20 dB 30dB relative to the maximum PSD level in 100 kHz b RF conducted measurement and radiated emission which fall in the restricted bands, as defined in Sectio 15.205(a), must also comply with the radiated emissio			
Test Mode: Transmitting mode with modulation  1. The testing follows FCC KDB Publication No. 5580	Test Setup:	FUT			
	Test Mode:				
analyzer by RF cable and attenuator. The path los was compensated to the results for each measurement.  3. Set to the maximum power setting and enable the EUT transmit continuously.  4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency bar 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.  If the transmitter complies with the conducted power limits based on the use of RMS averaging of the substitution of the substitutio	Test Procedure:	<ol> <li>The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.</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> </ol>			
Test Result: PASS	Test Result:				



#### 6.6.2. Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Due	
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 27, 2018	
Spectrum Analyzer	ROHDE&SCH WARZ	FSQ	200061	Sep. 27, 2018	
RF Cable (9KHz-26.5GHz)	тст	RE-06	N/A	Sep. 27, 2018	
Antenna Connector	тст	RFC-01	N/A	Sep. 27, 2018	

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

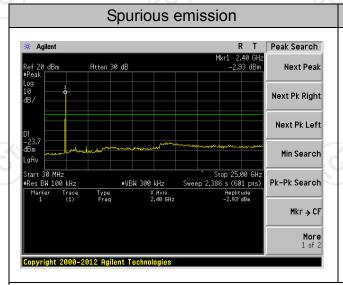
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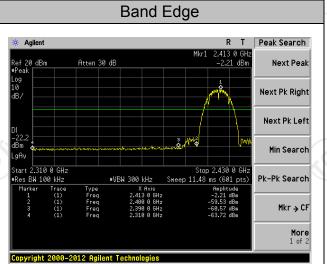
Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



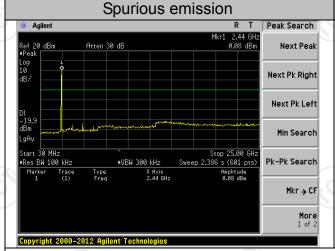
#### 6.6.3. Test Data

#### 802.11b Modulation



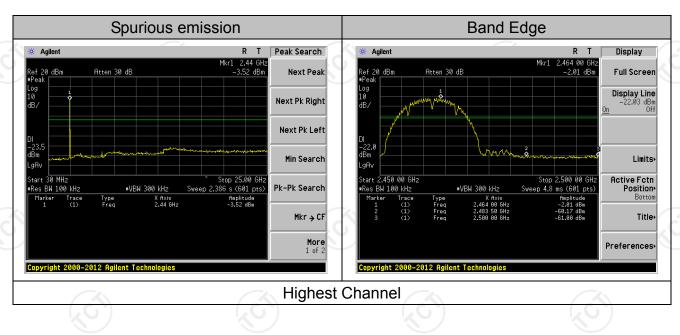


#### **Lowest Channel**



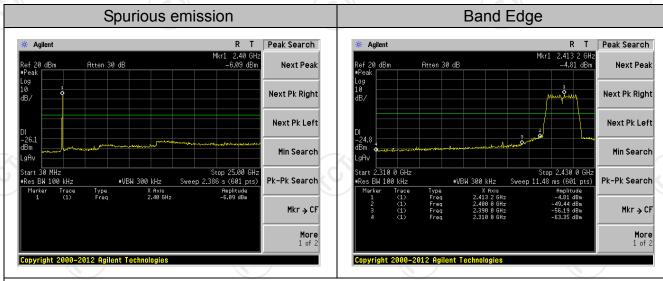
Middle Channel



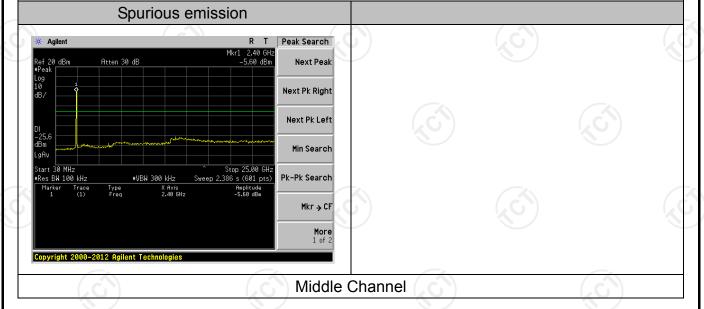




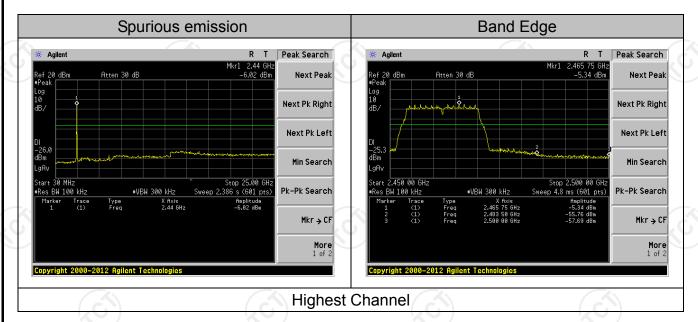
#### 802.11g Modulation



#### **Lowest Channel**

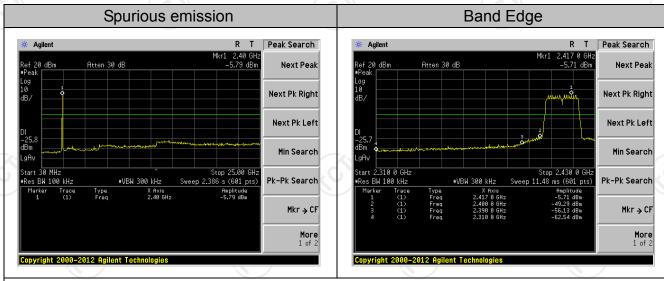




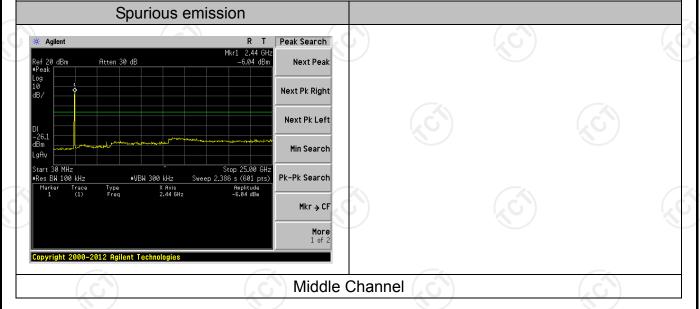




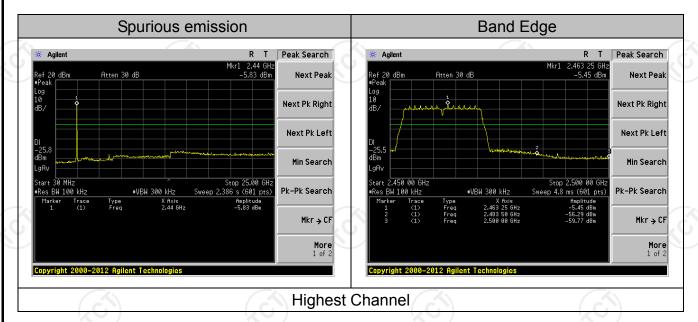
#### 802.11n (HT20) Modulation



#### **Lowest Channel**

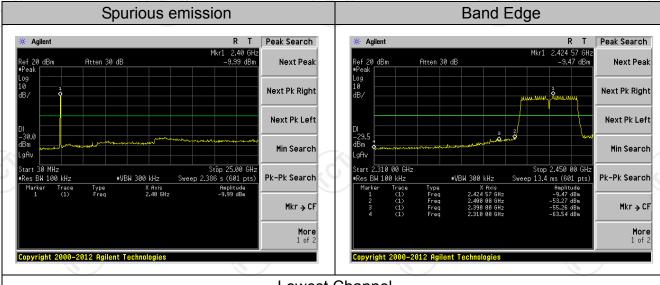




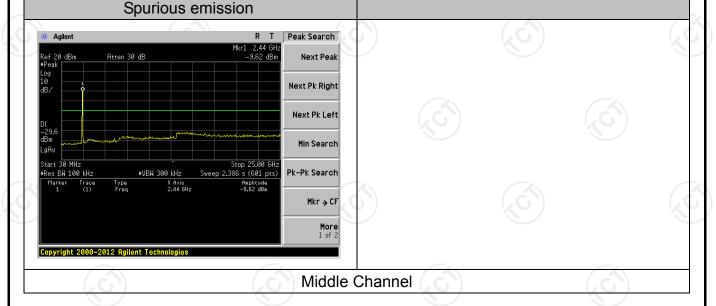




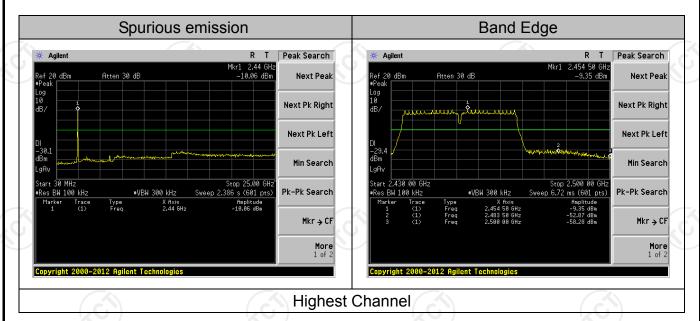
#### 802.11n (HT40) Modulation



#### **Lowest Channel**











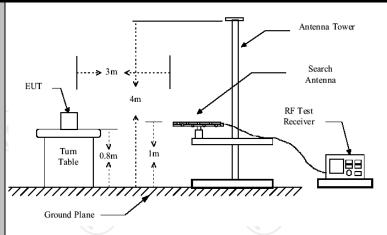
# 6.7. Radiated Spurious Emission Measurement

# 6.7.1. Test Specification

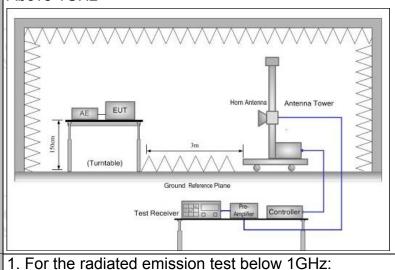
Test Requirement:	FCC Part15	C Section	n 15.209			
Test Method:	ANSI C63.10	D: 2013	(6)		(	(6)
Frequency Range:	9 kHz to 25 (	GHz				
Measurement Distance:	3 m					
Antenna Polarization:	Horizontal &	Vertical		(,c)		
Operation mode:	Transmitting	mode wi	th modulat	ion		
	Frequency	Detector	RBW	VBW		Remark
	9kHz- 150kHz	Quasi-pea	k 200Hz	1kHz	Quas	si-peak Value
Receiver Setup:	150kHz- 30MHz	Quasi-pea	k 9kHz	30kHz	Quas	si-peak Value
•	30MHz-1GHz	Quasi-pea	k 120KHz	300KHz	Quas	si-peak Value
	Above 1GHz	Peak	1MHz	3MHz	P	eak Value
	Above 1G112	Peak	1MHz	10Hz	Ave	erage Value
	Frequen	ncy	Field Stre (microvolts	_	Measurement Distance (meters)	
	0.009-0.4	490	2400/F(I	KHz)	300	
	0.490-1.7	705	24000/F(	(KHz)	30	
	1.705-30		30		30	
	30-88		100		3	
Limit:	88-216 216-96		150 200			3
Lillin.	Above 9		500			3
	7,0000 300 300 3					<u> </u>
	Frequency		ld Strength ovolts/meter)	Measure Distan (meter	ice	Detector
	Above 1GHz	7	500	3		Average
	Above IGIIZ	_	5000	3		Peak
Test setup:	For radiated emissions below 30MHz  Distance = 3m  Computer  Pre - Amplifier  Receiver  30MHz to 1GHz					
/ ( )		-11				







#### Above 1GHz



# The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the

interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. For the radiated emission test above 1GHz:

Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission

and staying aimed at the emission source for

#### **Test Procedure:**



	receiving the maximum signal. The final
	measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.  3. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level  4. For measurement below 1GHz, If the emission level
	of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
	<ul> <li>5. Use the following spectrum analyzer settings: <ul> <li>(1) Span shall wide enough to fully capture the emission being measured;</li> <li>(2) Set RBW=100 kHz for f &lt; 1 GHz; VBW ≥RBW;</li> <li>Sweep = auto; Detector function = peak; Trace =</li> </ul> </li> </ul>
	max hold; (3) Set RBW = 1 MHz, VBW= 3MHz for f 1 GHz for peak measurement.  For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent. VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the
	transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Test results:	PASS



### 6.7.2. Test Instruments

	Radiated Em	ission Test Sit	te (966)	
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Test Receiver	ROHDE&SCHW ARZ	ESVD	100008	Sep. 27, 2018
Spectrum Analyzer	ROHDE&SCHW ARZ	FSQ	200061	Sep. 27, 2018
Pre-amplifier	EM Electronics Corporation CO.,LTD	EM30265	07032613	Sep. 27, 2018
Pre-amplifier	HP	8447D	2727A05017	Sep. 27, 2018
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 27, 2018
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 27, 2018
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 27, 2018
Horn Antenna	Schwarzbeck	BBH 9170	582	Jun. 07, 2018
Antenna Mast	Keleto	CC-A-4M	N/A	N/A
Coax cable (9KHz-1GHz)	тст	RE-low-01	N/A	Sep. 27, 2018
Coax cable (9KHz-40GHz)	тст	RE-high-02	N/A	Sep. 27, 2018
Coax cable (9KHz-1GHz)	тст	RE-low-03	N/A	Sep. 27, 2018
Coax cable (9KHz-40GHz)	TCT	RE-high-04	N/A	Sep. 27, 2018
EMI Test Software	Shurple Technology	EZ-EMC	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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### 6.7.3. Test Data

# Please refer to following diagram for individual Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
36.00	37.26	14.58	0.62	30.06	22.40	40.00	-17.60	Vertical
48.84	34.43	15.32	0.76	30.00	20.51	40.00	-19.49	Vertical
485.61	34.24	18.26	3.24	29.33	26.41	46.00	-19.59	Vertical
568.61	37.47	19.93	3.59	29.30	31.69	46.00	-14.31	Vertical
897.00	39.40	23.05	4.83	29.10	38.18	46.00	-7.82	Vertical
972.34	34.43	23.55	5.12	29.10	34.00	54.00	-20.00	Vertical
238.31	38.43	13.99	2.06	29.55	24.93	46.00	-21.07	Horizontal
265.68	38.18	14.26	2.20	29.76	24.88	46.00	-21.12	Horizontal
294.11	40.57	14.95	2.33	29.97	27.88	46.00	-18.12	Horizontal
322.19	41.12	15.46	2.48	29.87	29.19	46.00	-16.81	Horizontal
336.04	42.84	15.99	2.55	29.80	31.58	46.00	-14.42	Horizontal
649.66	43.66	20.64	3.91	29.25	38.96	46.00	-7.04	Horizontal





#### Test Result of Radiated Spurious at Band edges

Test mode:	802.11b	Test channel:	Lowest
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	49.95	27.59	5.38	34.01	48.91	74.00	-25.09	Horizontal
2400.00	58.39	27.58	5.39	34.01	57.35	74.00	-16.65	Horizontal
2390.00	51.51	27.59	5.38	34.01	50.47	74.00	-23.53	Vertical
2400.00	59.73	27.58	5.39	34.01	58.69	74.00	-15.31	Vertical

#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	37.20	27.59	5.38	34.01	36.16	54.00	-17.84	Horizontal
2400.00	45.31	27.58	5.39	34.01	44.27	54.00	-9.73	Horizontal
2390.00	38.88	27.59	5.38	34.01	37.84	54.00	-16.16	Vertical
2400.00	46.31	27.58	5.39	34.01	45.27	54.00	-8.73	Vertical

Test mode: 802.11b	Test channel:	Highest
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#### Peak value:

i oun valuo								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	49.88	27.53	5.47	33.92	48.96	74.00	-25.04	Horizontal
2500.00	46.25	27.55	5.49	29.93	49.36	74.00	-24.64	Horizontal
2483.50	51.79	27.53	5.47	33.92	50.87	74.00	-23.13	Vertical
2500.00	48.44	27.55	5.49	29.93	51.55	74.00	-22.45	Vertical

#### Average value:

,g								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	37.31	27.53	5.47	33.92	36.39	54.00	-17.61	Horizontal
2500.00	33.73	27.55	5.49	29.93	36.84	54.00	-17.16	Horizontal
2483.50	39.10	27.53	5.47	33.92	38.18	54.00	-15.82	Vertical
2500.00	35.55	27.55	5.49	29.93	38.66	54.00	-15.34	Vertical

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2.  $Margin (dB) = Emission Level (dB\mu V/m) limit (dB\mu V/m)$





51.69

59.99

802.11g

27.59

27.58

5.38

5.39

Report No.: TCT171127E003

Lowest

-23.35

-15.05

Vertical

Vertical

			_						
Peak value	:	(0)	(60)			Y.C	5)		
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	
2390.00	50.11	27.59	5.38	34.01	49.07	74.00	-24.93	Horizontal	
2400.00	58.61	27.58	5.39	34.01	57.57	74.00	-16.43	Horizontal	

34.01

34.01

Test channel:

50.65

58.95

74.00

74.00

## Average value:

2390.00

2400.00

Test mode:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	37.32	27.59	5.38	34.01	36.28	54.00	-17.72	Horizontal
2400.00	45.44	27.58	5.39	34.01	44.40	54.00	-9.60	Horizontal
2390.00	39.01	27.59	5.38	34.01	37.97	54.00	-16.03	Vertical
2400.00	46.45	27.58	5.39	34.01	45.41	54.00	-8.59	Vertical

Test mode:	802.11g	Test channel:	Highest
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#### Peak value:

-									
	Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
	2483.50	50.11	27.53	5.47	33.92	49.19	74.00	-24.81	Horizontal
	2500.00	46.43	27.55	5.49	29.93	49.54	74.00	-24.46	Horizontal
	2483.50	52.05	27.53	5.47	33.92	51.13	74.00	-22.87	Vertical
	2500.00	48.65	27.55	5.49	29.93	51.76	74.00	-22.24	Vertical

#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	37.45	27.53	5.47	33.92	36.53	54.00	-17.47	Horizontal
2500.00	33.84	27.55	5.49	29.93	36.95	54.00	-17.05	Horizontal
2483.50	39.26	27.53	5.47	33.92	38.34	54.00	-15.66	Vertical
2500.00	35.66	27.55	5.49	29.93	38.77	54.00	-15.23	Vertical

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)





Test mode:	802.11n(HT20)	Test channel:	Lowest
Peak value:	\( \alpha \)		(0)

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	50.38	27.59	5.38	34.01	49.34	74.00	-24.66	Horizontal
2400.00	58.96	27.58	5.39	34.01	57.92	74.00	-16.08	Horizontal
2390.00	51.97	27.59	5.38	34.01	50.93	74.00	-23.07	Vertical
2400.00	60.42	27.58	5.39	34.01	59.38	74.00	-14.62	Vertical

#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	37.51	27.59	5.38	34.01	36.47	54.00	-17.53	Horizontal
2400.00	45.66	27.58	5.39	34.01	44.62	54.00	-9.38	Horizontal
2390.00	39.22	27.59	5.38	34.01	38.18	54.00	-15.82	Vertical
2400.00	46.69	27.58	5.39	34.01	45.65	54.00	-8.35	Vertical

Test mode:	802.11n(HT20)	Test channel:	Highest

#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	50.49	27.53	5.47	33.92	49.57	74.00	-24.43	Horizontal
2500.00	46.72	27.55	5.49	29.93	49.83	74.00	-24.17	Horizontal
2483.50	52.49	27.53	5.47	33.92	51.57	74.00	-22.43	Vertical
2500.00	48.99	27.55	5.49	29.93	52.10	74.00	-21.90	Vertical

#### Average value:

71101 mgc 7 mmc.								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	37.68	27.53	5.47	33.92	36.76	54.00	-17.24	Horizontal
2500.00	34.02	27.55	5.49	29.93	37.13	54.00	-16.87	Horizontal
2483.50	39.51	27.53	5.47	33.92	38.59	54.00	-15.41	Vertical
2500.00	35.85	27.55	5.49	29.93	38.96	54.00	-15.04	Vertical

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2.  $Margin (dB) = Emission Level (dB\mu V/m) limit (dB\mu V/m)$





Test mode:		802.1	1n(HT40)	Te	st channel:		Lowest	
Peak value	: (,	(C)		$(C_{i})$		1/20		
Fraguena	Read	Antenna	Cable	Preamp	Lovel	LimitLina	Over	

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	50.05	27.59	5.38	34.01	49.01	74.00	-24.99	Horizontal
2400.00	58.53	27.58	5.39	34.01	57.49	74.00	-16.51	Horizontal
2390.00	51.62	27.59	5.38	34.01	50.58	74.00	-23.42	Vertical
2400.00	59.90	27.58	5.39	34.01	58.86	74.00	-15.14	Vertical

#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	37.27	27.59	5.38	34.01	36.23	54.00	-17.77	Horizontal
2400.00	45.39	27.58	5.39	34.01	44.35	54.00	-9.65	Horizontal
2390.00	38.97	27.59	5.38	34.01	37.93	54.00	-16.07	Vertical
2400.00	46.40	27.58	5.39	34.01	45.36	54.00	-8.64	Vertical

Test mode:	802.11n(HT40)	Test channel:	Highest

#### Peak value:

F	Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
	2483.50	50.02	27.53	5.47	33.92	49.10	74.00	-24.90	Horizontal
	2500.00	46.36	27.55	5.49	29.93	49.47	74.00	-24.53	Horizontal
	2483.50	51.96	27.53	5.47	33.92	51.04	74.00	-22.96	Vertical
	2500.00	48.57	27.55	5.49	29.93	51.68	74.00	-22.32	Vertical

#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	37.40	27.53	5.47	33.92	36.48	54.00	-17.52	Horizontal
2500.00	33.80	27.55	5.49	29.93	36.91	54.00	-17.09	Horizontal
2483.50	39.20	27.53	5.47	33.92	38.28	54.00	-15.72	Vertical
2500.00	35.62	27.55	5.49	29.93	38.73	54.00	-15.27	Vertical

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)





#### **Above 1GHz**

Te	est mode:	802.11b	Test channel:	Lowest
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	39.50	31.79	8.62	32.10	47.81	74.00	-26.19	Vertical
7236.00	33.72	36.19	11.68	31.97	49.62	74.00	-24.38	Vertical
9648.00	32.36	38.07	14.16	31.56	53.03	74.00	-20.97	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*	0")		(20)		74.00		Vertical
4824.00	38.29	31.79	8.62	32.10	46.60	74.00	-27.40	Horizontal
7236.00	33.53	36.19	11.68	31.97	49.43	74.00	-24.57	Horizontal
9648.00	31.96	38.07	14.16	31.56	52.63	74.00	-21.37	Horizontal
12060.00	*	/				74.00		Horizontal
14472.00	*		(C)		(,C,)	74.00		Horizontal
16884.00	*	*				74.00		Horizontal

Average value:

Average var								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	28.64	31.79	8.62	32.10	36.95	54.00	-17.05	Vertical
7236.00	22.60	36.19	11.68	31.97	38.50	54.00	-15.50	Vertical
9648.00	22.72	38.07	14.16	31.56	43.39	54.00	-10.61	Vertical
12060.00	*					54.00		Vertical
14472.00	*		C)		(20)	54.00		Vertical
16884.00	*	~				54.00		Vertical
4824.00	27.87	31.79	8.62	32.10	36.18	54.00	-17.82	Horizontal
7236.00	22.12	36.19	11.68	31.97	38.02	54.00	-15.98	Horizontal
9648.00	21.72	38.07	14.16	31.56	42.39	54.00	-11.61	Horizontal
12060.00	*	(C)		(.G.)		54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*					54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11b	Test channel:	Middle
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	38.69	31.85	8.66	32.12	47.08	74.00	-26.92	Vertical
7311.00	33.87	36.37	11.71	31.91	50.04	74.00	-23.96	Vertical
9748.00	33.44	38.27	14.25	31.56	54.40	74.00	-19.60	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	39.27	31.85	8.66	32.12	47.66	74.00	-26.34	Horizontal
7311.00	32.57	36.37	11.71	31.91	48.74	74.00	-25.26	Horizontal
9748.00	33.35	38.27	14.25	31.56	54.31	74.00	-19.69	Horizontal
12185.00	*					74.00		_Horizontal
14622.00	*	/				74.00		Horizontal
17059.00	*				KO)	74.00		Horizontal

Average value:

Average var	uc.							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	29.60	31.85	8.66	32.12	37.99	54.00	-16.01	Vertical
7311.00	22.20	36.37	11.71	31.91	38.37	54.00	-15.63	Vertical
9748.00	22.70	38.27	14.25	31.56	43.66	54.00	-10.34	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
17059.00	*	(	.G.`\		('C')	54.00		Vertical
4874.00	29.42	31.85	8.66	32.12	37.81	54.00	-16.19	Horizontal
7311.00	21.67	36.37	11.71	31.91	37.84	54.00	-16.16	Horizontal
9748.00	23.07	38.27	14.25	31.56	44.03	54.00	-9.97	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*			(, (, )		54.00		Horizontal
17059.00	*					54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11b	Test channel:	Highest
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	43.75	31.90	8.70	32.15	52.20	74.00	-21.80	Vertical
7386.00	34.25	36.49	11.76	31.83	50.67	74.00	-23.33	Vertical
9848.00	36.52	38.62	14.31	31.77	57.68	74.00	-16.32	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	43.23	31.90	8.70	32.15	51.68	74.00	-22.32	Horizontal
7386.00	33.24	36.49	11.76	31.83	49.66	74.00	-24.34	Horizontal
9848.00	32.73	38.62	14.31	31.77	53.89	74.00	-20.11	Horizontal
12310.00	*					74.00		Horizontal
14772.00	*					74.00		Horizontal
17234.00	*	(	.C \		(.6)	74.00		Horizontal

Average value:

Average var	uc.							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	34.75	31.90	8.70	32.15	43.20	54.00	-10.80	Vertical
7386.00	24.19	36.49	11.76	31.83	40.61	54.00	-13.39	Vertical
9848.00	25.04	38.62	14.31	31.77	46.20	54.00	-7.80	Vertical
12310.00	*					54.00		Vertical
14772.00	*					54.00		Vertical
17234.00	*					54.00		Vertical
4924.00	33.65	31.90	8.70	32.15	42.10	54.00	-11.90	Horizontal
7386.00	22.65	36.49	11.76	31.83	39.07	54.00	-14.93	Horizontal
9848.00	22.00	38.62	14.31	31.77	43.16	54.00	-10.84	Horizontal
12310.00	*					54.00		Horizontal
14772.00	*					54.00		Horizontal
17234.00	*	(0)				54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2.  $Margin (dB) = Emission Level (dB\mu V/m) limit (dB\mu V/m)$
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11g	Test channel:	lowest

#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	39.24	31.79	8.62	32.10	47.55	74.00	-26.45	Vertical
7236.00	33.55	36.19	11.68	31.97	49.45	74.00	-24.55	Vertical
9648.00	32.24	38.07	14.16	31.56	52.91	74.00	-21.09	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	38.07	31.79	8.62	32.10	46.38	74.00	-27.62	Horizontal
7236.00	33.39	36.19	11.68	31.97	49.29	74.00	-24.71	Horizontal
9648.00	31.85	38.07	14.16	31.56	52.52	74.00	-21.48	Horizontal
12060.00	*					74.00		Horizontal
14472.00	*					74.00		Horizontal
16884.00	*	(	.C)		(.6)	74.00		Horizontal

Average value:

Average var	uc.							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	28.41	31.79	8.62	32.10	36.72	54.00	-17.28	Vertical
7236.00	22.44	36.19	11.68	31.97	38.34	54.00	-15.66	Vertical
9648.00	22.60	38.07	14.16	31.56	43.27	54.00	-10.73	Vertical
12060.00	*					54.00		Vertical
14472.00	*					54.00		Vertical
16884.00	*					54.00		Vertical
4824.00	27.67	31.79	8.62	32.10	35.98	54.00	-18.02	Horizontal
7236.00	21.99	36.19	11.68	31.97	37.89	54.00	-16.11	Horizontal
9648.00	21.62	38.07	14.16	31.56	42.29	54.00	-11.71	Horizontal
12060.00	*	-				54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*	(C)		(C)		54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11g	Test channel:	Middle

#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	38.48	31.85	8.66	32.12	46.87	74.00	-27.13	Vertical
7311.00	33.74	36.37	11.71	31.91	49.91	74.00	-24.09	Vertical
9748.00	33.34	38.27	14.25	31.56	54.30	74.00	-19.70	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	39.09	31.85	8.66	32.12	47.48	74.00	-26.52	Horizontal
7311.00	32.45	36.37	11.71	31.91	48.62	74.00	-25.38	Horizontal
9748.00	33.26	38.27	14.25	31.56	54.22	74.00	-19.78	Horizontal
12185.00	*					74.00		Horizontal
14622.00	*					74.00		Horizontal
17059.00	*	(	.C \		(.6)	74.00		Horizontal

#### Average value:

Average var	u <del>c</del> .							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	29.40	31.85	8.66	32.12	37.79	54.00	-16.21	Vertical
7311.00	22.07	36.37	11.71	31.91	38.24	54.00	-15.76	Vertical
9748.00	22.61	38.27	14.25	31.56	43.57	54.00	-10.43	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
17059.00	*	(	.C)		(C)	54.00		Vertical
4874.00	29.25	31.85	8.66	32.12	37.64	54.00	-16.36	Horizontal
7311.00	21.55	36.37	11.71	31.91	37.72	54.00	-16.28	Horizontal
9748.00	22.99	38.27	14.25	31.56	43.95	54.00	-10.05	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*			(, (, )		54.00		Horizontal
17059.00	*					54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11g	Test channel:	Highest
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	43.38	31.90	8.70	32.15	51.83	74.00	-22.17	Vertical
7386.00	34.02	36.49	11.76	31.83	50.44	74.00	-23.56	Vertical
9848.00	36.35	38.62	14.31	31.77	57.51	74.00	-16.49	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	42.92	31.90	8.70	32.15	51.37	74.00	-22.63	Horizontal
7386.00	33.04	36.49	11.76	31.83	49.46	74.00	-24.54	Horizontal
9848.00	32.57	38.62	14.31	31.77	53.73	74.00	-20.27	Horizontal
12310.00	*					74.00		Horizontal
14772.00	*					74.00		Horizontal
17234.00	*	(	.C \		(.6)	74.00		Horizontal

#### Average value:

Average vall	u <del>c</del> .							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	34.41	31.90	8.70	32.15	42.86	54.00	-11.14	Vertical
7386.00	23.97	36.49	11.76	31.83	40.39	54.00	-13.61	Vertical
9848.00	24.88	38.62	14.31	31.77	46.04	54.00	-7.96	Vertical
12310.00	*					54.00		Vertical
14772.00	*					54.00		Vertical
17234.00	*	(	.C)		(.C')	54.00		Vertical
4924.00	33.36	31.90	8.70	32.15	41.81	54.00	-12.19	Horizontal
7386.00	22.45	36.49	11.76	31.83	38.87	54.00	-15.13	Horizontal
9848.00	21.86	38.62	14.31	31.77	43.02	54.00	-10.98	Horizontal
12310.00	*					54.00		Horizontal
14772.00	*					54.00		Horizontal
17234.00	*					54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



1001 1110111	Test mode:	802.11n(HT20)	Test channel:	Lowest
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	33.72	31.79	8.62	32.10	42.03	74.00	-31.97	Vertical
7236.00	30.06	36.19	11.68	31.97	45.96	74.00	-28.04	Vertical
9648.00	29.74	38.07	14.16	31.56	50.41	74.00	-23.59	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4824.00	33.41	31.79	8.62	32.10	41.72	74.00	-32.28	Horizontal
7236.00	30.33	36.19	11.68	31.97	46.23	74.00	-27.77	Horizontal
9648.00	29.55	38.07	14.16	31.56	50.22	74.00	-23.78	Horizontal
12060.00	*					74.00		_Horizontal
14472.00	*					74.00		Horizontal
16884.00	*				KO)	74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4824.00	23.32	31.79	8.62	32.10	31.63	54.00	-22.37	Vertical
7236.00	19.07	36.19	11.68	31.97	34.97	54.00	-19.03	Vertical
9648.00	20.21	38.07	14.16	31.56	40.88	54.00	-13.12	Vertical
12060.00	*					54.00		Vertical
14472.00	*	(				54.00		Vertical
16884.00	*				KO)	54.00	X	Vertical
4824.00	23.29	31.79	8.62	32.10	31.60	54.00	-22.40	Horizontal
7236.00	19.02	36.19	11.68	31.97	34.92	54.00	-19.08	Horizontal
9648.00	19.40	38.07	14.16	31.56	40.07	54.00	-13.93	Horizontal
12060.00	*					54.00		Horizontal
14472.00	*	(0)		(0)		54.00		Horizontal
16884.00	*					54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2.  $Margin (dB) = Emission Level (dB\mu V/m) limit (dB\mu V/m)$
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11n(HT20)	Test channel:	Middle
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	33.91	31.85	8.66	32.12	42.30	74.00	-31.70	Vertical
7311.00	30.85	36.37	11.71	31.91	47.02	74.00	-26.98	Vertical
9748.00	31.27	38.27	14.25	31.56	52.23	74.00	-21.77	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	35.24	31.85	8.66	32.12	43.63	74.00	-30.37	Horizontal
7311.00	29.92	36.37	11.71	31.91	46.09	74.00	-27.91	Horizontal
9748.00	31.35	38.27	14.25	31.56	52.31	74.00	-21.69	Horizontal
12185.00	*					74.00		_Horizontal
14622.00	*					74.00		Horizontal
17059.00	*					74.00		Horizontal

Average value:

Average var	uc.							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	25.19	31.85	8.66	32.12	33.58	54.00	-20.42	Vertical
7311.00	19.28	36.37	11.71	31.91	35.45	54.00	-18.55	Vertical
9748.00	20.63	38.27	14.25	31.56	41.59	54.00	-12.41	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
17059.00	*	(	.G.\		(C)	54.00		Vertical
4874.00	25.63	31.85	8.66	32.12	34.02	54.00	-19.98	Horizontal
7311.00	19.10	36.37	11.71	31.91	35.27	54.00	-18.73	Horizontal
9748.00	21.15	38.27	14.25	31.56	42.11	54.00	-11.89	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*			(, (, )		54.00		Horizontal
17059.00	*					54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11n(HT20)	Test channel:	Highest
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	35.50	31.90	8.70	32.15	43.95	74.00	-30.05	Vertical
7386.00	29.04	36.49	11.76	31.83	45.46	74.00	-28.54	<ul><li>Vertical</li></ul>
9848.00	32.79	38.62	14.31	31.77	53.95	74.00	-20.05	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4924.00	36.27	31.90	8.70	32.15	44.72	74.00	-29.28	Horizontal
7386.00	28.68	36.49	11.76	31.83	45.10	74.00	-28.90	Horizontal
9848.00	29.29	38.62	14.31	31.77	50.45	74.00	-23.55	Horizontal
12310.00	*					74.00		Horizontal
14772.00	*					74.00		Horizontal
17234.00	*		·C')		(.G.)	74.00		Horizontal

Average value:

/ troi ago tai								
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4924.00	27.15	31.90	8.70	32.15	35.60	54.00	-18.40	Vertical
7386.00	19.16	36.49	11.76	31.83	35.58	54.00	-18.42	Vertical
9848.00	21.46	38.62	14.31	31.77	42.62	54.00	-11.38	Vertical
12310.00	*					54.00		Vertical
14772.00	*					54.00		Vertical
17234.00	*	/				54.00		Vertical
4924.00	27.12	31.90	8.70	32.15	35.57	54.00	-18.43	Horizontal
7386.00	18.23	36.49	11.76	31.83	34.65	54.00	-19.35	Horizontal
9848.00	18.69	38.62	14.31	31.77	39.85	54.00	-14.15	Horizontal
12310.00	*					54.00		Horizontal
14772.00	*					54.00		Horizontal
17234.00	*	(0)		((0)		54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2.  $Margin (dB) = Emission Level (dB\mu V/m) limit (dB\mu V/m)$
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11n(HT40)	Test channel:	Lowest

#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4844.00	37.39	31.81	8.63	32.11	45.72	74.00	-28.28	Vertical
7266.00	32.38	36.28	11.69	31.94	48.41	74.00	-25.59	Vertical
9688.00	31.40	38.13	14.21	31.52	52.22	74.00	-21.78	Vertical
12060.00	*					74.00		Vertical
14472.00	*					74.00		Vertical
16884.00	*					74.00		Vertical
4844.00	36.51	31.81	8.63	32.11	44.84	74.00	-29.16	Horizontal
7266.00	32.36	36.28	11.69	31.94	48.39	74.00	-25.61	Horizontal
9688.00	31.08	38.13	14.21	31.52	51.90	74.00	-22.10	Horizontal
12060.00	*					74.00		Horizontal
14472.00	*					74.00		Horizontal
16884.00	*	(	.C)		(.6)	74.00		Horizontal

#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4844.00	26.70	31.81	8.63	32.11	35.03	54.00	-18.97	Vertical
7266.00	21.31	36.28	11.69	31.94	37.34	54.00	-16.66	Vertical
9688.00	21.80	38.13	14.21	31.52	42.62	54.00	-11.38	Vertical
12060.00	*					54.00		Vertical
14472.00	*		-,			54.00		Vertical
16884.00	*					54.00		Vertical
4844.00	26.20	31.81	8.63	32.11	34.53	54.00	-19.47	Horizontal
7266.00	20.99	36.28	11.69	31.94	37.02	54.00	-16.98	Horizontal
9688.00	20.87	38.13	14.21	31.52	41.69	54.00	-12.31	Horizontal
12060.00	*					54.00		Horizontal
14472.00	*					54.00		Horizontal
16884.00	*	9)		KO)		54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11n(HT40)	Test channel:	Middle
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	36.95	31.85	8.66	32.12	45.34	74.00	-28.66	Vertical
7311.00	32.77	36.37	11.71	31.91	48.94	74.00	-25.06	Vertical
9748.00	32.65	38.27	14.25	31.56	53.61	74.00	-20.39	Vertical
12185.00	*					74.00		Vertical
14622.00	*					74.00		Vertical
17059.00	*					74.00		Vertical
4874.00	37.80	31.85	8.66	32.12	46.19	74.00	-27.81	Horizontal
7311.00	31.60	36.37	11.71	31.91	47.77	74.00	-26.23	Horizontal
9748.00	32.62	38.27	14.25	31.56	53.58	74.00	-20.42	Horizontal
12185.00	*					74.00		_Horizontal
14622.00	*					74.00		Horizontal
17059.00	*				KO)	74.00		Horizontal

Average value:

Average var	uc.							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4874.00	27.99	31.85	8.66	32.12	36.38	54.00	-17.62	Vertical
7311.00	21.14	36.37	11.71	31.91	37.31	54.00	-16.69	Vertical
9748.00	21.94	38.27	14.25	31.56	42.90	54.00	-11.10	Vertical
12185.00	*					54.00		Vertical
14622.00	*					54.00		Vertical
17059.00	*	(	.G.\		('C',)	54.00		Vertical
4874.00	28.04	31.85	8.66	32.12	36.43	54.00	-17.57	Horizontal
7311.00	20.73	36.37	11.71	31.91	36.90	54.00	-17.10	Horizontal
9748.00	22.37	38.27	14.25	31.56	43.33	54.00	-10.67	Horizontal
12185.00	*					54.00		Horizontal
14622.00	*			(, (, )		54.00		Horizontal
17059.00	*					54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Test mode:	802.11n(HT40)	Test channel:	Highest
	,		

#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	40.74	31.88	8.68	32.13	49.17	74.00	-24.83	Vertical
7356.00	32.35	36.45	11.75	31.86	48.69	74.00	-25.31	Vertical
9808.00	35.16	38.43	14.29	31.68	56.20	74.00	-17.80	Vertical
12310.00	*					74.00		Vertical
14772.00	*					74.00		Vertical
17234.00	*					74.00		Vertical
4904.00	40.69	31.88	8.68	32.13	49.12	74.00	-24.88	Horizontal
7356.00	31.58	36.45	11.75	31.86	47.92	74.00	-26.08	Horizontal
9808.00	31.47	38.43	14.29	31.68	52.51	74.00	-21.49	Horizontal
12310.00	*					74.00		Horizontal
14772.00	*					74.00		Horizontal
17234.00	*	(	.C \		(.6)	74.00		Horizontal

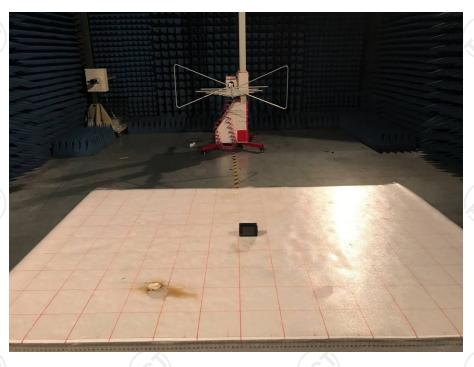
Average value:

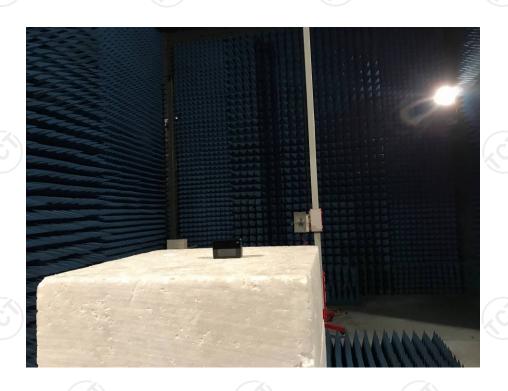
Average var	uc.							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4904.00	31.98	31.88	8.68	32.13	40.41	54.00	-13.59	Vertical
7356.00	22.35	36.45	11.75	31.86	38.69	54.00	-15.31	Vertical
9808.00	23.73	38.43	14.29	31.68	44.77	54.00	-9.23	Vertical
12310.00	*					54.00		Vertical
14772.00	*					54.00		Vertical
17234.00	*	/				54.00		Vertical
4904.00	31.27	31.88	8.68	32.13	39.70	54.00	-14.30	Horizontal
7356.00	21.04	36.45	11.75	31.86	37.38	54.00	-16.62	Horizontal
9808.00	20.80	38.43	14.29	31.68	41.84	54.00	-12.16	Horizontal
12310.00	*					54.00		Horizontal
14772.00	*					54.00		Horizontal
17234.00	*	(0)		(20°)		54.00		Horizontal

- 1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss Pre-amplifier
- 2. Margin (dB) = Emission Level (dB $\mu$ V/m)- limit (dB $\mu$ V/m)
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.
- 4. Measurements were conducted from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 5. Data of measurement shown " \* "in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.



Appendix A: Photographs of Test Setup
Product: YI Discovery Action Camera
Model: YAS.2217 **Radiated Emission** 







### **Conducted Emission**



















































Appendix B: Photographs of EUT Product: YI Discovery Action Camera Model: YAS.2217 External Photos















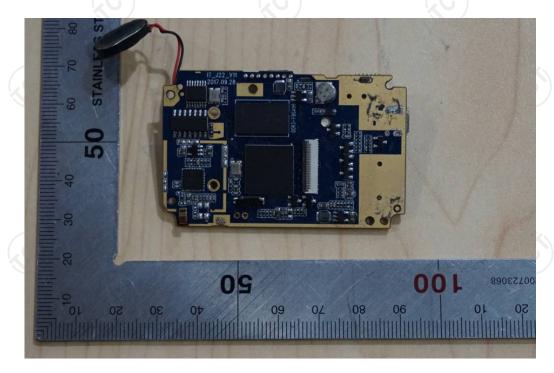


Product: YI Discovery Action Camera Model: YAS.2217 Internal Photos









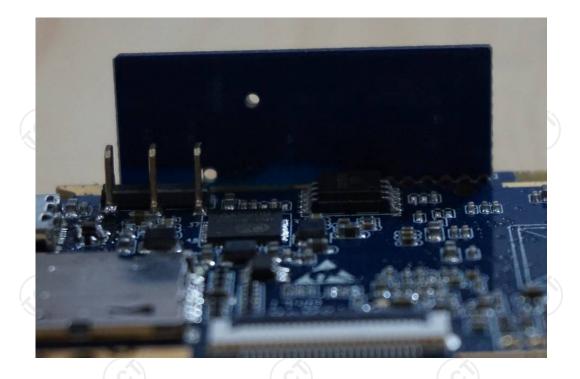






















\*\*\*\*\*END OF REPORT\*\*\*\*\*

