

# **CTC** Laboratories, Inc.

1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China Tel: +86-755- 27521059 Fax: +86-755- 27521011 Http://www.sz-ctc.org.cn

TEST REPORT					
Report No:	CTC20220664E09				
FCC ID					
	PADWF146				
Applicant:	Wahoo Fitness L.L.C.				
Address·····:	90 W. Wieuca Road #110, Atlanta, GA	A 30342, United States			
Manufacturer	Wahoo Fitness L.L.C.				
Address:	90 W. Wieuca Road #110, Atlanta, GA	A 30342, United States			
Product Name······:	KICKR BIKE V2				
Trade Mark······	WAHOO FITNESS				
Model/Type reference······:	WF146				
Listed Model(s) ······	: /				
Standard:	FCC CFR Title 47 Part 15 Subpart C	Section 15.249			
Date of receipt of test sample:	May. 15, 2022				
Date of testing	May. 16, 2022 ~ Jun. 08, 2022				
Date of issue	Jun. 09, 2022				
Result:	PASS				
Compiled by:		Tana Cu			
(Printed name+signature)	Terry Su	Jerry Ju			
Supervised by:		Tric shang			
(Printed name+signature)	Eric Zhang	Tenny Su Zic zhang Jennas			
Approved by:		1 mas			
(Printed name+signature)	Totti Zhao	10000			
Testing Laboratory Name:	CTC Laboratories, Inc.				
Address	: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China				
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# 1. TEST SUMMARY

## 1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.249: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz.

RSS-210: Licence-Exempt Radio Apparatus: Category I Equipment

ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.

## 1.2. Report version

Revised No.	Date of issue	Description
01	Jun. 09, 2022	Original



# **1.3. Test Description**

Test Item	Section in CFR 47	RSS-210	Result	Test Engineer
AC Power Line Conducted Emissions	15.207	RSS-Gen 8.8	PASS	Ice Lu
20dB Occupied Bandwidth	15.215/15.249	/	PASS	Alicia Liu
Field strength of the Fundamental signal	15.249(a)	RSS-210 F.1.a	PASS	Alicia Liu
Spurious Emissions	15.209/15.249(a)	RSS-210 F.1.e	PASS	Alicia Liu
Band edge Emissions	15.205/15.249(d)	/	PASS	Alicia Liu
Antenna requirement	15.203	1	PASS	Alicia Liu

Note: The measurement uncertainty is not included in the test result.

"N/A" This device is only powered battery, no need for part 15.207.



## 1.4. Test Facility

### Address of the report laboratory

### CTC Laboratories, Inc.

Add: 1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

### Laboratory accreditation

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

### CNAS-Lab Code: L5365

CTC Laboratories, Inc. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation. Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025:2017 General Requirements) for the Competence of Testing and Calibration Laboratories.

### A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in th e identified field of testing.

### Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Indus try Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

### FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (F CC) Federal Communications Commission. The acceptance letter from the FCC is maintained inour files. Registration 951311, Aug 26, 2017.

### **1.5.** Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement characteristics; Part 2" and is documented in the CTC Laboratories, Inc.quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for CTC Laboratories, Inc.

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Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.42 dB	(1)
Transmitter power Radiated	2.14 dB	(1)
Conducted spurious emissions 9kHz~40GHz	1.60 dB	(1)
Radiated spurious emissions 9kHz~40GHz	2.20 dB	(1)
Conducted Emissions 9kHz~30MHz	3.20 dB	(1)
Radiated Emissions 30~1000MHz	4.70 dB	(1)
Radiated Emissions 1~18GHz	5.00 dB	(1)
Radiated Emissions 18~40GHz	5.54 dB	(1)
Occupied Bandwidth		(1)

**Note (1):** This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

# **1.6. Environmental conditions**

During the measurement the environmental conditions were within the listed ranges:

Temperature:	21°C ~ 27°C
Relative Humidity:	40% ~ 60%
Air Pressure:	101kPa



# 2. GENERAL INFORMATION

## 2.1. Client Information

Applicant:	Wahoo Fitness L.L.C.
Address:	90 W. Wieuca Road #110, Atlanta, GA 30342, United States
Manufacturer:	Wahoo Fitness L.L.C.
Address:	90 W. Wieuca Road #110, Atlanta, GA 30342, United States
Factory	East West Industries Vietnam LLC
Address:	NO.27, Street No.2, VSIP 2, Hoa Phu Ward, Thu Dau Mot City, Binh Duong Province, Vietnam 84, Viet Nam

# 2.2. General Description of EUT

Product Name:	KICKR BIKE V2
Trade Mark:	WAHOO FITNESS
Model/Type reference:	WF146
Listed Model(s):	1
Power supply:	48Vdc/3A from AC/DC Adapter
Adapter mode:	SOY-4800300-094-I Input: 100-240V~ 50/60Hz Max 2.5A Output: 48Vdc/3A 144W
Hardware version:	1
Software version:	1
ANT+ Specification	
Modulation:	GFSK
Bit Rate of Transmitter:	1Mbps
Operation frequency:	2457MHz
Antenna type:	Ceramic Antenna
Antenna gain:	5.46dBi

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### 2.3. Description of Test Modes

The EUT has been tested under test mode condition. The Applicant provides software to control the EUT for staying in continuous transmitting and receiving mode for testing.

#### **Operation Frequency List:**

Channel	Frequency (MHz)	
01	2457	

#### **Test Mode:**

cycle>98%).

For RF test items The engineering test program was provided and enabled to make EUT continuous transmit. (duty

For AC power line conducted emissions:

The EUT was set to connect with large package sizes transmission.

For Radiated spurious emissions test item:

The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

## 2.4. Accessory Equipment Information

Equipment Information				
Name Model S/N Manufact			Manufacturer	
1	1	1	1	
1	1	1	1	
Cable Information				
Name	Shielded Type	Ferrite Core	Length	
1	1	1	1	
1	1	1	1	
Test Software Information				
Name	Software version	1	1	
Engineering mode	1	1	1	

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### 2.5. Measurement Instruments List

Tonsce	Tonscend JS0806-2 Test system					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	Rohde & Schwarz	FSU26	100105	Dec. 23, 2022	
2	Spectrum Analyzer	Rohde & Schwarz	FUV40-N	101331	Mar. 15, 2023	
3	MXG Vector Signal Generator	Agilent	N5182A	MY47420864	Dec. 23, 2022	
4	Signal Generator	Agilent	E8257D	MY46521908	Dec. 23, 2022	
5	Power Sensor	Agilent	U2021XA	MY5365004	Mar. 15, 2023	
6	Power Sensor	Agilent	U2021XA	MY5365006	Mar. 15, 2023	
7	High and low temperature box	ESPEC	MT3035	N/A	Dec. 23, 2022	
8	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	102414	Dec. 23, 2022	
9	300328 v2.2.2 test system	TONSCEND	v2.6	/	1	

Radiat	Radiated emission(3m chamber 2)					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until	
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-1013	Jan. 12, 2023	
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Dec. 23, 2022	
3	Spectrum Analyzer	R&S	FSU26	100105	Dec. 23, 2022	
4	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 15, 2023	
5	Pre-Amplifier	SONOMA	310	186194	Dec. 23, 2022	
6	Low Noise Pre-Amplifier	EMCI	EMC051835	980075	Dec. 23, 2022	
7	Loop Antenna	ETS	6507	1446	Dec. 23, 2022	
8	Test Receiver	R&S	ESCI7	100967	Dec. 23, 2022	

Radiate	d emission(3m chamber 3)	)			
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-759	Nov. 09, 2022
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Dec. 23, 2022
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 23, 2022
4	Broadband Premplifier	SCHWARZBECK	BBV9743B	259	Dec. 23, 2022
5	Mirowave Broadband Amplifier	SCHWARZBECK	BBV9718C	111	Dec. 23, 2022
6	Pre-Amplifier	R&S	SCU-26	10033	Dec. 23, 2022
7	Pre-Amplifier	R&S	SCU-40	10030	Dec. 23, 2022
8	Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	Dec. 23, 2022

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Condu	cted Emission				
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	LISN	R&S	ENV216	101112	Dec. 23, 2022
2	LISN	R&S	ENV216	101113	Dec. 23, 2022
3	EMI Test Receiver	R&S	ESCS30	100353	Dec. 23, 2022

Note: 1. The Cal. Interval was one year.

2. The Cal. Interval was three year of the chamber

3. The cable loss has calculated in test result which connection between each test instruments.

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# 3. TEST ITEM AND RESULTS

# 3.1. AC Power Line Conducted Emissions

### <u>Limit</u>

Fraguanay	Maximum RF Lir	ne Voltage (dBμV)
Frequency	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

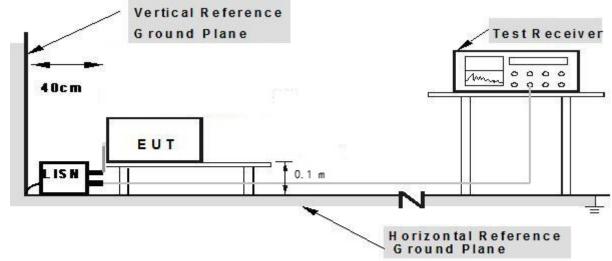
Notes:

(1) \*Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequencies.

(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### **Test Configuration**



### Note: 1.Support units were connected to second LISN. 2.Both of LISNs (ANN) are 80 cm from EUT and at least 80 from other units and other metal planes

### Test Procedure

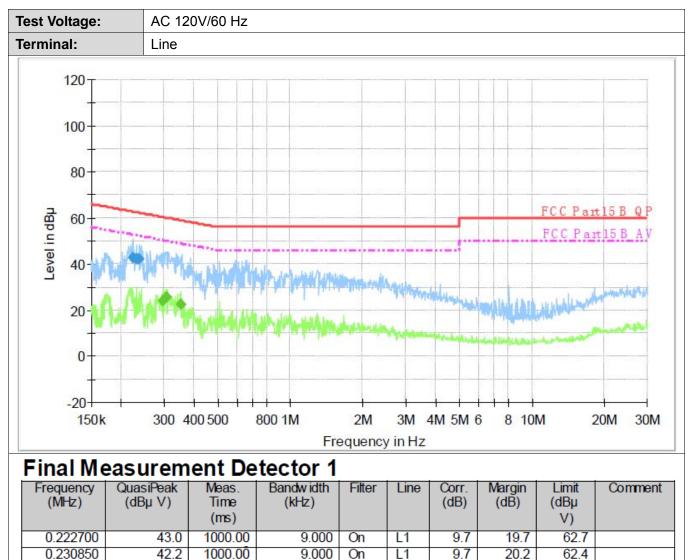
- 1. The EUT was setup according to ANSI C63.10:2013 requirements.
- 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 10 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 10 cm from any other grounded conducting surface.
- The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
- 4. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
- 5. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- 6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 7. During the above scans, the emissions were maximized by cable manipulation.

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Please refer to the clause 2.3

### **Test Results**



# Final Measurement Detector 2

42.2

1000.00

0.237390

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.296860	24.1	1000.00	9.000	On	L1	9.7	26.2	50.3	
0.306500	25.7	1000.00	9.000	On	L1	9.7	24.4	50.1	
0.352460	22.6	1000.00	9.000	On	L1	9.7	26.3	48.9	

On

L1

9.000

Emission Level= Read Level+ Correct Factor

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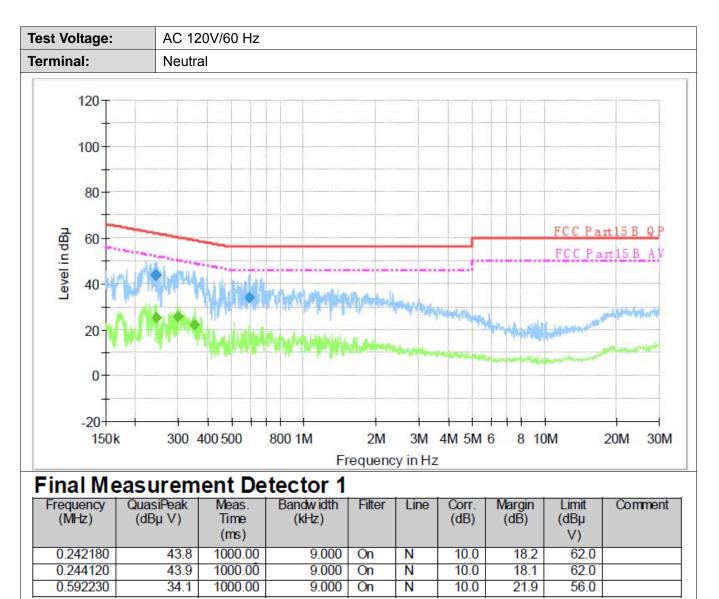
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20.0

9.7

62.2





# Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.244120	25.3	1000.00	9.000	On	Ν	10.0	26.7	52.0	
0.301640	25.6	1000.00	9.000	On	Ν	10.0	24.6	50.2	
0.353870	22.2	1000.00	9.000	On	Ν	10.0	26.7	48.9	
•									· · · ·

Emission Level= Read Level+ Correct Factor

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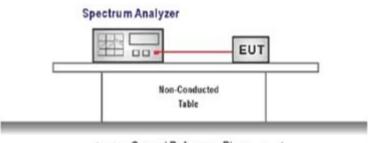


## 3.2. 20 dB Occupied Bandwidth

### <u>Limit</u>

Operation frequency range 2400MHz~2483.5MHz.

### **Test Configuration**



Ground Reference Plane +

### Test Procedure

- 1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
- 2. Set to the maximum power setting and enable the EUT transmit continuously
- Use the following spectrum analyzer settings: Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a test channel RBW ≥ 1% of the 20 dB bandwidth, VBW ≥ RBW Sweep = auto, Detector function = peak, Trace = max hold
- 4. Measure and record the results in the test report.

### Test Mode:

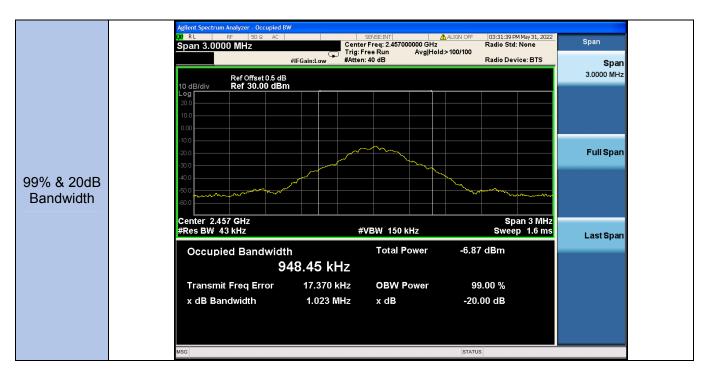
Please refer to the clause 2.3

### **Test Results**

Channel	20dB Bandwidth (KHz)	99% Bandwidth (KHz)	Result
01	1023	948.45	Pass

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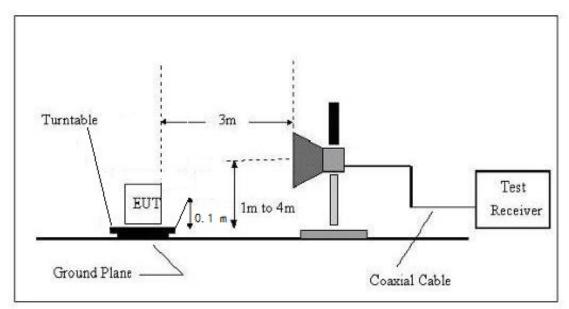
# 3.3. Radiated field strength of the fundamental signal

Limit

Fundamental frequency	Field strength of fundamental (millivolts/meter/ AVG)	Field strength of harmonics (microvolts/meter/ AVG)
902-928 MHz	50 (94dBuV/m @3m)	500 (54dBuV/m @3m)
2400-2483.5 MHz	50 (94dBuV/m @3m)	500 (54dBuV/m @3m)
5725-5875 MHz	50 (94dBuV/m @3m)	500 (54dBuV/m @3m)
24.0-24.25 GHz	250 (108dBuV/m @3m)	2500 (68dBuV/m @3m)

Frequencies above 1000 MHz, the field strength limits are based on average limits

### **Test Configuration**



### **Test Procedure**

- 1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
- 2. The EUT is placed on a turn table which is 0.1 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
- 4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
- 5. The receiver set as follow: RBW=1MHz, VBW=3MHz Peak detector for Peak value.

### **Test Mode**

Please refer to the clause 2.3

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### Test Results

Test Mo 130.0 dBu	de:								
130.0 dBu			NT+ Mode	e 2457MH	Z				
	V/m								
								11	4dBuV/m
								Margin	-6 dB
					1				
80									
Manual BA	u. Markan Markan	Mandred	whan when	~		berg week wards	warmon man man man	Nourthand	mantheast
							and the property of the second		and the second
30.0									
2452.000	2453.00 2	454.00	2455.00 2	456.00 245	7.00 245	8.00	2459.00 2460.	.00	2462.00 MH
			Feet					In a set	
No.	Freque (MHz		Factor (dB/m)	Readin (dBuV		vel iV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2457.1	197	31.12	58.56	89	.68	114.00	-24.32	peak
Remarks		A							
			na Factor Limit value		ble Fac	tor (dE	3)-Pre-ampl	itier Fact	or

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Ant. Po	Ι.	Vert	ical									
Test Mo	de:	TXA	ANT+ I	Mode	2457	MHz						
30.0 dBu	√/m											
											1	14dBuV/m
											Margi	n-6dB
						1						
80					1							
www.anghapter	hopping	retringered	shi haran yangan	franske frans	N			Margar Carolo	woodnantsh	physer within	WWW.com.duMhava	uniond while
0.0												
2452.000	2453.00	2454.00	2455.0	0 24	56.00	2457.0	0 245	8.00	2459.00	2460.0	D <b>O</b>	2462.00 MI
No.	Freque (MH			ctor /m)		ading BuV)		evel JV/m)		nit V/m)	Margir (dB)	n Detector
1	2456.	827	31	.12	51	.75	82	2.87	114	1.00	-31.1	3 peak
Remark	s: · (dB/m) =	: Anten	ina Fa	ctor (	dB/m)	+Cab	le Fac	tor (dF	3)-Pro-	ampli	fier Fac	tor



## 3.4. Radiated Spurious Emissions and Bandedge Emission

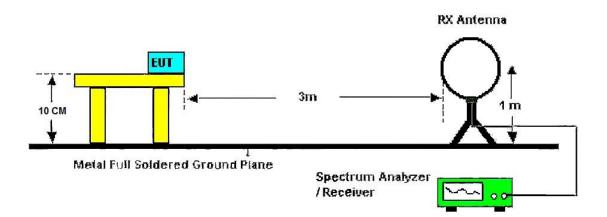
Limit

### FCC CFR Title 47 Part 15 Subpart C Section 15.209

Frequency	Limit (dBuV/m @3m)	Value
30MHz~88MHz	40.00	Quasi-peak
88MHz~216MHz	43.50	Quasi-peak
216MHz~960MHz	46.00	Quasi-peak
960MHz~1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
	74.00	Peak

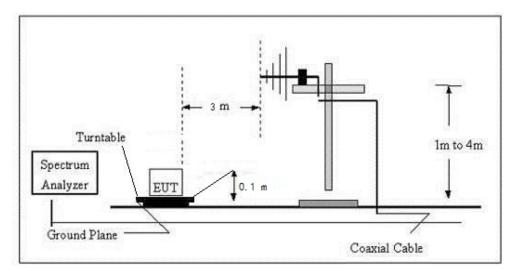
### **Test Configuration**

9 kHz ~ 30 MHz



30 MHz ~ 1 GHz

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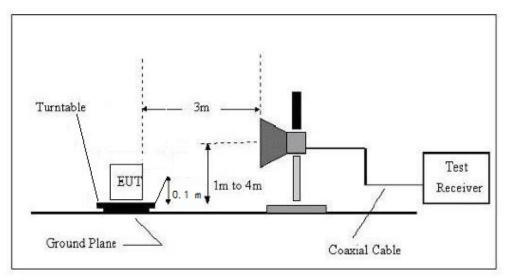
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### **Test Procedure**

- 1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
- 2. The EUT is placed on a turn table which is 0.1 meter above ground for below 1 GHz, and 0.1 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower. For each suspected emission, 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 to comply with the guidelines.
- 4. Set to the maximum power setting and enable the EUT transmit continuously.
- 5. Use the following spectrum analyzer settings

Span shall wide enough to fully capture the emission being measured;

#### (1)Below 1 GHz:

RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;

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 guasi-peak detector and reported.

(2)From 1 GHz to 10th harmonic:

RBW=1MHz, VBW=3MHz Peak detector for Peak value.

RBW=1MHz, VBW=3MHz RMS detector for Average value.

### Test Mode:

Please refer to the clause 2.3

### Test Results

### Radiated Spurious Emissions

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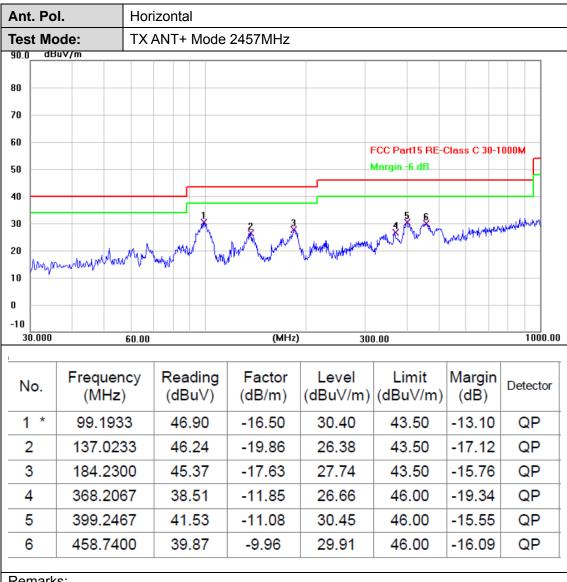
### 9 kHz ~ 30 MHz

The EUT was pre-scanned the frequency band (9 kHz ~ 30 MHz), found the radiated level lower than the limit, so don't show on the report.

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#### 30 MHz ~ 1 GHz



Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value

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Ant. Pol	•	Vert	ical						
est Mo		TXA	۹NT+	Мос	le 2457MHz				
IO.O dBu	V/m								
0									
0									
io							FCC Part15 RE-	Class C 30-	1000M
io							Margin -6 dB		
10				4					
0	1	8	- 3	Å	5 6				. address to
	www	on half	W	"   1	when pro	Month in the	Unit Marian	New Manual Ma	Mill along a contra
U LANG	V 91 · · ·					The second se			
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0					Ŵ	144			
					Ŵ				
0		60.00			(MHz)	30	10.00		1000.
0		60.00			(MHz)		10.00		1000.
0	Freque	ncy		ading	g Factor	Level	Limit	Margin	
0		ncy		adin <u>(</u> BuV)	g Factor	Level			
0	Freque	ncy z)	(dE		g Factor	Level	Limit		
0 10 30.000	Freque (MH:	ncy z) 00	(dE 47	BuV)	g Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	(dB)	Detector
0 10 30.000 No.	Freque (MH: 51.34	ncy z) 00 67	(dE 47 47	BuV) 7.73	g Factor (dB/m) -14.51	Level (dBuV/m) 33.22	Limit (dBuV/m) 40.00	(dB) -6.78	Detector QP
0 10 30.000 No. 1 * 2	Freque (MH: 51.34 60.71	ncy z) 00 67 33	(dE 47 47 50	BuV) 7.73 7.80	g Factor (dB/m) -14.51 -16.09	Level (dBuV/m) 33.22 31.71	Limit (dBuV/m) 40.00 40.00	(dB) -6.78 -8.29	Detector QP QP
0 10 30.000 No. 1 * 2 3	Freque (MH: 51.34 60.71 83.67	ncy z) 00 67 33 00	(dE 47 47 50 52	3uV) 7.73 7.80 0.41	g Factor (dB/m) -14.51 -16.09 -19.51	Level (dBuV/m) 33.22 31.71 30.90	Limit (dBuV/m) 40.00 40.00 40.00	(dB) -6.78 -8.29 -9.10	Detector QP QP QP

Remarks:

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1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value

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### Above 1 GHz

Ant	Ant. Pol.		Horizontal											
Tes	t Mo	de:	TX ANT+ Mode 2457MHz											
Rer	nark	:		No report for the emission which more than 10 dB below the prescribed limit.										
120.0	) dBu	V/m												-
										FCC F	Part15 C	- Above 1G	PK	
60										FCC F	Part15 C	- Above 1G	AV	
		1 2 2												_
0.0 10	00.000	3500.00 6	00.00	8500	.00 11	000.00	13500.00	) 1600	)0.00 1	8500.00	21000	.00	26000.0	0 MHz
N	lo.	Freque (MHz			actor B/m)	Rea (dB	-		vel V/m)	Lin (dBu <sup>\</sup>		Margir (dB)	Dete	ctor
	1	4913.9	65	2	2.38	38.	88	41	.26	74.	00	-32.74	l pea	ak
	2	4914.1	59	2	2.38	28.	19	30.57		54.00		-23.43	B AV	G
Dor	nark	<u></u>												
1.Fa	actor	s. · (dB/m) = • value = L				dB/m)+	+Cable	e Fac	tor (dE	8)-Pre-	ampli	fier Fac	tor	

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Ant. Pol.		Vertical								
de:	ТΧ	TX ANT+ Mode 2457MHz No report for the emission which more than 10 dB below the prescribed limit.								
:										
V/m										
							26000.00 MH			
	-	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector			
4913.8	84	2.38	39.24	41.62	74.00	-32.38	peak			
4914.1	22	2.38	29.31	31.69	54.00	-22.31	AVG			
	V/m V/m 1 3500.00 6 Frequer (MHz 4913.8	No i pres	No report for th prescribed limit	No report for the emission version of prescribed limit.	No report for the emission which more to prescribed limit.   //m   //m	No report for the emission which more than 10 dB b   V/m   FCC Partis C   FCC Partis C   FCC Partis C   FCC Partis C   1 FCC Partis C   2 FCC Partis C   2 FCC Partis C   1 FCC Partis C   2 FCC Partis C   2 FCC Partis C   3500.00 FCC Partis C   2 FCC Partis C   2 <th col<="" td=""><td>No report for the emission which more than 10 dB below the prescribed limit.   V/m FEC Part15 C - Above 16 Pl   Image: State of the state of the</td></th>	<td>No report for the emission which more than 10 dB below the prescribed limit.   V/m FEC Part15 C - Above 16 Pl   Image: State of the state of the</td>	No report for the emission which more than 10 dB below the prescribed limit.   V/m FEC Part15 C - Above 16 Pl   Image: State of the		

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value

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#### **Bandedge Emission**

Ant. Pol.	Horiz	ontal					
Test Mode:	TX A	NT+ Mode	2457MHz				
120.0 dBu∀/m							
					FCC Part15 C -	Above 1G PK	
60		3			FC5 Part157C -	Above 1G AV	
0.0							
No. Freque (MHz	•	2375.00 240 Factor (dB/m)	0.00 2425.00 Reading (dBuV)	2450.00 24 Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 2310.0	000	30.49	22.77	53.26	74.00	-20.74	peak
2 2310.0	000	30.49	6.20	36.69	54.00	-17.31	AVG
3 2390.0	000	30.84	22.30	53.14	74.00	-20.86	peak
4 2390.0	000	30.84	6.94	37.78	54.00	-16.22	AVG
5 2483.	500	31.24	21.79	53.03	74.00	-20.97	peak
6 2483.	500	31.24	8.23	39.47	54.00	-14.53	AVG
7 2500.0	000	31.31	23.35	54.66	74.00	-19.34	peak

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value

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ht.	Pol	-	Verti	cal								
est	Мо	de:	TX A	NT+ Mo	bde	2457MHz						
120.0	dBu	W/m										
60	1	une ne weither			3		determent	A	FC	Part15-C	- Above 16 P - Above 16 A	v
0.0	0.000	2325.00	2350.00	2375.00	24	00.00 2425.0	0 2450.	00	2475.00	2500.	00	2550.00 M
No	0.	Freque (MH	-	Facto		Reading		ما	Li	mit	Margin	
1	•		Z)	(dB/m	1)	(dBuV)	Lev (dBu∖			ıV/m)	(dB)	Detector
	1	2310.	,	(dB/m 30.4	'	-		//m)	(dBu	ıV/m) 1.00		
	1 2	2310. 2310.	000	N	9	(dBuV)	(dBu∖	//m) 74	(dBu 74		(dB)	Detector peak AVG
2	-		000	30.4	9 9 9	(dBuV) 23.25	(dBu\ 53.7	//m) 74 06	(dBu 74 54	1.00	(dB) -20.26	peak AVG
2	2	2310.	000 000 000	30.4 30.4	9 9 9 4	(dBuV) 23.25 6.57	(dBu\ 53.7 37.0	//m) 74 06 52	(dBu 74 54 74	1.00 1.00	(dB) -20.26 -16.94	peak AVG peak
2	2 3	2310. 2390.	000 000 000 000	30.4 30.4 30.8	9 9 4 4	(dBuV) 23.25 6.57 22.68	(dBu\ 53.7 37.0 53.8	//m) 74 06 52 31	(dBu 74 54 74 54	4.00 4.00 4.00	(dB) -20.26 -16.94 -20.48	peak AVG peak AVG
23	2 3 4	2310. 2390. 2390.	000 000 000 000 500	30.4 30.4 30.8 30.8	9 9 4 4 4	(dBuV) 23.25 6.57 22.68 7.47	(dBu\) 53.7 37.0 53.8 38.3	//m) 74 06 52 31 14	(dBu 74 54 74 54 74	1.00 1.00 1.00 1.00	(dB) -20.26 -16.94 -20.48 -15.69	peak AVG peak AVG
2	2 3 4 5	2310. 2390. 2390. 2483.	000 000 000 000 500 500	30.4 30.4 30.8 30.8 30.8 31.2	9 9 4 4 4 4	(dBuV) 23.25 6.57 22.68 7.47 22.20	(dBu\) 53.7 37.0 53.8 38.3 53.4	//m) 74 06 52 31 14 90	(dBu 74 54 74 54 74 54	4.00 4.00 4.00 4.00 4.00	(dB) -20.26 -16.94 -20.48 -15.69 -20.56	peak AVG peak AVG peak AVG

Remark:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value

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### 3.5. Antenna requirement

### **Requirement**

### FCC CFR Title 47 Part 15 Subpart C Section 15.203:

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 anantenna 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.

(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.

### Test Result

The directional gain of the antenna less than 6dBi, please refer to the EUT internal photographs antenna photo.