

Global United Technology Services Co., Ltd.

Report No.: GTSE13120198902

TEST REPORT

Bushnell Performance Optics Applicant:

9200 Cody, Overland Park, KS 66214, United States Address of Applicant:

Equipment Under Test (EUT)

Product Name: Dogg Catcher

Model No.: 3759

FCC ID: 2ABQG3759R

Applicable standards: FCC CFR Title 47 Part 15 Subpart B:2012

December 19, 2013 Date of sample receipt:

December 19, 2013-January 07, 2014 **Date of Test:**

January 07, 2014 Date of report issue:

Test Result: PASS *

Authorized Signature:

Robinson Lo **Laboratory Manager**

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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^{*} In the configuration tested, the EUT complied with the standards specified above.



2 Version

Version No.	Date	Description
00	January 07, 2014	Original

Prepared By:	hank. yan	Date:	January 07, 2014
	Project Engineer		
Check By:	Hams. Hu	Date:	January 07, 2014
	Reviewer		



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4 Test Summary

Test Item	Section in CFR 47	Result	
Conducted Emission	Part15.107	N/A	
Radiated Emissions	Part15.109	PASS	

PASS: The EUT complies with the essential requirements in the standard.

N/A: not applicable.



5 General Information

5.1 Client Information

Applicant:	Bushnell Performance Optics
Address of Applicant:	9200 Cody, Overland Park, KS 66214, United States
Manufacturer:	TAT MAN INVESTEMENT LIMITED
Address of Manufacturer	Room 910, 9/F, Hang Bong Commercial Centre, 28 ShangHai Street, TsimShaTsui, HK
Factory:	YaoBiao Manufactory
Address of Factory:	C Tower, YaoBiao Factory, AoDing Village, GuangDong Community GuanLan Street, BaoAn County, SZ City, GuangDong, China

5.2 General Description of EUT

Product Name:	Dogg Catcher
Model No.:	3759
Operation Frequency:	433.93MHz (Receiver)
Power supply:	DC 6.0V(4*1.5V for "AA" Size Battery)

5.3 Test mode

Receiving mode	Keep the EUT in Receiving mode.		
During the test, the new batter	y was used.		



5.4 Test Facility

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

• CNAS —Registration No.: CNAS L5775

CNAS has accredited Global United Technology Services Co., Ltd. to ISO/IEC 17025 General Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of

testing.

• FCC —Registration No.: 600491

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 600491, June 28, 2013.

• Industry Canada (IC) —Registration No.: 9079A-2

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, June 26, 2013.

5.5 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen,

China

Tel: 0755-27798480 Fax: 0755-27798960

5.6 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC approval
TAT MAN INVESTEMENT LIMITED	Dogg Catcher	3759	N/A	FCC ID: 2ABQG3759T

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.

Global United Technology Services Co., Ltd.

2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District,

Shenzhen, China 518102



6 Test Instruments list

Radi	Radiated Emission:								
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)			
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.0(L)*6.0(W)* 6.0(H)	GTS250	Mar. 29 2013	Mar. 28 2014			
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A			
3	ESU EMI Test Receiver	SU EMI Test Receiver R&S		GTS203	Jun. 29 2013	Jun. 29 2014			
4	BiConiLog Antenna	BiConiLog Antenna SCHWARZBECK		GTS214	Jun. 29 2013	Jun. 29 2014			
5	Double -ridged waveguide SCHWARZBECK		9120D	GTS208	Jun. 29 2013	Jun. 29 2014			
6	RF Amplifier	HP	8347A	GTS204	Jun. 29 2013	Jun. 29 2014			
7	7 Preamplifier HP		8349B	GTS206	Jun. 29 2013	Jun. 29 2014			
8	EMI Test Software	AUDIX	E3	N/A	N/A	N/A			
9	Coaxial cable GTS		N/A	GTS210	Jul. 07 2013	Jul. 06 2014			
10	Coaxial Cable	GTS	N/A	GTS211	Jul. 07 2013	Jul. 06 2014			
11	Thermo meter	N/A	N/A	GTS256	Jul. 01 2013	Jul. 01 2014			

Gene	General used equipment:									
Item	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)								
1	Barometer	ChangChun	DYM3	GTS257	July 09 2013	July 08 2014				

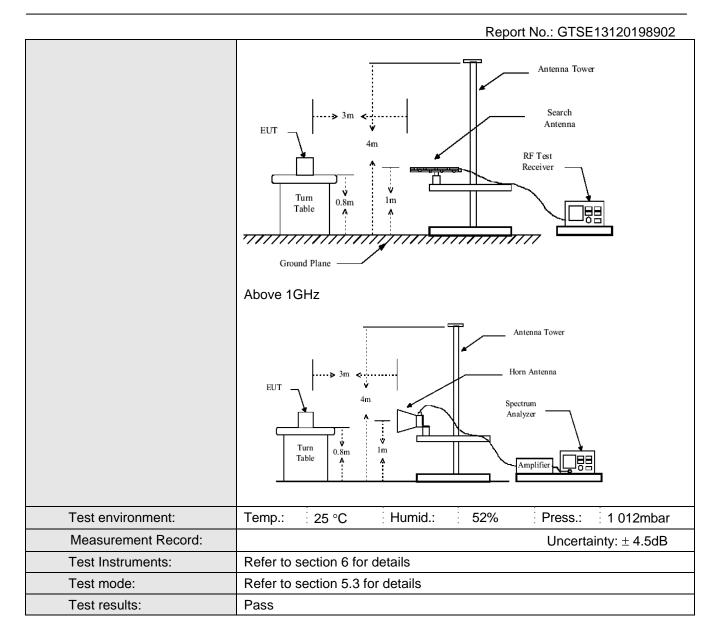


7 Test Results and Measurement Data

7.1 Radiated Emission

7.1	Radiated Ellission						
	Test Requirement:	FCC Part15 B Section 15.109					
	Test Method:	ANSI C63.4:2003					
	Test Frequency Range:	30MHz to 2GHz					
	Test site:	Measurement Dis	stance: 3m (Semi-Anecho	ic Chambe	r)	
	Receiver setup:	Fraguescy Detector DRW VDW Demork					
		Frequency	Detector	RBW	VBW	Remark	
		30MHz-1GHz	Quasi-pea	k 120kHz 1MHz	300kHz	Quasi-peak Value Peak Value	
		Above 1GHz	Peak AV	1MHz	3MHz 3MHz	Average Value	
			7.0	1111112	0111112	7 Wordgo Valuo	
	Limit:						
		Frequency Limit (dBuV/m @3m) Remark				Remark	
		30MHz-88	MHz	40.0	0	Quasi-peak Value	
		88MHz-216	6MHz	43.5	0	Quasi-peak Value	
		216MHz-96	0MHz	46.0	0	Quasi-peak Value	
		960MHz-1GHz 54.00 Quasi-peak Value					
		Above 10	2H ₇	54.0	0	Average Value	
		Above re	Above 1GHz 74.00				
	Test Procedure:	 The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna 					
		ground to dete	ermine the movertical polar	naximum value	e of the field	r meters above the d strength. Both are set to make the	
		4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.					
		5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.					
		6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.					
	Test setup:	Below 1GHz					





Note:

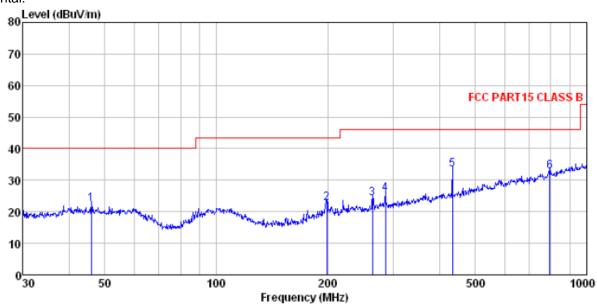
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor



Measurement Data

Below 1GHz Horizontal:



Site

: 3m chamber : FCC PART15 CLASS B 3m VULB9163-2013M HORIZONTAL : 1989RF Condition

Job No.

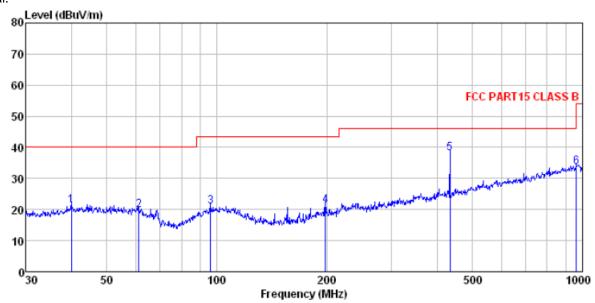
Test Mode : Rece Test Engineer: Yang : Receiving mode

	Read						Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Kemark
MHz	dBu∜	dB/m	₫B	₫B	dBuV/m	dBuV/m	₫B	
46.016	38.22	15.49	0.73	32.00	22.44	40.00	-17.56	QP
198.588	40.42	12.57	1.83	32.14	22.68	43.50	-20.82	QP
263.819	40.15	14.17	2.19	32.17	24.34	46.00	-21.66	QP
285.978	40.78	14.78	2.29	32.18	25.67	46.00	-20.33	QP
434.065	44.59	17.53	3.02	31.77	33.37	46.00	-12.63	QP
793.396	37.66	21.96	4.43	31.31	32.74	46.00	-13.26	QP
	Freq MHz 46.016 198.588 263.819 285.978 434.065	Freq Level MHz dBuV 46.016 38.22 198.588 40.42 263.819 40.15 285.978 40.78 434.065 44.59	ReadAntenna Freq Level Factor MHz dBuV dB/m 46.016 38.22 15.49	ReadAntenna Cable Freq Level Factor Loss MHz dBuV dB/m dB 46.016 38.22 15.49 0.73 198.588 40.42 12.57 1.83 263.819 40.15 14.17 2.19 285.978 40.78 14.78 2.29 434.065 44.59 17.53 3.02	ReadAntenna Cable Preamp Freq Level Factor Loss Factor MHz dBuV dB/m dB dB 46.016 38.22 15.49 0.73 32.00 198.588 40.42 12.57 1.83 32.14 263.819 40.15 14.17 2.19 32.17 285.978 40.78 14.78 2.29 32.18 434.065 44.59 17.53 3.02 31.77	ReadAntenna Cable Preamp Freq Level Factor Loss Factor Level MHz dBuV dB/m dB dB dBuV/m 46.016 38.22 15.49 0.73 32.00 22.44 198.588 40.42 12.57 1.83 32.14 22.68 263.819 40.15 14.17 2.19 32.17 24.34 285.978 40.78 14.78 2.29 32.18 25.67 434.065 44.59 17.53 3.02 31.77 33.37	ReadAntenna Cable Preamp Limit Level Factor Level Line Level	ReadAntenna Cable Preamp Limit Over Level Factor Loss Factor Level Line Limit

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Vertical:



Site

: 3m chamber : FCC PART15 CLASS B 3m VULB9163-2013M VERTICAL : 1989RF Condition

Job No.

: Receiving mode

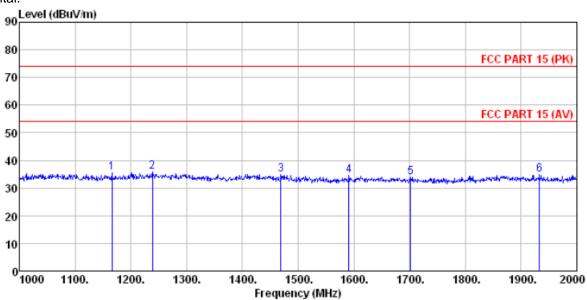
Test Mode Test Engir

est	Engineer:								
		ReadAnt enna		Cable Pr	Preamp		Limit	Over	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBu∜	<u>dB</u> /m	dB	dB	dBuV/m	dBuV/m	<u>d</u> B	
1	39.994	37.15	15.58	0.66	32.06	21.33	40.00	-18.67	QP
2	61.132	36.58	14.29	0.87	31.93	19.81	40.00	-20.19	QP
3	96.099	36.68	14.90	1.16	31.75	20.99	43.50	-22.51	QP
4	197.893	39.04	12.57	1.83	32.13	21.31	43.50	-22.19	QP
5	434.065	49.19	17.53	3.02	31.77	37.97	46.00	-8.03	QP
6	962.162	36.27	23.49	5.09	31.22	33.63	54.00	-20.37	QP

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Above 1GHz Horizontal:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) HORIZONTAL Condition

: 1989RF Job No.

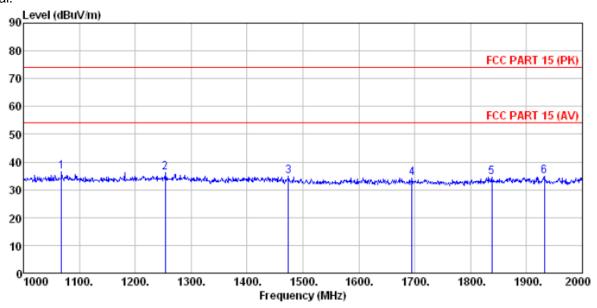
: Receiving mode

Test Mode : Rece: Test Engineer: Yang

	Freq	ReadAntenna Level Factor					Limit Line	Over Limit	Remark
	MHz	dBu∜	<u>dB</u> /m	dB	dB	dBuV/m	dBuV/m	dB	
1	1166.000	39.02	25.15	4.44	33.04	35.57	74.00	-38.43	Peak
2	1239.000	39.16	25.49	4.50	33.16	35.99	74.00	-38.01	Peak
3	1469.000	38.63	25.29	4.66	33.56	35.02	74.00	-38.98	Peak
4	1591.000	38.46	25.00	4.74	33.76	34.44	74.00	-39.56	Peak
5	1702.000	38.19	24.98	4.80	33.94	34.03	74.00	-39.97	Peak
6	1933.000	38.47	25.88	4.93	34.34	34.94	74.00	-39.06	Peak



Vertical:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120D ANT(>1GHZ) VERTICAL Condition

: 1989RF Job No.

Test Mode Test Engir : Receiving mode

est	Engineer:		Ant enna	Cable	Preamp		Limit	Over	
	Freq		Factor						Remark
	MHz	dBu∜	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1 2 3 4 5	1068.000 1254.000 1474.000 1695.000 1838.000 1932.000	40.40 39.30 38.47 38.33 38.43 38.49	24.67 25.54 25.28 24.97 25.48 25.88			36.17 34.85 34.16 34.62	74.00 74.00 74.00 74.00	-39.38	Peak Peak Peak Peak

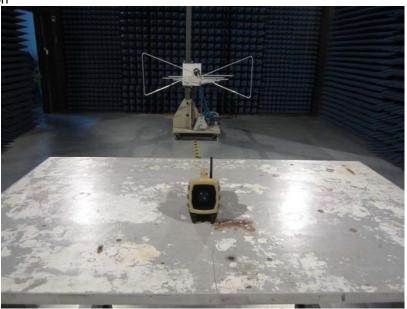
Remark:

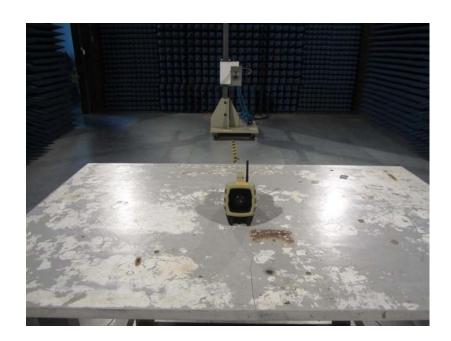
If the average limit is met when using a Peak detector, the EUT shall be deemed to meet both peak and average limits. And measurement with the average detector is unnecessary.



8 Test Setup Photo

Radiated Emission







9 EUT Constructional Details











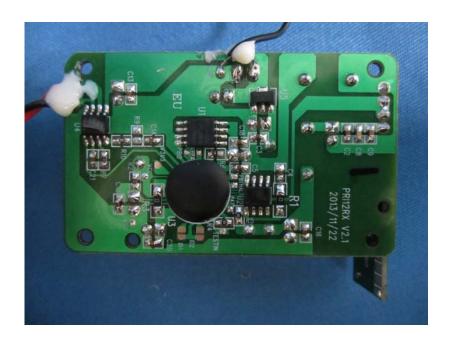




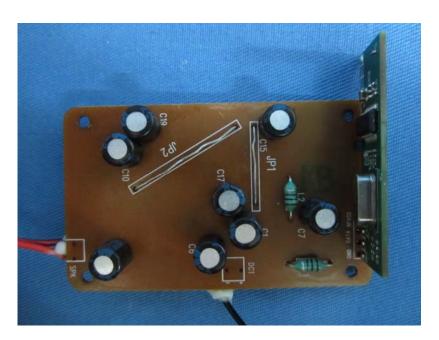








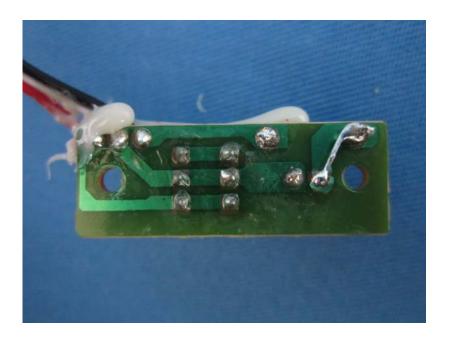




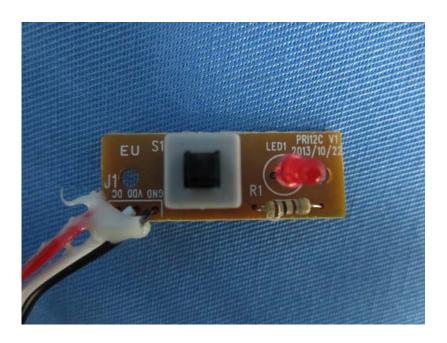












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