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# TEST REPORT

FCC ID: 2AMY3-8T9-422L

Product: Tablet PC

Model No.: Acer One 8 T9-422L

Trade Mark: Acer

Report No.: WSCT-A2LA-R&E230300002A-Wi-Fi1

Issued Date: 13 April 2023

Issued for:

Acer India Pvt Ltd.

Embassy Heights 6th Floor, No. 13, Magrath Road, (Next to Hosmat Hospital), Bangalore-560 025, India.

Issued By:

World Standardization Certification & Testing Group(Shenzhen) Co.,Ltd.
Building A-B, Baoshi Science & Technology Park, Baoshi Road,
Bao'an District, Shenzhen, Guangdong, China

TEL: +86-755-26996192 FAX: +86-755-86376605

Note: The results contained in this report pertain only to the tested sample. This report shall not be reproduced, except in full, without written approval of World Standardization Certification & Testing Group(Shenzhen) Co., Ltd. This report must not be used by the client to claim product certification, approval, or any agency of the U.S. Government.

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### Report No.: WSCT-A2LA-R&E230300002A-Wi-Fi1

### **Test Certification**

Product: Tablet PC

Model No .: Acer One 8 T9-422L

Trade Mark: Acer

Acer India Pvt Ltd. Applicant:

Embassy Heights 6th Floor, No. 13, Magrath Road, (Next to Hosmat Address:

Hospital), Bangalore-560 025, India.

Manufacturer: Acer India Pvt Ltd.

Embassy Heights 6th Floor, No. 13, Magrath Road, (Next to Hosmat Address:

Hospital), Bangalore-560 025, India.

Acer India Pvt Ltd. Factory:

RS No. 38/2, Sedarapet Village, Villianur Commune, Pondicherry Address:

-605111.

Date of Test: 12 January 2023 to 15 March 2023

Applicable FCC CFR Title 47 Part 15 Subpart C Section 15,247 Standards:

The above equipment has been tested by World Standardization Certification & Testing Group(Shenzhen)Co., Ltd. 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:

Checked By:

(Qin Shuiguan)

Approved By:

Date: /3 ATY

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(Liu Fuxin)

(Wang Xiang)

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# 2. Test Result Summary

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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.

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# 3. EUT Description

Product:	Tablet PC
Model No.:	Acer One 8 T9-422L
Trade Mark:	Acer
Operation Frequency:	2412MHz~2462MHz (802.11b/g/n(HT20)) 2422MHz~2452MHz (802.11n(HT40))
Channel Separation:	5MHz
Modulation type:	DSSS (DBPSK, DQPSK, CCK) for IEEE 802.11b OFDM/OFDMA(BPSK,QPSK,16QAM,64QAM,256QAM,102 4QAM) for IEEE 802.11g/n
Antenna Type:	Integral Antenna
Antenna Gain	2.16dBi
Rechargeable Li-Polymer Battery:	Model: GFL 1100100 1ICP4/100/100 Nominal Voltage: 3.8V Rated capacity: 5100mAh/19.38Wh Limited Charge Voltage: 4.35V
Adapter:	Model: BSY01J3050200UU Input: 100-240V~50/60Hz 0.3A Output:5.0V===2.0A 10.0W
Remark:	N/A.



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---	---------------------------	-------------------	-------------------	------

	Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
7	141	2412MHz	4	2427MHz	77	2442MHz	10	2457MHz
	2	2417MHz	5	2432MHz	8	2447MHz	11	2462MHz
	3	2422MHz	6	2437MHz	9	2452MHz		

Operation Frequency each of channel For 802.11n (HT40)

		J						
	Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
	A BIN		4	2427MHz	W75/	2442MHz	17474	
7		/	5	2432MHz	8	2447MHz	-	
	3	2422MHz	6	2437MHz	9	2452MHz		X

#### 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

802.11b/g/n (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

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### 4. Genera Information

### 4.1. Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 98.46%)

The sample was placed (0.8m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. For the full battery state and The output power to the maximum state.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

report and defined as follows:	A 14 1					
Per-scan all kind of data rate in lowest of was worst case.	channel, and found the follow list which it					
N/STOP N/STOP N	ode					
802	2.11b					
802	2.11g					
802.1	1n(H20)					
802.11n(H40)						
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.

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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
Adapter	BSY01J3050200UU	/ X	1	ADAPTER

#### 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.

1674	2167			F7 9 M	
WESTER	Wister	WHAT	Wester	NVSTOR	
NVF14	AVE			634	NET TO
Wister	WHI	WETA	Wester	N/F19	
N/F/E				F14 6	NE OF THE OWNER OWNER OF THE OWNER OWNER OF THE OWNER OW
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# 5. Facilities and Accreditations

### 5.1. Facilities

All measurement facilities used to collect the measurement data are located at Building A-B, Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China of the World Standardization Certification & Testing Group(Shenzhen) CO., LTD

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

### 5.2. ACCREDITATIONS

**CNAS - Registration Number: L3732** 

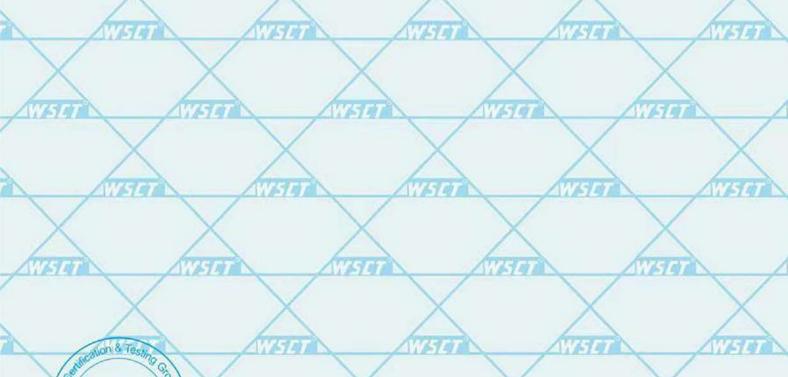
China National Accreditation Service for Conformity Assessment, The test firm Registration Number: L3732

FCC - Designation Number: CN1303

World Standardization Certification & Testing Group(Shenzhen) CO., LTD. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Designation Number: CN1303.

A2LA - Certificate Number: 5768.01

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number: 5768.01



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# 5.3. Measurement Uncertainty

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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 %.

	• • • • • • • • • • • • • • • • • • • •	ermaence of approximately co 701						
1	No.	Item	MU					
	1	Conducted Emission Test	±3.2dB					
	2	RF power, conducted	±0.16dB					
_	3//5/	Spurious emissions, conducted	±0.21dB					
	4	All emissions, radiated(<1GHz)	±4.7dB					
/	5	All emissions, radiated(>1GHz)	±4.7dB					
	6	Temperature	±0.5°C					
	7 X	Humidity	±2.0%					



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# **5.4.MEASUREMENT INSTRUMENTS**

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NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibration Due.	
Test software	- 6	EZ-EMC	CON-03A	- 1	2300	
Test software	-	MTS8310	7	1		
EMI Test Receiver	R&S	ESCI	100005	11/05/2022	11/04/2023	
LISN	AFJ	LS16	16010222119	11/05/2022	11/04/2023	7
LISN(EUT)	Mestec	AN3016	04/10040	11/05/2022	11/04/2023	
Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	11/05/2022	11/04/2023	
Coaxial cable	Megalon	LMR400	N/A	11/05/2022	11/04/2023	
GPIB cable	Megalon	GPIB	N/A	11/05/2022	11/04/2023	
Spectrum Analyzer	R&S	FSU	100114	11/05/2022	11/04/2023	7
Pre Amplifier	H.P.	HP8447E	2945A02715	11/05/2022	11/04/2023	
Pre-Amplifier	CDSI	PAP-1G18-38	X	11/05/2022	11/04/2023	
Bi-log Antenna	SUNOL Sciences	JB3	A021907	11/05/2022	11/04/2023	
9*6*6 Anechoic			-	11/05/2022	11/04/2023	
Horn Antenna	COMPLIANCE ENGINEERING	CE18000		11/05/2022	11/04/2023	/
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	11/05/2022	11/04/2023	è
Cable	TIME MICROWAVE	LMR-400	N-TYPE04	11/05/2022	11/04/2023	
System-Controller	ccs	N/A	N/A	N.C.R	N.C.R	
Turn Table	ccs	N/A	N/A	N.C.R	N.C.R	ŀ
Antenna Tower	ccs	N/A	N/A	N.C.R	N.C.R	1
RF cable	Murata	MXHQ87WA300 0	-	11/05/2022	11/04/2023	7
Loop Antenna	EMCO	6502	00042960	11/05/2022	11/04/2023	
Horn Antenna	SCHWARZBECK	BBHA 9170	1123	11/05/2022	11/04/2023	
Power meter	Anritsu	ML2487A	6K00003613	11/05/2022	11/04/2023	
Power sensor	Anritsu	MX248XD	-	11/05/2022	11/04/2023	-
Spectrum Analyzer	Keysight	N9010B	MY60241089	11/05/2022	11/04/2023	/
		Lauren		Annual Control	- 6	











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# 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 Wi-Fi antenna is a Integral Antenna. it meets the standards, and the best case gain of the antenna is 2.16dBi.













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## 6.2. Conducted Emission

# 6.2.1. Test Specification

2.1. Test Specification						
Test Requirement:	FCC Part15 C Section 15.207					
Test Method:	ANSI C63.10:2014					
Frequency Range:	150 kHz to 30 MHz					
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto					
Limits:	Frequency range (MHz)         Limit (dBuV)           0.15-0.5         66 to 56*         56 to 46*           0.5-5         56         46           5-30         60         50					
	Reference Plane					
Test Setup:	E.U.T AC power    EMI   Receiver   Receiver					
Test Mode:	Remark E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m  Charging + transmitting with modulation					
WISTOT	1. The E.U.T is connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.					
Test Procedure:	<ol> <li>The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</li> <li>Both sides of A.C. line are checked for maximum</li> </ol>					
$\times$	conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to					
Jon & Testino	ANSI C63.10: 2014 on conducted measurement.					

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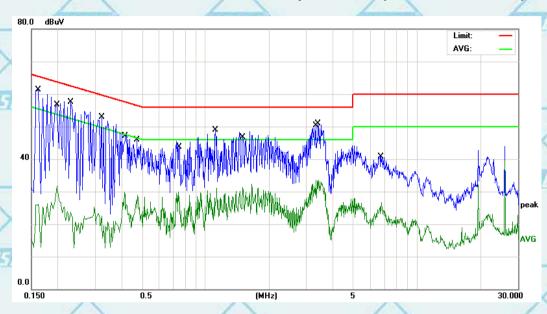
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6.2.2. Test data

### Please refer to following diagram for individual

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



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	1
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.1620	50.92	10.41	61.33	65.36	-4.03	QP
2		0.1980	21.27	10.41	31.68	53.69	-22.01	AVG
3		0.2300	47.03	10.42	57.45	62.45	-5.00	QP
4		0.3220	42.42	10.43	52.85	59.65	-6.80	QP
5		0.4140	19.53	10.45	29.98	47.57	-17.59	AVG
6		0.4740	35.51	10.46	45.97	56.44	-10.47	QP
7		0.7460	19.31	10.49	29.80	46.00	-16.20	AVG
8		1.1140	38.36	10.53	48.89	56.00	-7.11	QP
9		1.4980	20.79	10.58	31.37	46.00	-14.63	AVG
10		3.3140	22.77	10.67	33.44	46.00	-12.56	AVG
11		3.4140	40.31	10.67	50.98	56.00	-5.02	QP
12		6.7980	16.03	10.73	26.76	50.00	-23.24	AVG

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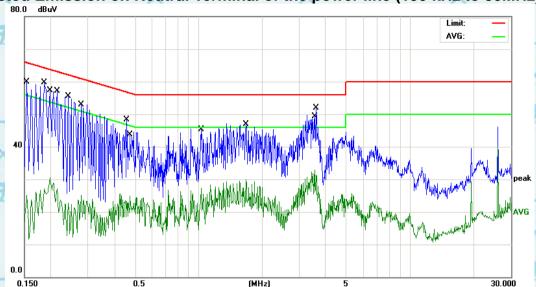






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# Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz) New World Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz) New World Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



`									
3	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
7			MHz	dBuV	dB	dBuV	dBuV	dB	Detector
ľ	1		0.1539	49.59	10.41	60.00	65.78	-5.78	QP
	2		0.1860	49.35	10.41	59.76	64.21	-4.45	QP
	3		0.1980	20.18	10.41	30.59	53.69	-23.10	AVG
>	4		0.2140	16.64	10.41	27.05	53.04	-25.99	AVG
	5		0.2420	45.07	10.42	55.49	62.02	-6.53	QP
2	6		0.2779	42.41	10.43	52.84	60.88	-8.04	QP
ľ	7		0.4580	37.81	10.46	48.27	56.73	-8.46	QP
	8		0.4740	14.40	10.46	24.86	46.44	-21.58	AVG
ĺ	9		1.0300	16.73	10.51	27.24	46.00	-18.76	AVG
>	10		1.6740	19.27	10.61	29.88	46.00	-16.12	AVG
F	11		3.5340	22.24	10.68	32.92	46.00	-13.08	AVG
4	12	*	3.5940	41.14	10.68	51.82	56.00	-4.18	QP

#### Note1:

Freq. = Emission frequency in MHz

Reading level  $(dB\mu V)$  = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss

Measurement ( $dB\mu V$ ) = Reading level ( $dB\mu V$ ) + Corr. Factor (dB)

 $Limit (dB\mu V) = Limit stated in standard$ 

Margin (dB) = Measurement (dB $\mu$ V) – Limits (dB $\mu$ V)

Q.P. =Quasi-Peak AVG =average

\* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

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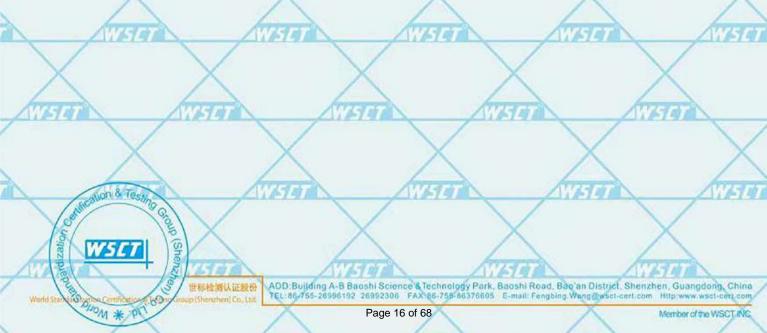
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6.2.3. Maximum Conducted (Average) Output Power

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## 6.2.4. Test Specification

FCC Part15 C Section 15.247 (b)(3)
KDB 558074
30dBm
Spectrum Analyzer EUT
Transmitting mode with modulation
<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>
PASS











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6.2.5. Test Data						www.wsct-cert.com
NIET BE	/	The state of the s	ATTE OF		AVET BE	(CATALA)
1	Mode	Frequency (MHz)	Total Power (dBm)	Limit (dBm)	Verdict	1
	b	2412	15.15	30	Pass	
	b	2437	15.56	30	Pass	
AVZ-147	b	2462	14.62	30	Pass	AV-5197
	g	2412	16.67	30	Pass	
V	g	2437	16.53	30	Pass	V
	g	2462	15.88	30	Pass	
The state of the s	n20	2412	16.37	30	Pass	- American
WETOT	n20	2437 2462	16.49	30	Pass	ATT THE
	n20 n40	2402	15.94 15.24	30 30	Pass Pass	
X	n40	2437	15.55	30	Pass	X
	n40	2452	15.61	30	Pass	
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$\times$	$\langle$			X		X
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		V 457.00	W 10 0		VI ESTATE	THE REAL PROPERTY.
	X			X		X
117-14	5LT \	AWS	744	AW547		11679
WETER	,	WATER OF	N.194		WSI	WEIGH
$\times$	79		191	NI 6-1-9		WESTER
		17574	W6514		WSIII	176-3181
Control on & Testing Grant	/			X		X

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Total Power Spectral Density

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## 6.3. Emission Bandwidth

## 6.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)	$\overline{}$				
Test Method:	KDB 558074	511				
Limit:	>500kHz					
Test Setup:	EUT EUT	/				
Test Mode:	Spectrum Analyzer	223				
Test Procedure:	<ol> <li>Transmitting mode with modulation</li> <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					



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# 6.3.2. Test data(worst)

Monow \* PIT

	Mode	Frequency	-6 dB Bandwidth	Limit -6 dB	Verdict	
		(MHz)	(MHz)	Bandwidth (MHz)		
	b	2412	7.09	W 5 0.5	Pass	ì
*	b /	2437	9.046	0.5	Pass	ì
	b	2462	8.555	0.5	Pass	
	g	2412	7.501	0.5	Pass	
Á	g	2437	14.542	0.5	Pass	
31	g	2462	16.413	0.5	Pass	2
	n20	2412	7.497	0.5	Pass	
	n20	2437	10.155	0.5	Pass	
	n20	2462	17.599	0.5	Pass	Š
Ļ	n40	2422	11.344	0.5	Pass	L
	n40	2437	11.292	0.5	Pass	
	n40	2452	6.051	0.5	Pass	

NV-101	WHITE	77514	VETO	WETO	
NETAL	$\times$			2788	X15181
NVF141	77559	WETH	N/6344	Wester	
NVI-19	X			A10.0	WESTER
NVSIAI	YETA	NIE TO THE TOTAL PROPERTY OF THE PARTY OF TH	WESTER	WESTER	
atealion & Testing	$\langle \ \rangle$			15141	X 100

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Certificate #5768.01 For Question, Please Contact with WSCT www.wsct-cert.com Test Graphs -6dB Bandwidth b 2412MHz Spectrum Analyzer 1 Occupied BW Center Freq: 2 412000000 GHz Avg|Hold: 100/100 Radio Std: None Trig Free Run Gate: Off #IF Gain: Low Input Z: 50 Ω KEYSIGHT Input RF Atten: 30 dB Corr CCorr Freq Ref: Int (S) Mkr3 2.415888000 GHz 1 Graph Ref LvI Offset 2.20 dB Ref Value 22.20 dBm -5.63 dBm Scale/Div 10.0 dB Center 2.41200 GHz #Res BW 100.00 kHz #Video BW 300.00 kHz Sweep 3.33 ms (10001 pts)

Occupied Bandwidth 19.8 dBm 11.088 MHz Total Power Transmit Freq Error 343.20 kHz % of OBW Power 99.00 % x dB Bandwidth 7.090 MHz -6.00 dB

Mar 01, 2023 6:25:42 PM -6dB Bandwidth b 2437MHz Trig: Free Run Gate: Off #IF Gain: Low Center Freq: 2 437000000 GHz Avg|Hold: 100/100 Radio Std: None Input Z: 50 Ω KEYSIGHT Input RF Atten: 30 dB Corr CCorr Freq Ref: Int (S) Mkr3 2,442239000 GHz 1 Graph Ref LvI Offset 2.22 dB Ref Value 22.22 dBm -6.32 dBm Scale/Div 10.0 dB Center 2.43700 GHz #Video BW 300.00 kHz Sweep 3.33 ms (10001 pts) #Res BW 100.00 kHz Occupied Bandwidth 13.988 MHz Total Power 20.6 dBm Transmit Freq Error 715.72 kHz % of OBW Power 99.00 %



x dB Bandwidth

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-6.00 dB









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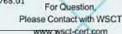






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# 6.4. Power Spectral Density

# 6.4.1. Test Specification

Test Requirement:	FCC Part15 C Section	15.247 (e)						
Test Method:	KDB 558074	WESTER WESTER						
Limit:	than 8dBm in any 3kl	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 Method AVGPSD of FCC KDB Publication No.558074 D01 DTS Meas. Guidance v04</li> <li>The RF output of EUT was connected to the analyzer by RF cable and attenuator. The pwas compensated to the results for each measurement.</li> <li>Set to the maximum power setting and enabe EUT transmit continuously.</li> <li>Make the measurement with the spectrum a resolution bandwidth (RBW): 3 kHz ≤ RBW kHz. Video bandwidth VBW ≥ 3 x RBW. Set to at least 1.5 times the OBW.</li> <li>Detector = RMS, Sweep time = auto couple.</li> <li>Employ trace averaging (RMS) mode over a of 100 traces. Use the peak marker function determine the maximum power level.</li> </ol>							
		the results in the test report.						











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6.4.2. Test data			· >		X	For Question, Please Contact with WSCT www.wsct-cert.com
WETA	Mode	Frequency (MHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict	NET 4
	b	2412	-8.15	8	Pass	
	b	2437	-8.84	8	Pass	
17274	b	2462	-9.77	8	Pass	NVATA A
CIE I SE	g	2412	-11.36	8	Pass	CIPI SE
	g	2437	-11.15	8	Pass	
	g	2462	-14.56	8	Pass	
WESTER	n20 n20	2412 2437	-10.12 -10.98	8	Pass Pass	17270
	n20	2462	-13.73	8	Pass	
X	n40	2422	-13.51	8	Pass	X
	n40	2437	-13.45	8	Pass	
AVISIOT A	n40	2452	-12.41	854	Pass	NISTET A
W418		7/5/10	753		X LT a	Water
	X		157.00	VIAT A		N/SIME
N/F/F/		N.E. C.			X 16.7 m	Wester
NVF141	1/5/4/4		() F. T. W. W. T. W. W. T. W. W. T. W. W. T. W.	N/2-141		NV-19
775-191		NIE I	NYES		NIE STATE	X
X	NETA A		72.19	AVI-19		NV-TO A
X		VI-10	NVET		NV6514	X
Sellication & Testing Group	X		X	X		X

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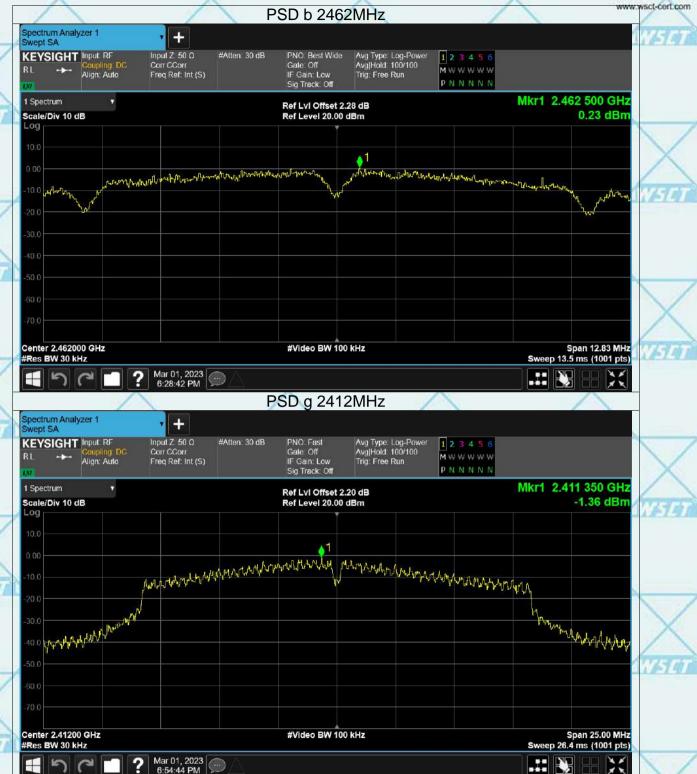




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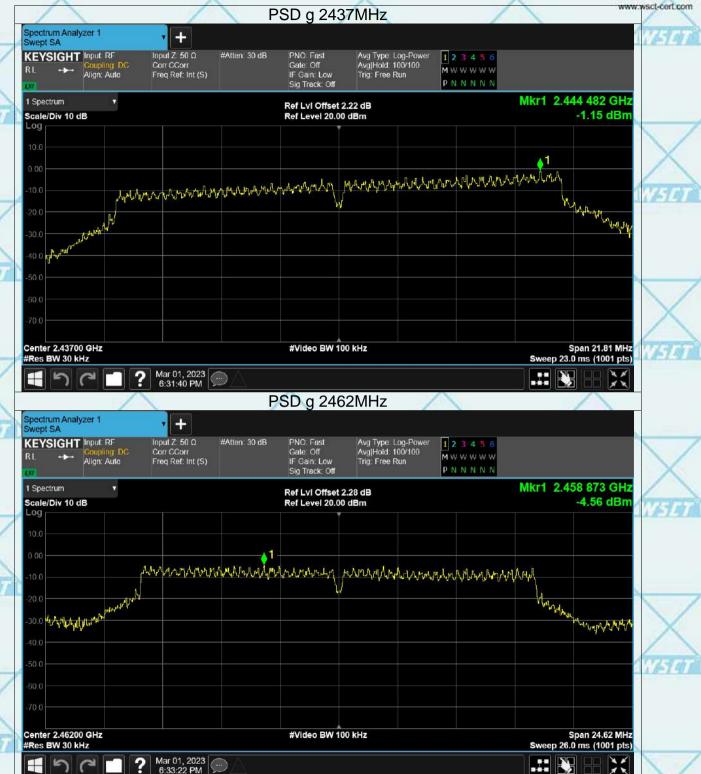




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# 6.5. Conducted Band Edge and Spurious Emission Measurement

# 6.5.1. Test Specification

.s.r. rest 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>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>
TIP IS	6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
Test Result:	PASS



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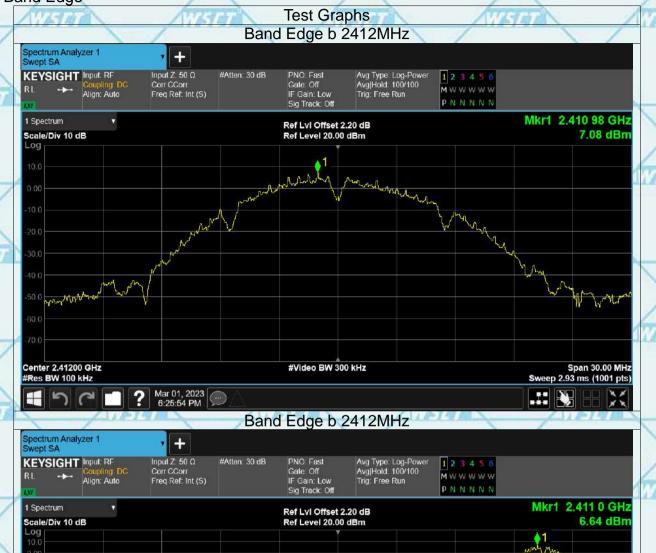




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**Test Data** Band Edge Certificate #5768.01

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Start 2.32700 GHz #Res BW 100 kHz Stop 2.42700 GHz Sweep 9.60 ms (1001 pts) #Video BW 300 kHz Function Width Function Value Mode Function 6.637 dBm 2.400 0 GHz 2.400 0 GHz -42.83 dBm -42.83 dBm 2,400 0 GHz -42.83 dBm Mar 01, 2023 6:25:57 PM



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DL1-12 92 dB









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# **Conducted RF Spurious Emission**



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# 6.6. Radiated Spurious Emission Measurement

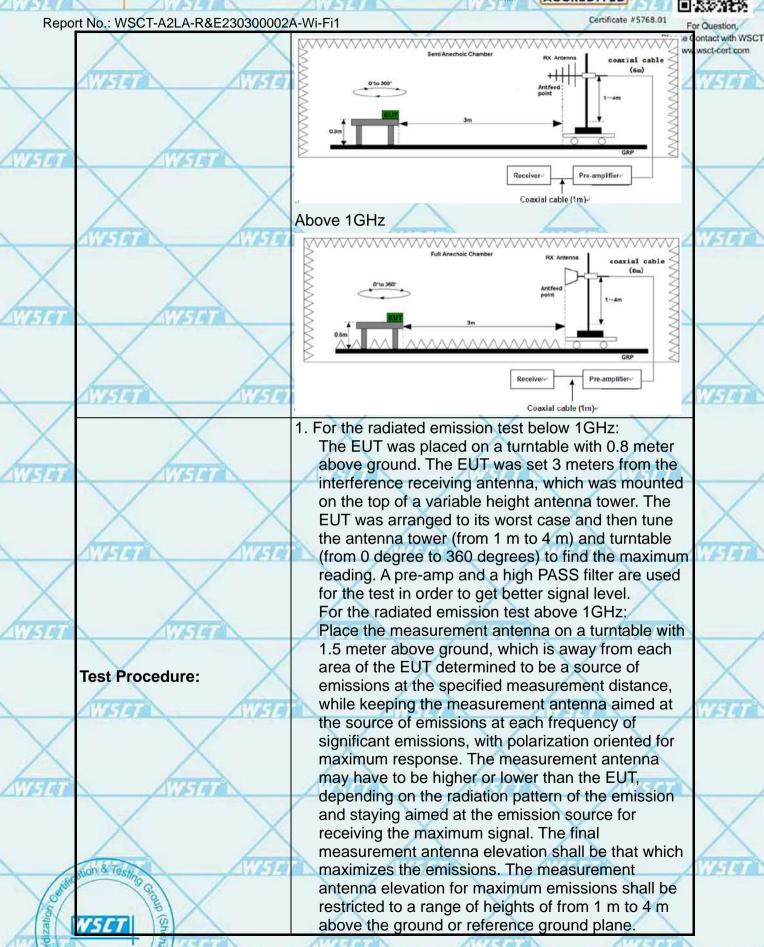
## 6.6.1. Test Specification

.6.1. Test Specification			\/				
Test Requirement:	FCC Part15	C Section	15.209	8			
Test Method:	ANSI C63.10	0: 2014	AWSET		AVE THE	1	
Frequency Range:	9 kHz to 25 (	GHz					
Measurement Distance:	3 m						
Antenna Polarization:	Horizontal &	Vertical		11674		/	
Operation mode:	Transmitting	mode with	modulati	on			
	Frequency	Detector	RBW	VBW	Remark		
WSGT	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak Valu		
Receiver Setup:	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Valu	ue	
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Valu	ue	
h-	Above 1GHz	Peak	1MHz	3MHz	Peak Value		
AVATO	7.5570 10112	Peak	1MHz	10Hz	Average Value		
$\times$	Frequen	Frequency		ength (meter)	Measurement Distance (meters)		
	0.009-0.4	190	2400/F(h		300	<u> </u>	
17574	0.490-1.7		24000/F(		30		
	1.705-3	1.705-30			30		
X	30-88		100		3		
	88-216		150		3		
Limit:	216-96	111111 W 30	200		3		
The state of the s	Above 9	60	500		3		
			$\sim$	Measurer	nent		
	Frequency		Strength	Distance		r	
WSIT	1111323	(microv	olts/meter)	(meters			
1013	Above 1GHz		500	3	Average		
	/ NOVE 13112	/	5000	3	Peak		
	For radiated	emissions	below 30	MHz			
AVE		stance = 3m		ATITION		1	
	L			ļ	Computer		
		1		Pre -An	aplifier		
Test setup:	EUT	7	/		407	8	
	A 1 1	Turn table					
X	0.8m	- an there			reiver		
		Ground P	lane	Rec	civel	5	
stion & Testing of		145175		1151		1	
18	30MHz to 10	pΠZ	1/				









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Z 11-7-1	1679	ACCREDITED	32 12 2
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	X	3. Corrected Reading: Antenna Factor + Cable Loss 4	ontact with WSCT wsct-cert.com
		Read Level - Preamp Factor = Level	WacronLon
	WSE	4. For measurement below 1GHz, If the emission level	175747
/		of the EUT measured by the peak detector is 3 dB	
X	X	lower than the applicable limit, the peak emission	
		level will be reported. Otherwise, the emission	
17774	N/STOT	measurement will be repeated using the quasi-peak	1
		detector and reported.	
	X	5. Use the following spectrum analyzer settings:	X
		(1) Span shall wide enough to fully capture the	
<b>\</b>	WATE	emission being measured;	WATER
1		(2) Set RBW=100 kHz for f < 1 GHz; VBW ≥RBW;	
X	V	Sweep = auto; Detector function = peak; Trace =	
		max hold;	
ATTANA	WESTER	(3) Set RBW = 1 MHz, VBW= 3MHz for f 1 GHz	,
		for peak measurement.	
		For average measurement: VBW = 10 Hz, when	X
		duty cycle is no less than 98 percent. VBW ≥ 1/T,	
À.	ATTORES ATTORES	when duty avalo is less than 00 percent where T is	THE PERCENT
	/ 1 A 7 4 A 7 1 A 7 4	when duty cycle is less than 98 percent where T is	17 57 7 7 1 N
	TIPLE TO THE TOTAL THE TOTAL TO THE TOTAL TOTAL TO THE TO	the minimum transmission duration over which the	WETA ILL
V	The last of the la	the minimum transmission duration over which the transmitter is on and is transmitting at its maximum	W-7-9-10-N
X	The last of the la	the minimum transmission duration over which the	W-7.4.
N/F191	Test results:	the minimum transmission duration over which the transmitter is on and is transmitting at its maximum	1 F14 E
X15191	Test results:	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.	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )
VISIO	Test results:	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.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
X15191	Test results:	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.	
NISTO I	Test results:	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.	W-51-97
N15191	Test results:	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.	12797
NISTON	Test results:	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.	75191
VI-191	Test results:	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.	72797
NISTER .	NVL-1 a	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.	WETTER
WESTER	Test results:	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.  PASS	7777
AVE 191	NVL-1 a	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.  PASS	W. 5147
WI-191	AVISION AVISION	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.  PASS	7777
AVE 191	NVL-1 a	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.  PASS	WETTE
NYSIGII NYSIGII	AVISION AVISION	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.  PASS	WETGE
V 1919	AVISION AVISION	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.  PASS	W25707











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### 6.6.2. Test Data(worst)

# Please refer to following diagram for individual Below 1GHz





No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	141
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	- /	31.2893	23.44	4.29	27.73	40.00	-12.27	QP
2	1	56.7917	30.10	-5.83	24.27	40.00	-15.73	QP
3		77.5928	35.39	-7.14	28.25	40.00	-11.75	QP
4	*	207.1226	45.44	-6.68	38.76	43.50	-4.74	QP
745	1	382.5879	38.89	-1.17	37.72	46.00	-8.28	QP
6		952.0937	25.32	6.45	31.77	46.00	-14.23	QP

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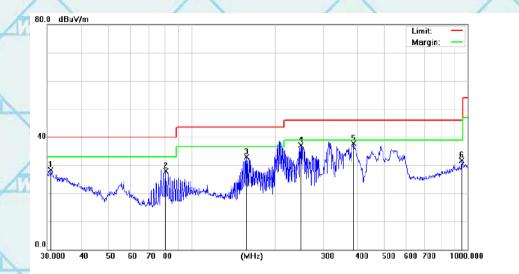




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And and desired	0	-40	The state of the s	24	The state of the s	1	Market Street	
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	14
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		30.9619	23.94	4.43	28.37	40.00	-11.63	QP
2	1	80.6442	34.91	-7.10	27.81	40.00	-12.19	QP
3		158.1123	38.49	-5.63	32.86	43.50	-10.64	QP
4		248.5519	41.88	-4.79	37.09	46.00	-8.91	QP
<b>5</b>	*	386.6338	38.90	-1.14	37.76	46.00	-8.24	QP
6		952.0937	25.32	6.45	31.77	46.00	-14.23	QP

#### Note1:

Freq. = Emission frequency in MHz

Reading level (dBµV) = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss - Amplifier factor.

Measurement ( $dB\mu V$ ) = Reading level ( $dB\mu V$ ) + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

Margin (dB) = Measurement (dB $\mu$ V) - Limits (dB $\mu$ V)



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## **Above 1GHz**

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20MHz(802.11b/g/n)

1	Lro a		Low channel: 2412MHz						
	Freq. (MHz)	Ant.Pol	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)		
	(IVITZ)	H/V	PK	AV	PK	AV	PK	AV	
	4824	V	60.67	41.72	74	54	-13.33	-12.28	
	7236	w V T	58.20	39.42	74	54	-15.80	-14.58	
	4824	Н	59.08	39.16	74	54	-14.92	-14.84	
	7236	Η	58.94	39.94	74	54	-15.06	-14.06	

Frog	Middle channel: 2437MHz							
Freq. (MHz)	Ant.Pol	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)		
(IVITIZ)	H/V	PK	AV	PK	AV	PK	AV	
4874	/V	58.92	39.84	74	54	-15.08	-14.16	
7311	V	59.68	40.45	74	54	-14.32	-13.55	
4874	TEHRE	58.45	39.11	74	54	-15.55	-14.89	
7311	Н	59.63	40.63	74	54	-14.37	-13.37	

	Гиом		High channel: 2462MHz							
2	Freq. (MHz)	Ant.Pol	Emission L	_evel(dBuV)	Limit 3m	(dBuV/m)	Over(dB)			
(IVIH)	(IVIIIZ)	H/V	PK	AV	PK	AV	PK	AV		
	4924	V	58.75	41.07	74	54	-15.25	-12.93		
	7386	V	58.05	40.79	74	54	-15.95	-13.21		
١	4924	WSHT	59.88	39.54	74	54	-14.12	-14.46		
	7386	Н	58.74	39.74	74	54	-15.26	-14.26		

NV.		777	WEIGH	NIE I A	17574
WESTER	W/5101	W6191	NV5141	X	
		110	Wiston	WSTOT	W-101
Wiston	WATER	775-191	NIP 18	$\times$	
				X	X

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59.25

58.51

59.70





-14.75

-15.49

-14.30



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Ant.Pol

H/V

H

H

40MHz(802.11n)

Freq.

(MHz)

4824

7236

4824

7236

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-13.77

-13.42

-13.30

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annat and an	100000					
v.wsct-cert.co			2MHz	nnel: 2412	Low cha	
1450	r(dB)	Ove	(dBuV/m)	Limit 3m	_evel(dBuV)	Emission L
	AV	PK	AV	PK	AV	PK
	-12.40	-15.01	54	74	41.60	58.99

54

54

54

74

74

74

	Eroa		Middle channel: 2437MHz							
	Freq. (MHz)	Ant.Pol	Emission I	Level(dBuV)	Limit 3m	(dBuV/m)	Over(dB)			
-	(IVITIZ)	H/V	PK	AV	PK	AV	PK	AV		
	4874	V	60.45	40.62	74	54	-13.55	-13.38		
	7311	V	58.93	39.95	74	54	-15.07	-14.05		
	4874	H	58.78	40.19	74	54	-15.22	-13.81		
	7311	TO THE	59.07	40.07	74	54	-14.93	-13.93		

40.23

40.58

40.70

				High cha	nnel: 246	2MHz		
	Freq.	Ant.Pol	Emission L	_evel(dBuV)		(dBuV/m)	Over(dB)	
4	(MHz)	H/V	PK	ÄV	PK	AV	PK	ÁV
	4924	V	58.04	40.01	74	54	-15.96	-13.99
	7386	V	58.66	39.14	74	54	-15.34	-14.86
	4924	/H\	59.34	40.27	74	54	-14.66	-13.73
ì	7386	MEHT	58.75	39.75	74	54	-15.25	-14.25

#### Note:

- 1. All emissions not reported were more than 20dB below the specified limit or in the noise floor.
- 2. Emission Level= Reading Level+ Probe Factor +Cable Loss.
- 3. Data of measurement within this frequency range shown "--" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

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## **Restricted Bands Requirements**

Test result for 802.11b Mode (the worst case)

11/4/11/1	4	Z 1 6 7 11 11		11/1/11/11		111/24	Di Ali	
Frequency	Reading	Correct Factor	Emission Level	Limit	Margin	Polar	Detector	/
(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	H/V		1
	AVERT		Low Cha	nnel	ATETA		1765	7
2390	64.12	-8.76	55.36	74	18.64	A	PK	
2390	53.82	-8.76	45.06	54	8.94	нХ	AV	
2390	62.74	-8.73	54.01	74	19.99	V	PK	
2390	54.53	-8.73	45.80	54	8.20	V	AV	
	X		High Cha	nnel	X			1
2483.5	63.58	-8.76	54.82	74	19.18	Н	PK	
2483.5	56.93	-8.76	48.17	54	5.83	Н	AV/5	j
2483.5	59.96	-8.73	51.23	74	22.77	V	PK	
2483.5	55.57	-8.73	46.84	54	7.16	V	AV	
	(MHz)  2390 2390 2390 2390 2390 2483.5 2483.5 2483.5	(MHz) (dBuV/m)  2390 64.12 2390 53.82 2390 62.74 2390 54.53  2483.5 63.58 2483.5 56.93 2483.5 59.96	(MHz)         (dBuV/m)         dB/m           2390         64.12         -8.76           2390         53.82         -8.76           2390         62.74         -8.73           2390         54.53         -8.73           2483.5         63.58         -8.76           2483.5         56.93         -8.76           2483.5         59.96         -8.73	(MHz)         (dBuV/m)         dB/m         (dBuV/m)           Low Cha           2390         64.12         -8.76         55.36           2390         53.82         -8.76         45.06           2390         62.74         -8.73         54.01           2390         54.53         -8.73         45.80           High Cha           2483.5         63.58         -8.76         54.82           2483.5         56.93         -8.76         48.17           2483.5         59.96         -8.73         51.23	(MHz)         (dBuV/m)         dB/m         (dBuV/m)         (dBuV/m)         (dBuV/m)           2390         64.12         -8.76         55.36         74           2390         53.82         -8.76         45.06         54           2390         62.74         -8.73         54.01         74           2390         54.53         -8.73         45.80         54           High Channel           2483.5         63.58         -8.76         54.82         74           2483.5         56.93         -8.76         48.17         54           2483.5         59.96         -8.73         51.23         74	(MHz)         (dBuV/m)         dB/m         (dBuV/m)         (dBuV/m)         (dBuV/m)         (dB)           Low Channel           2390         64.12         -8.76         55.36         74         18.64           2390         53.82         -8.76         45.06         54         8.94           2390         62.74         -8.73         54.01         74         19.99           2390         54.53         -8.73         45.80         54         8.20           High Channel           2483.5         63.58         -8.76         54.82         74         19.18           2483.5         56.93         -8.76         48.17         54         5.83           2483.5         59.96         -8.73         51.23         74         22.77	(MHz)         (dBuV/m)         dB/m         (dBuV/m)         (dBuV/m)         (dB)         H/V           Low Channel           2390         64.12         -8.76         55.36         74         18.64         H           2390         53.82         -8.76         45.06         54         8.94         H           2390         62.74         -8.73         54.01         74         19.99         V           2390         54.53         -8.73         45.80         54         8.20         V           High Channel           2483.5         63.58         -8.76         54.82         74         19.18         H           2483.5         56.93         -8.76         48.17         54         5.83         H           2483.5         59.96         -8.73         51.23         74         22.77         V	(MHz)         (dBuV/m)         dB/m         (dBuV/m)         (dBuV/m)         (dB)         H/V           Low Channel           2390         64.12         -8.76         55.36         74         18.64         H         PK           2390         53.82         -8.76         45.06         54         8.94         H         AV           2390         62.74         -8.73         54.01         74         19.99         V         PK           2390         54.53         -8.73         45.80         54         8.20         V         AV           High Channel           2483.5         63.58         -8.76         54.82         74         19.18         H         PK           2483.5         56.93         -8.76         48.17         54         5.83         H         AV           2483.5         59.96         -8.73         51.23         74         22.77         V         PK

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

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