# TEST REPORT

CT通测检测 TESTING CENTRE TECHNOLOGY

> FCC ID: 2AL56GF-L100PRO Product: Floodlight Camera Model No.: GF-L100PRO Additional Model No.: GF-L100BASE, GF-L200PRO, GF-L200BASE, GF-L300PRO, GF-L300BASE Trade Mark: LIZVIE Report No.: TCT180725E012

> > Issued Date: Aug. 10, 2018

Issued for:

Shenzhen Goodflys Technology Co., Ltd. 308Room 3th Floor Building A, Qinye Business Center, Xin an 6 Road, Xixiang Town, Baoan District, Shenzhen, China

Issued Bv:

Shenzhen Tongce Testing Lab. 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China TEL: +86-755-27673339

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#### TESTING CENTRE :::

. Test Cert		
Product:	Floodlight Camera	
Model No.:	GF-L100PRO	
Additional Model:	GF-L100BASE, GF-L200PRO, GF-L200BASE, GF-L300PRO, GF-L300BASE	
Trade Mark:		
Applicant:	Shenzhen Goodflys Technology Co., Ltd.	
Address:308Room 3th Floor Building A, Qinye Business Center, Xin an 6 Road, Xixiang Town, Baoan District, Shenzhen, China		
Manufacturer:	Shenzhen Goodflys Technology Co., Ltd.	
Address:	308Room 3th Floor Building A, Qinye Business Center, Xin an 6 Road, Xixiang Town, Baoan District, Shenzhen, China	
Date of Test:	Jul. 26, 2018 – Aug. 09, 2018	
Applicable Standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247 KDB 558074 D01 DTS Meas Guidance v04	

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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: Aug. 09, 2018 Date: Rleo **Reviewed By:** Date: Aug. 10, 2018 Beryl Zhao Approved By: Date: Aug. 10, 2018 Tomsin Page 3 of 79 http://www.tct-lab.com Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332

## Report No.: TCT180725E012 **Test Result Summary** 2. Result Requirement **CFR 47 Section** PASS Antenna requirement §15.203/§15.247 (c) AC Power Line Conducted PASS §15.207 Emission §15.247 (b)(3) Conducted Peak Output PASS Power §2.1046 §15.247 (a)(2) 6dB Emission Bandwidth PASS §2.1049 PASS Power Spectral Density §15.247 (e) 1§5.247(d) Band Edge PASS §2.1051, §2.1057 §15.205/§15.209 PASS Spurious Emission §2.1053, §2.1057 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. Page 4 of 79



# 3. EUT Description

Product:	Floodlight Camera
Model No.:	GF-L100PRO
Additional Model:	GF-L100BASE, GF-L200PRO, GF-L200BASE, GF-L300PRO, GF-L300BASE
Trade Mark:	LIZVIE
Hardware Version:	V3.0
Software Version:	V11.2.6.2.1
Operation Frequency:	2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20))
Channel Separation:	5MHz
Number of Channel:	11 for 802.11b/802.11g/802.11n(HT20)
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:	Internal Antenna
Antenna Gain:	5dBi
Power Supply:	AC 120V/60Hz
Remark:	All models above are identical in interior structure, electrical circuits and components, and just appearance are different for the marketing requirement.

# 

Channel	Frequency	Channal	<b>F</b>	<u>.</u>	
	i requertey	Channel	Frequency	Channel	Frequency
4	2427MHz	7	2442MHz	10	2457MHz
5	2432MHz	8	2447MHz	11	2462MHz
6	2437MHz	9	2452MHz		
	4 5 6	5 2432MHz	5 2432MHz 8	5 2432MHz 8 2447MHz	5 2432MHz 8 2447MHz 11

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

#### 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

CT	通测检测 TESTING CENTRE TECHNOLOGY
Gene	ra Information
1. Test e	environment and mode

## **Operating Environment:**

- p		
Temperature:	25.0 °C	
Humidity:	56 % RH	
Atmospheric Pressure:	1010 mbar	

#### Test Mode:

4.1

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(H20)	6.5Mbps

#### Final Test Mode:

Operation mode:	Keep the EUT in continuous transmitting with modulation

1. For WIFI function, the engineering test program was provided and enabled to make EUT continuous transmit/receive.

2.According to ANSI C63.10 standards, the test results are both the "worst case" and "worst setup" 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n(H20). Duty cycle setting during the transmission is 98.5% with maximum power setting for all modulations.

# TCT通测检测 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		$\sim$

#### 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.

# 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

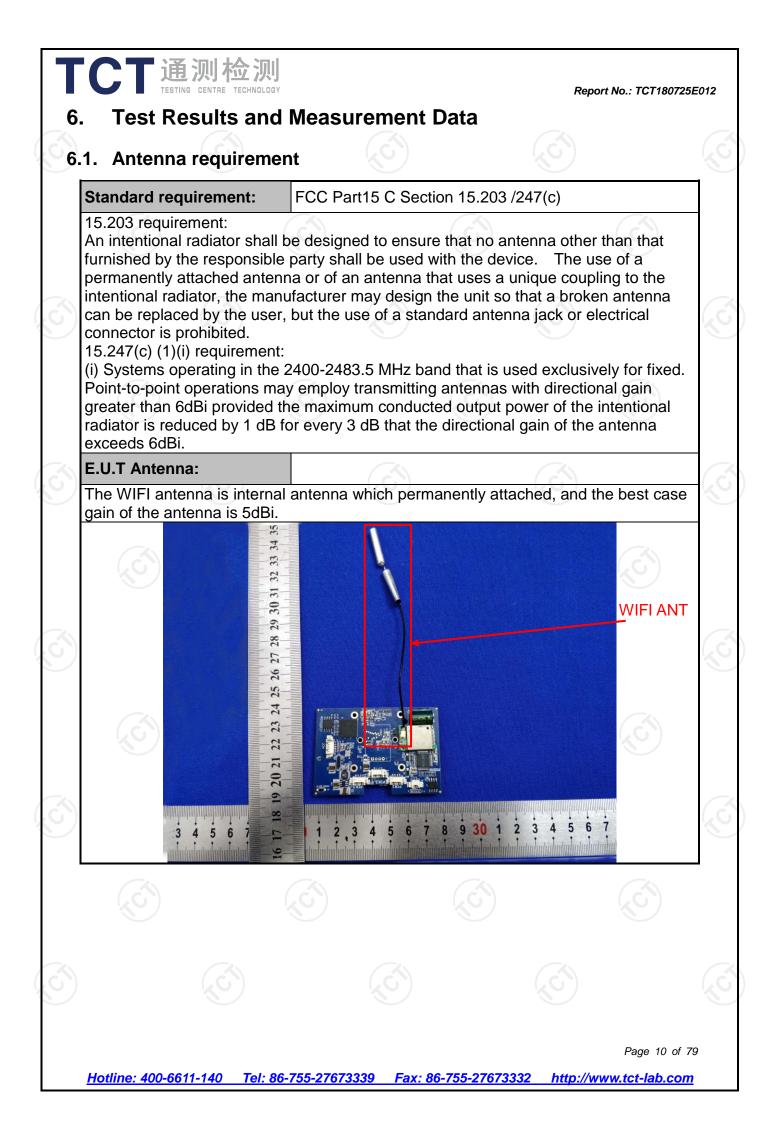
Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China

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%



2. Conducted Emis .1. Test Specification	Sion						
Test Requirement:	FCC Part15 C Sectior	15.207 ו					
Fest Method:	ANSI C63.10:2013	(c)	$\left( \mathcal{C}^{\prime}\right)$				
Frequency Range:	150 kHz to 30 MHz						
Receiver setup:	RBW=9 kHz, VBW=30	RBW=9 kHz, VBW=30 kHz, Sweep time=auto					
_imits:	Frequency range (MHz) 0.15-0.5 0.5-5 5-30	Limit (o Quasi-peak 66 to 56* 56 60	BuV) Average 56 to 46* 46 50				
Гest Setup:	Reference 40cm E.U.T AC power Test table/Insulation plane Remarkc E.U.T: Equipment Under Test LISN: Line Impedence Stabilization N Test table height=0.8m	80cm Filter er EMI Receiver	— AC power				
Fest Mode:	Charging + transmittin	ng with modulation					
Test Procedure:	<ol> <li>The E.U.T is connelline impedance staprovides a 500hm/measuring equipme</li> <li>The peripheral devipower through a Licoupling impedance refer to the block photographs).</li> <li>Both sides of A.C conducted interfere emission, the relative the interface cable ANSI C63.10: 2013</li> </ol>	abilization network 50uH coupling im ent. ces are also conne ISN that provides e with 50ohm term diagram of the . line are checke ence. In order to fir ve positions of equi- s must be chang	(L.I.S.N.). This pedance for the ected to the main a 500hm/50uH hination. (Please test setup and d for maximum d the maximum ipment and all of ed according to				
Test Result:	PASS						

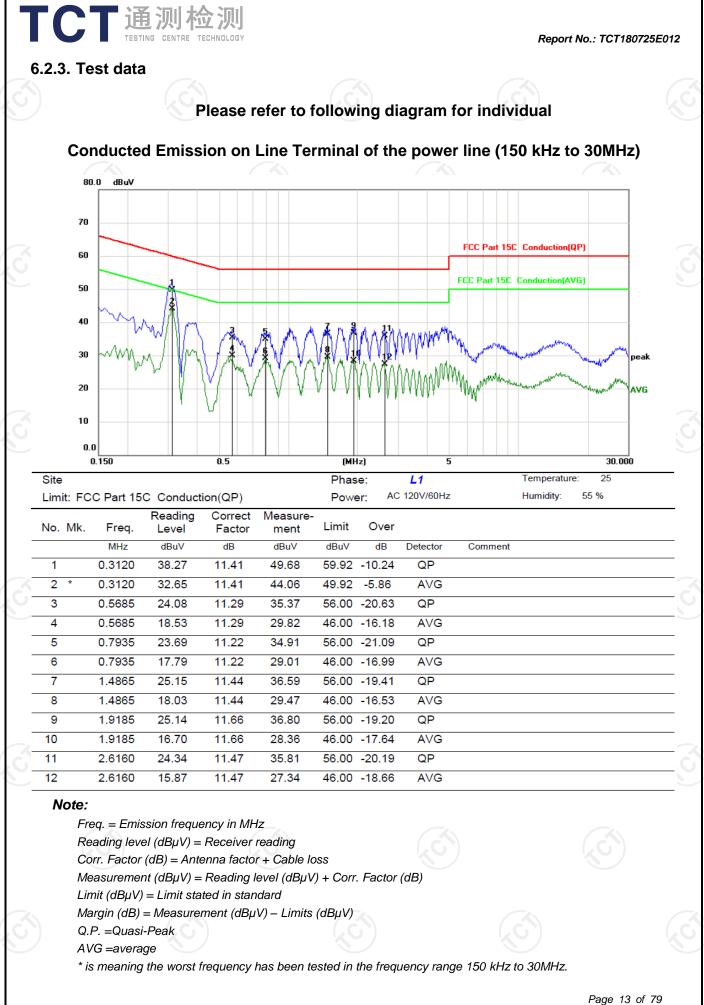
## 6.2.2. Test Instruments

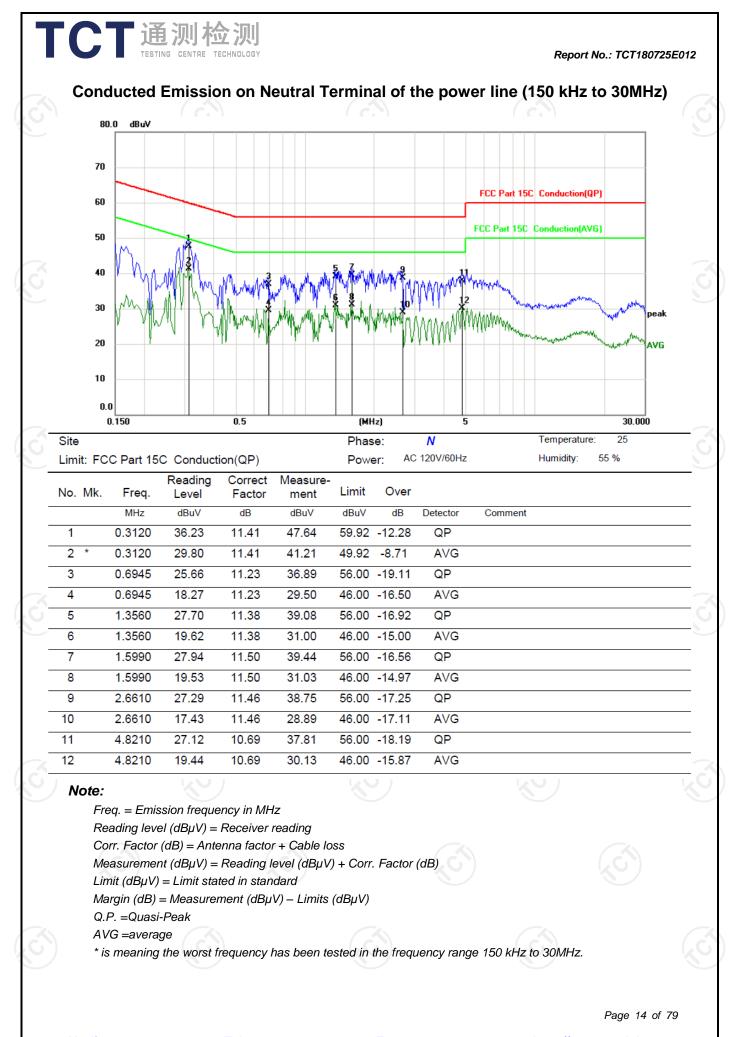
	Conducted E	mission Shi	elding Roon	n Test Site (843)			
Equipment	Manufacturer	rer Model Serial Calibration Number Date		Model			
Test Receiver	R&S	ESPI	101401	Sep. 28, 2017	Sep. 27, 2018		
LISN	Schwarzbeck	NSLK 8126	8126453	Sep. 28, 2017	Sep. 27, 2018		
Coax cable (9KHz-30MHz)	тст	CE-05	N/A	Sep. 28, 2017	Sep. 27, 2018		
EMI Test Software	Shurple Technology	EZ-EMC	N/A	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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<b>FCT</b> 通测检测 5.3. Maximum Conduct	Report No.: TCT180725E01. ted (Average) 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:	Spectrum Analyzer 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 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>Measure the conducted output power and record the results in the test report.</li> </ol>
Test Result:	PASS

## 6.3.2. Test Instruments

	RF Test Room							
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due			
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 28, 2017	Sep. 27, 2018			
RF Cable (9KHz-26.5GHz)	тст	RE-06	N/A	Sep. 28, 2017	Sep. 27, 2018			
Antenna Connector	тст	RFC-01	N/A	Sep. 28, 2017	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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4. Emission Bandwi	idth	
Test Requirement:	FCC Part15 C Section 15.247 (a)(2)	
Test Method:	KDB 558074	
Limit:	>500kHz	
Test Setup:		
Test Mode:	Spectrum Analyzer         EUT           Transmitting mode with modulation	
Test Procedure:	<ol> <li>The testing follows FCC KDB Publication No. 558 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 analyz resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to n an accurate measurement. The 6dB bandwidth r be greater than 500 kHz.</li> <li>Measure and record the results in the test report.</li> </ol>	e er's nake
Test Result:	PASS	

## 6.4.2. Test Instruments

		RF Te	est Room		
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 28, 2017	Sep. 27, 2018
RF Cable (9KHz-26.5GHz)	тст	RE-06	N/A	Sep. 28, 2017	Sep. 27, 2018
Antenna Connector	тст	RFC-01	N/A	Sep. 28, 2017	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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	JGY	Report No.: TCT180725E01.
6.5. Power Spectral D	ensity	·
6.5.1. Test Specification		
Test Requirement:	FCC Part15 C Section 15.247	7 (e)
Test Method:	KDB 558074	
Limit:		I density shall not be greater band at any time interval of
Test Setup:		EUT
Test Mode:	Spectrum Analyzer Transmitting mode with modu	Ilation
Test Procedure:	<ul> <li>AVGPSD of FCC KDB Pu Meas. Guidance v04</li> <li>2. The RF output of EUT was analyzer by RF cable and compensated to the result</li> <li>3. Set to the maximum power transmit continuously.</li> <li>4. Make the measurement wir resolution bandwidth (RBN Video bandwidth VBW ≥ 3 least 1.5 times the OBW.</li> <li>5. Detector = RMS, Sweep tir 6. Employ trace averaging (R</li> </ul>	attenuator. The path loss was ts for each measurement. setting and enable the EUT th the spectrum analyzer's $W$ : 3 kHz $\leq$ RBW $\leq$ 100 kHz. $B \times RBW$ . Set the span to at me = auto couple. MS) mode over a minimum of marker function to determine
Test Result:	PASS	

#### 6.5.2. Test Instruments

2		RF Tes	st Room		
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 28, 2017	Sep. 27, 2018
RF Cable (9KHz-26.5GHz)	тст	RE-06	N/A	Sep. 28, 2017	Sep. 27, 2018
Antenna Connector	тст	RFC-01	N/A	Sep. 28, 2017	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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# 6.6. Conducted Band Edge and Spurious Emission Measurement

6.6.1. 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 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> <li>The RF fundamental frequency should be excluded against the limit line in the operating frequency band.</li> </ol>
Test Result:	PASS

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## 6.6.2. Test Instruments

S	RF	Test Roo	m		
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum Analyzer	Agilent	N9020A	MY49100060	Sep. 28, 2017	Sep. 27, 2018
RF Cable (9KHz-26.5GHz)	тст	RE-06	N/A	Sep. 28, 2017	Sep. 27, 2018
Antenna Connector	тст	RFC-01	N/A	Sep. 28, 2017	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).

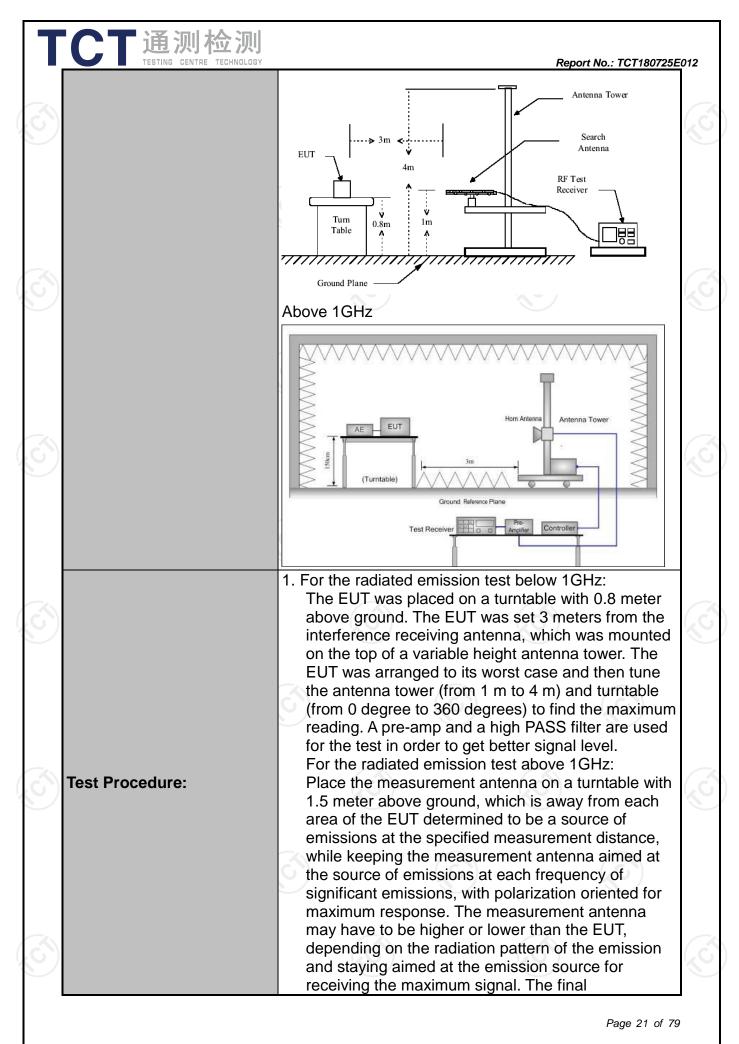
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## 6.7. Radiated Spurious Emission Measurement

6.7.1. Test Specification

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Test Requirement:	FCC Part15	C Section	15.209			
Test Method:	ANSI C63.10	0: 2013			(	
Frequency Range:	9 kHz to 25 (	GHz	$\mathcal{D}$		X	
Measurement Distance:	3 m					
Antenna Polarization:	Horizontal &	Vertical				
Operation mode:	Transmitting	mode with	n modulat	ion		
	Frequency 9kHz- 150kHz 150kHz-	Detector Quasi-peak	RBW 200Hz	VBW 1kHz 30kHz	Quasi	Remark -peak Value
Receiver Setup:	30MHz	Quasi-peak	9kHz			-peak Value
	30MHz-1GHz Above 1GHz	Quasi-peak Peak Peak	100KHz 1MHz 1MHz	300KHz 3MHz 10Hz	Pe	-peak Value ak Value rage Value
	Frequen		Field Strength (microvolts/meter)		Measurement Distance (meters)	
	0.009-0.490		2400/F(KHz)		300	
	0.490-1.7		24000/F(	KHz)		30
	1.705-3		30		30	
	88-216		100 150			3
Limit:	216-960		200			3
	Above 9	60	500	- n.		3
	(					
			Field Strength icrovolts/meter)		ment ce rs)	Detector
	Above 1GHz		500         3           5000         3			Average Peak
	For radiated emissions below 30MHz Distance = 3m Computer Pre-Amplifier UT Turn table Ground Plane					
Test setup:	Dis EUT 0.8m	Turn table		Pre -A	mplifier	
Test setup:	Dis EUT	Turn table		Pre -A	mplifier	
Test setup:	Dis EUT 0.8m	Turn table		Pre -A	mplifier	



			max anter rest abo 3. Corr Rea 4. For r of th low leve mea dete 5. Use (1) \$ (2) \$ (3) \$	kimizes the enna elevation ricted to a r ove the grou ected Read ad Level - P measureme the EUT measurement er than the set will be rep asurement we ector and re the followin Span shall we emission be Set RBW=10 Sweep = au max hold; Set RBW = or peak me	emissions. <sup>-</sup> on for maxin ange of heig nd or refere ing: Antenna reamp Factor asured by th applicable lin orted. Othe vill be repea ported. g spectrum vide enough ing measure 00 kHz for f to; Detector 1 MHz, VBV asurement.	The measur mum emissi ghts of from nce ground a Factor + C or = Level Hz, If the en e peak dete mit, the pea rwise, the e to fully cap ed; < 1 GHz; VI function = p V= 3MHz for	ons shall be 1 m to 4 m plane. able Loss + mission level ector is 3 dB k emission mission ne quasi-peak ttings: ture the BW ≩RBW; peak; Trace = r f □ 1 GHz	
Te	st results:		duty whe the tran	minimum tra Ismitter is of	less than 9 e is less tha ansmission n and is trar	8 percent. \ n 98 percen duration ove smitting at i		
	(	<u>c</u>						

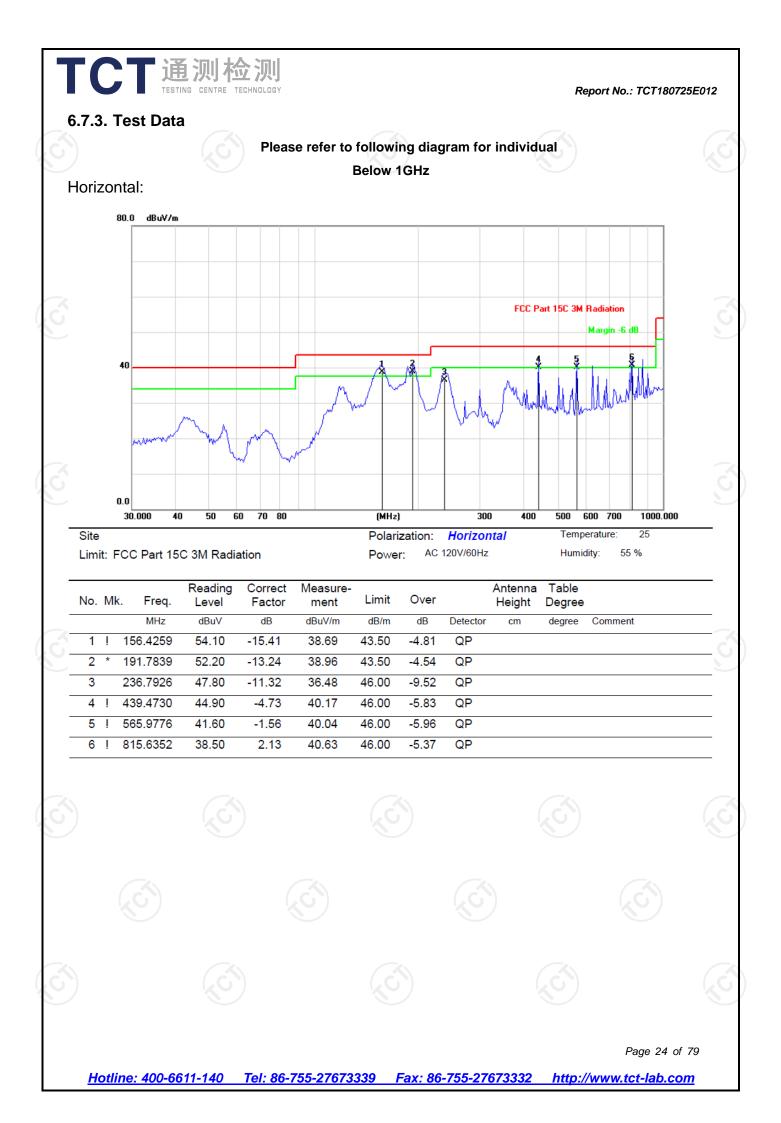


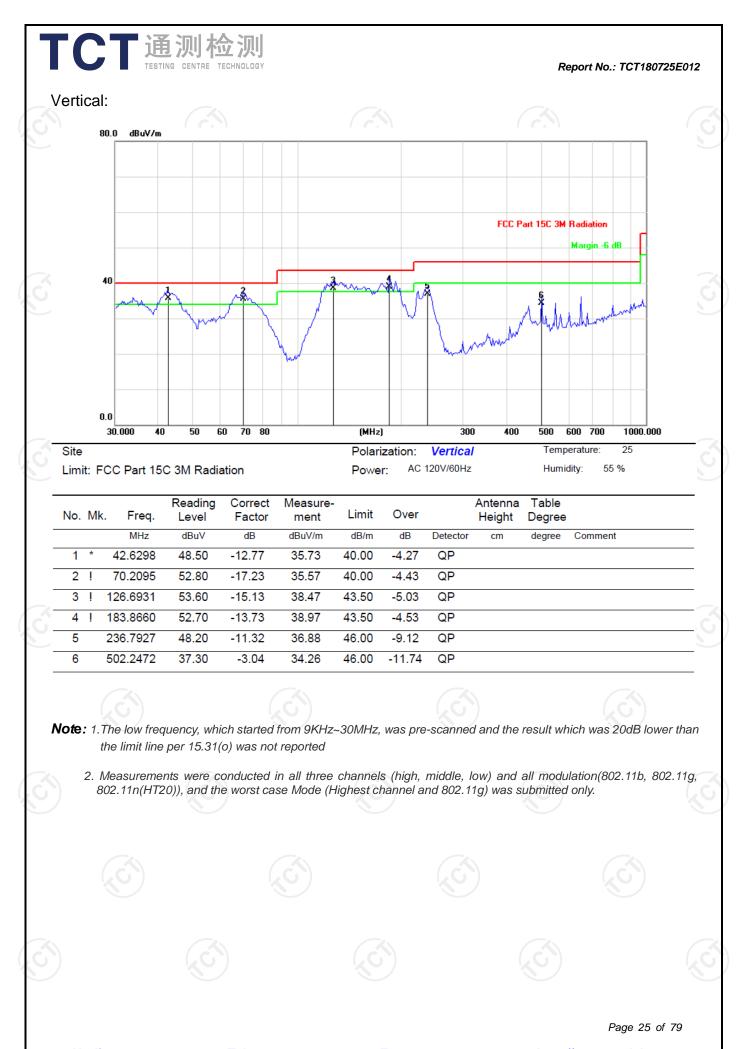
### 6.7.2. Test Instruments

	Rac	liated Emissio	n Test Site (96	6)	
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Test Receiver	ROHDE& SCHWARZ	ESVD	100008	Sep. 28, 2017	Sep. 27, 2018
Spectrum Analyzer	ROHDE& SCHWARZ	FSQ	200061	Sep. 28, 2017	Sep. 27, 2018
Pre-amplifier	EM Electronics Corporation	EM30265	07032613	Sep. 28, 2017	Sep. 27, 2018
Pre-amplifier	HP	8447D	2727A05017	Sep. 28, 2017	Sep. 27, 2018
Loop antenna	ZHINAN	ZN30900A	12024	Sep. 28, 2017	Sep. 27, 2018
Broadband Antenna	Schwarzbeck	VULB9163	340	Sep. 28, 2017	Sep. 27, 2018
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Sep. 28, 2017	Sep. 27, 2018
Horn Antenna	Schwarzbeck	BBH 9170	582	Sep. 28, 2017	Sep. 27, 2018
Antenna Mast	Keleto	CC-A-4M	N/A	N/A	N/A
Coax cable (9KHz-1GHz)	тст	RE-low-01	N/A	Sep. 28, 2017	Sep. 27, 2018
Coax cable (9KHz-40GHz)	тст	RE-high-02	N/A	Sep. 28, 2017	Sep. 27, 2018
Coax cable (9KHz-1GHz)	тст	RE-low-03	N/A	Sep. 28, 2017	Sep. 27, 2018
Coax cable (9KHz-40GHz)	ТСТ	RE-high-04	N/A	Sep. 28, 2017	Sep. 27, 2018
EMI Test Software	Shurple Technology	EZ-EMC	N/A	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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		Low	channel: 2412	MHz		
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	Correction Factor (dB/m)	Peak Final Emission Level	Peak limit (dBµV/m)	AV limit (dBµV/m)
2310	Н	46.42	-4.20	42.22	74.00	54.00
2377.38	Н	53.38	-4.10	49.28	74.00	54.00
2390	Н	54.15	-3.94	50.21	74.00	54.00
2310	V	48.02	-4.20	43.82	74.00	54.00
2377.38	V	54.24	-4.10	50.14	74.00	54.00
2390	V	55.98	-3.94	52.04	74.00	54.00
		Modu	ation Type: 80	2.11b		
		High	channel: 2462	MHz		
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	Correction Factor (dB/m)	Peak Final Emission Level	Peak limit (dBµV/m)	AV limit (dBµV/m)
2483.5	Н	52.75	-3.60	49.15	74.00	54.00
2487.09	Н	51.32	-3.50	47.82	74.00	54.00
2500	Н	47.61	-3.34	44.27	74.00	54.00
2483.5	V	53.24	-3.60	49.64	74.00	54.00
2487.09	V	50.38	-3.50	46.88	74.00	54.00
2500	V	48.05	-3.34	44.71	74.00	54.00
			ation Type: 80 channel: 2412			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	Correction Factor (dB/m)	Peak Final Emission Level	Peak limit (dBµV/m)	AV limit (dBµV/m)
2310	Н	43.42	-4.20	39.22	74.00	54.00
2388.96	Н	50.27	-4.12	46.15	74.00	54.00
2390	Н	53.03	-3.94	49.09	74.00	54.00
2310	V	45.85	-4.20	41.65	74.00	54.00
2388.96	V	49.65	-4.12	45.53	74.00	54.00
2390	V	54.54	-3.94	50.60	74.00	54.00
		Modul	ation Type: 80	2.11g		•
		High	channel: 2462	MHz		
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	Correction Factor (dB/m)	Peak Final Emission Level	Peak limit (dBµV/m)	AV limit (dBµV/m)
2483.5	H	52.04	-3.60	48.44	74.00	54.00
2487.59	Н	50.49	-3.52	46.97	74.00	54.00
2500	Н	46.36	-3.34	43.02	74.00	54.00
2483. 5	V	51.12	-3.60	47.52	74.00	54.00
2487.59	V	47.67	-3.52	44.15	74.00	54.00
2500	V	47.58	-3.34	44.24	74.00	54.00

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			Modulatio	n Type: 802.11	n(20MHz)		
			Low	channel: 2412	MHz		
)	Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	Correction Factor (dB/m)	Peak Final Emission Level	Peak limit (dBµV/m)	AV limit (dBµV/m)
	2310	Н	46.31	-4.20	42.11	74.00	54.00
	2388.01	Н	53.25	-4.10	49.15	74.00	54.00
	2390	Н	54.17	-3.94	50.23	74.00	54.00
	2310	V	48.04	-4.20	43.84	74.00	54.00
	2388.01	V	54.28	-4.10	50.18	74.00	54.00
	2390	V	55.96	-3.94	52.02	74.00	54.00
			Modulatio	n Type: 802.11	n(20MHz)		
			High	channel: 2462	MHz		
)	Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	Correction Factor (dB/m)	Peak Final Emission Level	Peak limit (dBµV/m)	AV limit (dBµV/m)
	2483.5	Н	52.74	-3.60	49.14	74.00	54.00

-3.50

-3.34

-3.60

-3.50

-3.34

46.76

44.00

50.22

46.81

44.74

74.00

74.00

74.00

74.00

74.00

### Note:

2392.55

2500

2483.5

2392.55

2500

1. Peak Final Emission Level=Peak Reading + Correction Factor;

50.26

47.34

53.82

50.31

48.08

Η

Η

V

V

V

2. Correction Factor= Antenna Factor + Cable loss – Pre-amplifier

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54.00

54.00

54.00

54.00

54.00

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			М	Above odulation T	• <b>1GHz</b> ype: 802.11	lb			
					I: 2412 MH				· · · · · · · · · · · · · · · · · · ·
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emissic Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4824	H	46.89		0.75	47.64		74	54	-6.36
7236	Н	39.21		9.87	49.08		74	54	-4.92
	Н		-			-			
4824	V	47.65		0.75	48.40		74	54	-5.60
7236	V	40.02		9.87	49.89		74	54	-4.11
	V			(					(
		KO /		X	)		KO /		K
			М	iddle chanr	el: 2437MF	Ιz			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emissic Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4874	Ч. С.	48.46		0.97	49.43	S T	74	54	-4.57
7311	H	39.13		9.83	48.96		74	54	-5.04
	Н								
4874	V	45.24		0.97	46.21		74	54	-7.79
7311	V	38.93		9.83	48.76		74	54	-5.24
/	V				· /				10

			F	ligh channe	el: 2462 MH	Z			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emissic Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)		Margin (dB)
4924	H	49.21		1.18	50.39		74	54	-3.61
7386	Н	39.06		10.07	49.13		74	54	-4.87
	Н								
X					X				
4924	V	49.34		1.18	50.52		74	54	-3.48
7386	V	37.89		10.07	47.96		74	54	-6.04
	V								

#### Note:

TCT通测检测 TESTING CENTRE TECHNOLOGY

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss - Pre-amplifier

2. Margin (dB) = Emission Level (Peak) (dBµV/m)-Average limit (dBµV/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. The highest test frequency is 25GHz.

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.

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			М	odulation T	ype: 802.11	lg			
			L	ow channe	I: 2412 MH	z			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBuV)	Correction Factor (dB/m)	Emissic Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4824	Н	48.56		0.75	49.31		74	54	-4.69
7236	Н	40.14		9.87	50.01		74	54	-3.99
	H								
				/					
4824	V	47.08		0.75	47.83		74	54	-6.17
7236	V	39.63		9.87	49.50		74	54	-4.50
	V								
				iddle ebene					(

					Ηz			
Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emissic Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
Н	48.25		0.97	49.22		74	54	-4.78
CH I	40.41	<del>[</del> C]	9.83	50.24		74	54	-3.76
H								
V	47.45		0.97	48.42		74	54	-5.58
V	40.36		9.83	50.19		74	54	-3.81
V			( . c					( . (
	H/V H H	H/V         Ieading (dBμV)           H         48.25           H         40.41           H            V         47.45           V         40.36	H/V         Iteaching (dBμV)         (dBμV)           H         48.25            H         40.41            H             V         47.45            V         40.36	H/V         Ieading (dBµV)         (dBµV)         Ieading (dBµV)           H         48.25          0.97           H         40.41          9.83           H              V         47.45          0.97           V         40.36          9.83	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $

			H	ligh channe	el: 2462 MH	Z			
Frequency (MHz)	Ant. Pol. H/V	Peak reading (dBµV)	AV reading (dBµV)	Correction Factor (dB/m)	Emissic Peak (dBµV/m)	n Level AV (dBµV/m)	Peak limit (dBµV/m)	AV limit (dBµV/m)	Margin (dB)
4924	C H	47.58	L-O	1.18	48.76		74	54	-5.24
7386	Ŧ	39.21		10.07	49.28		74	54	-4.72
	Н								
4924	V	46.05		1.18	47.23		74	54	-6.77
7386	V	40.92		10.07	50.99		74	54	-3.01
	V								

#### Note:

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss - Pre-amplifier

2. Margin (dB) = Emission Level (Peak) (dBµV/m)-Average limit (dBµV/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. The highest test frequency is 25GHz.

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.

Report No.: TCT180725E012

	通 TESTING	CENTRE TECH	NOLOGY				Rei	port No.: TCT1	180725E012
			Modu		e: 802.11n (l				
			L	ow channe	el: 2412 MH	Z			
Frequency	Ant. Pol.	Peak	AV reading	Correction	Emissio	on Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	(dBuV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)		(dB)
4824	Н	46.97		0.75	47.72		74	54	-6.28
7236	Н	38.63		9.87	48.50		74	54	-5.50
	Н								
					(	C.			
4824	V	47.42	×	0.75	48.17	<u> </u>	74	54	-5.83
7236	V	40.56		9.87	50.43		74	54	-3.57
	V								
$\mathcal{O}$			М	iddle chani	nel: 2437MF	Ηz			(
requency	Ant. Pol.	Peak	AV reading	Correction		on Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)		(dB)
4874	Н	48.51		0.97	49.48		74	54	-4.52
7311	H	40.69	-7 4	9.83	50.52		74	54	-3.48
(	СH Н		<del>[</del> C]		(	.C <del>1</del>		<del>(</del> .C)	
4874	V	46.74		0.97	47.71		74	54	-6.29
7311	V	40.31		9.83	50.14		74	54	-3.86
	V			/					
				(.(			$(\mathbf{G})$		( )
)			Н	igh channe	el: 2462 MH	z			N.
requency	Ant. Pol.	Peak	AV reading	Correction		on Level	Peak limit	AV limit	Margin
(MHz)	H/V	reading (dBµV)	(dBµV)	Factor (dB/m)	Peak (dBµV/m)	AV (dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)
4924	H	47.12		1.18	48.30		74	54	-5.70
7386	СH	39.87	The second	10.07	49.94		74	54	-4.06
	H								
4924	V	46.55		1.18	47.73		74	54	-6.27
7386	V	40.37		10.07	50.44		74	54	-3.56
	V	()		( . (					( ,

1. Emission Level=Peak Reading + Correction Factor; Correction Factor= Antenna Factor + Cable loss - Pre-amplifier

2. Margin (dB) = Emission Level (Peak) (dB $\mu$ V/m)-Average 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. The highest test frequency is 25GHz.

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: Test Result of Conducted Test Conducted Average Output Power

#### Result Table

Mode	Channel	Meas.Level [dBm]	Verdict
11B	LCH	13.16	PASS
11B	МСН	13.26	PASS
11B	НСН	13.27	PASS
11G	LCH	10.91	PASS
11G	МСН	11.37	PASS
11G	НСН	13.31	PASS
11N20SISO	LCH	10.94	PASS
11N20SISO	мсн	11.37	PASS
11N20SISO	НСН	13.27	PASS

# Test Graph

			Aglent Spectrum Analyzer - Channel Power       ALIONATIO 10550411PMAg07, 2019         Center Freq 2.412000000 GHz       Center Freq 2.412000000 GHz         Frequency       Trg: Free Run       Arginities: 10/10         Radio Device: BTS       Radio Device: BTS         G dRdiv       Ref 23.90 dBm       Center Freq 2.412000000 GHz         10       Gradin       Center Freq 2.412000000 GHz			
	11B/LCH		Center 2.412 GHz #Res BW 1 MHz Channel Power 13.16 dBm / 11.71	#VBW 3 MHz Power Spectral Den: MHz -57.52 dBm	sity I /Hz Freq Offs 0	Man
Ś	Hotline: 400-661	(11-140 Tel:	86-755-27673339	Fax: 86-755-27673	332 http://www	Page 31 of 79 w.tct-lab.com







