# **FCC REPORT**

Applicant: Nexpro International Limitada

Address of Applicant:

Guadalupe, Barrio Tournon, Frente Al Hotel Villas Oficinas Del

Bufete Facio Y Canas,

**Equipment Under Test (EUT)** 

Product Name: T97601T4

Model No.: Bang

FCC ID: ZYPBANG

Applicable standards: FCC CFR Title 47 Part 15 Subpart B

Date of sample receipt: 01 Sep., 2014

**Date of Test:** 01 Sep., to 02 Sep., 2014

Date of report issued: 03 Sep., 2014

Test Result: Pass \*

#### Authorized Signature:



Bruce Zhang 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 CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



#### 2 **Version**

Version No.	Date	Description
00	03 Sep., 2014	Original

\_una Gan Report Clerk Prepared by: Date: 03 Sep., 2014

Reviewed by: 03 Sep., 2014 Date:

**Project Engineer** 



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## 4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part15.107	Pass
Radiated Emission	Part15.109	Pass

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



### 5 General Information

### 5.1 Client Information

Applicant:	Nexpro International Limitada				
Address of Applicant:	Guadalupe, Barrio Tournon, Frente Al Hotel Villas Oficinas Del Bufete Facio Y Canas,				

### 5.2 General Description of E.U.T.

Product Name:	T97601T4		
Model No.:	Bang		
Power supply: Rechargeable Li-ion Battery DC3.7V-2000mAh			
	Model: BANG		
AC adapter :	Input:100-240V AC,50/60Hz 0.2A		
	Output:5.0V DC MAX1000mA		

### 5.3 Test Mode

Operating mode	Detail description
PC mode	Keep the EUT in Downloading mode(Worst case)
Charging+recording mode	Keep the EUT in Charging+recording mode
Charging+Play mode	Keep the EUT in Charging+Play mode
FM mode	Keep the EUT in FM receiver mode

The sample was placed 0.8m 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.



### 5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX745	OPTIPLEX745 N/A	
DELL	. MONITOR E178FPC		N/A	DoC
DELL	DELL KEYBOARD SK-8115		N/A	DoC
DELL	DELL MOUSE MOC5UO		N/A	DoC
HP	HP Printer CB495A		05257893	DoC
MERCURY	MERCURY Wireless router		12922104015	FCC ID

### 5.5 Laboratory Facility

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

#### ● FCC - Registration No.: 817957

Shenzhen Zhongjian Nanfang Testing Co., Ltd. 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 out files. Registration 817957, February 27, 2012.

#### ● IC - Registration No.: 10106A-1

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

#### CNAS - Registration No.: CNAS L6048

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

### 5.6 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Address: No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,

Bao'an District, Shenzhen, Guangdong, China

Tel: 0755-23118282 Fax: 0755-23116366



### 5.7 Test Instruments list

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	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	June 09 2014	June 08 2015	
2	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	May 25 2014	May 24 2015	
3	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 25 2014	May 24 2015	
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A	
5	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2014	Mar. 31 2015	
6	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2014	Mar. 31 2015	
7	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2014	Mar. 31 2015	
8	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2014	Mar. 31 2015	
9	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2014	Mar. 31 2015	
10	Amplifier(10kHz- 1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2014	Mar. 31 2015	
11	Amplifier(1GHz- 18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2014	June 08 2015	
12	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	Apr. 01 2014	Mar. 31 2015	
13	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2014	Mar. 29 2015	
14	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A	
15	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A	
16	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP	CCIS0023	May. 25 2014	May. 24 2015	
17	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	Apr 01 2014	Mar. 31 2015	
18	Loop antenna	Laplace instrument	RF300	EMC0701	Aug. 12 2014	Aug. 11 2015	
19	Universal radio communication tester		CMU200	CCIS0069	May. 25 2014	May. 24 2015	
20	Signal Analyzer	Rohde & Schwarz	FSIQ3	CCIS0088	May. 25 2014	May. 24 2015	

Cond	Conducted Emission:										
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)					
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	June 09 2014	June 08 2015					
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	May 25 2014	May. 24 2015					
3	LISN	CHASE	MN2050D	CCIS0074	Apr. 01 2014	Mar. 31 2015					
4	Coaxial Cable	CCIS	N/A	CCIS0086	Apr. 01 2014	Mar. 31 2015					



### 6 Test results and Measurement Data

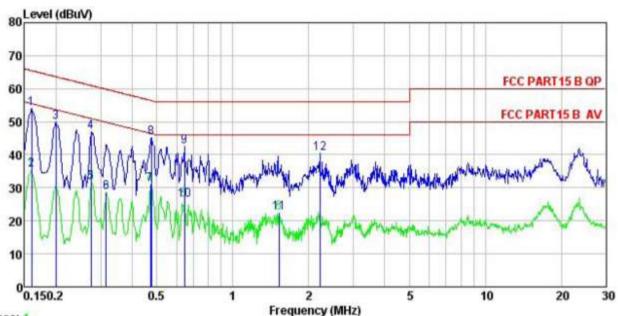
### 6.1 Conducted Emission

Test Dequirement	CCC Port15 B Coction 15 107								
Test Requirement:		FCC Part15 B Section 15.107							
Test Method:	ANSI C63.4:2003								
Test Frequency Range:	150kHz to 30MHz	150kHz to 30MHz							
Class / Severity:	Class B	Class B							
Receiver setup:	RBW=9kHz, VBW=30kHz	RBW=9kHz, VBW=30kHz							
Limit:		Limit (	dBuV)						
	Frequency range (MHz)	Frequency range (MHz)  Quasi-peak  Average							
	0.15-0.5	66 to 56*	56 to 46*						
	0.5-5	56	46						
	0.5-30	60	50						
Test setup:	Reference Plane	e							
Test procedure	Remark E.U.T  Test table/Insulation plane  Remark E.U.T Equipment Under Test LISN Line impedance Stabilization Network Test table height=0 0m  1. The E.U.T and simulators are impedance stabilization network coupling impedance for the m  2. The peripheral devices are also that provides a 50ohm/50uH of (Please refers to the block dia 3. Both sides of A.C. line are chorder to find the maximum emof the interface cables must be conducted measurement.	connected to the main pork(L.I.S.N.). The provide easuring equipment. So connected to the main coupling impedance with gram of the test setup are ecked for maximum concission, the relative positions.	ower through a line a 50ohm/50uH  power through a LISN 50ohm termination. nd photographs). ducted interference. In ons of equipment and all						
Test environment:	Temp.: 23 °C Humi	d.: 56% Pre	ess.: 1 01kPa						
Measurement Record:	-	;;;;;;;;	Uncertainty: 3.28dB						
Test Instruments:	Refer to section 5.7 for details		,						
Test mode:	Refer to section 5.3 for details								
Test results:	Pass								
rost results.	1 433								



#### Measurement data:

Line:



Trace: 1

: CCIS Shielding Room : FCC PART15 B QP LISN LINE Site Condition

: 736RF Job No. EUT : T97601T4 Model : Bang Test Mode : PC mode Power Rating : AC 120V/60Hz Environment : Temp: 23 °C Huni:56% Atmos:101KPa

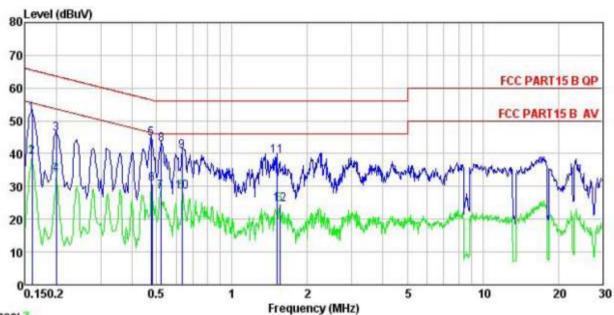
Test Engineer: Wendell

Remark

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
0000	MHz	dBu∜	₫B	₫₿	dBu∀	dBuV	<u>dB</u>	
1	0.160	42.91	0.27	10.78	53.96	65.47	-11.51	QP
2	0.160	24.26	0.27	10.78	35.31	55.47	-20.16	Average
3	0.200	38.82	0.28	10.76	49.86	63.62	-13.76	QP
4	0.274	35.82	0.26	10.74	46.82	60.98	-14.16	QP
5	0.274	20.51	0.26	10.74	31.51	50.98	-19.47	Average
6	0.315	17.76	0.26	10.74	28.76			Average
7	0.471	19.93	0.29	10.75	30.97	46.49	-15.52	Average
8	0.476	34.20	0.29	10.75	45.24	56.41	-11.17	QP
9	0.644	31.49	0.24	10.77	42.50	56.00	-13.50	QP
2 3 4 5 6 7 8 9	0.644	15.23	0.24	10.77	26.24			Average
11	1.527	11.17	0.26	10.93	22.36			Average
12	2.213	29.32	0.26	10.95	40.53		-15.47	



#### Neutral:



Trace: 3

: CCIS Shielding Room : FCC PART15 B QP LISN NEUTRAL Site Condition

Job No. : 736RF : T97601T4 EUT Model : Bang

Test Mode : PC mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 °C Huni:56% Atmos:101KPa
Test Engineer: Wendell
Remark

Remark

Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
MHz	dBu₹	<u>dB</u>	d₿	dBu₹	dBu₹	dB	
0.160	41.34	0.25	10.78	52.37	65.47	-13.10	QP
0.160	28.05	0.25	10.78	39.08	55.47	-16.39	Average
0.200	34.97	0.25	10.76	45.98	63.62	-17.64	QP
0.200	22.63	0.25	10.76	33.64	53.62	-19.98	Average
0.476	33.52	0.28	10.75	44.55	56.41	-11.86	QP
0.481	19.54	0.28	10.75	30.57	46.32	-15.75	Average
0.521	17.24	0.28	10.76	28.28	46.00	-17.72	Average
0.524	31.91	0.27	10.76	42.94	56.00	-13.06	QP
0.634	29.73	0.21	10.77	40.71	56.00	-15.29	QP
0.634	17.50	0.21	10.77	28.48	46.00	-17.52	Average
1.511	27.98	0.26	10.92	39.16	56.00	-16.84	QP
1.552	13.27	0.26	10.93	24.46	46.00	-21.54	Average
	MHz 0. 160 0. 160 0. 200 0. 200 0. 476 0. 481 0. 521 0. 524 0. 634 1. 511	MHz dBuV  0.160 41.34 0.160 28.05 0.200 34.97 0.200 22.63 0.476 33.52 0.481 19.54 0.521 17.24 0.524 31.91 0.634 29.73 0.634 17.50 1.511 27.98	Freq Level Factor  MHz dBuV dB  0.160 41.34 0.25 0.160 28.05 0.25 0.200 34.97 0.25 0.200 22.63 0.25 0.476 33.52 0.28 0.481 19.54 0.28 0.521 17.24 0.28 0.524 31.91 0.27 0.634 29.73 0.21 0.634 17.50 0.21 1.511 27.98 0.26	MHz         dBuV         dB         dB           0.160         41.34         0.25         10.78           0.160         28.05         0.25         10.78           0.200         34.97         0.25         10.76           0.200         22.63         0.25         10.76           0.476         33.52         0.28         10.75           0.481         19.54         0.28         10.75           0.521         17.24         0.28         10.76           0.524         31.91         0.27         10.76           0.634         29.73         0.21         10.77           0.634         17.50         0.21         10.77           1.511         27.98         0.26         10.92	MHz         dBuV         dB         dB         dBuV           0.160         41.34         0.25         10.78         52.37           0.160         28.05         0.25         10.78         39.08           0.200         34.97         0.25         10.76         45.98           0.200         22.63         0.25         10.76         33.64           0.476         33.52         0.28         10.75         44.55           0.481         19.54         0.28         10.75         30.57           0.521         17.24         0.28         10.76         42.94           0.634         29.73         0.21         10.77         40.71           0.634         17.50         0.21         10.77         28.48           1.511         27.98         0.26         10.92         39.16	MHz         dBuV         dB         dB         dBuV         dBuV           0.160         41.34         0.25         10.78         52.37         65.47           0.160         28.05         0.25         10.78         39.08         55.47           0.200         34.97         0.25         10.76         45.98         63.62           0.200         22.63         0.25         10.76         33.64         53.62           0.476         33.52         0.28         10.75         44.55         56.41           0.481         19.54         0.28         10.75         30.57         46.32           0.521         17.24         0.28         10.76         42.94         56.00           0.524         31.91         0.27         10.76         42.94         56.00           0.634         29.73         0.21         10.77         28.48         46.00           1.511         27.98         0.26         10.92         39.16         56.00	MHz         dBuV         dB         dB         dBuV         dBuV         dB           0.160         41.34         0.25         10.78         52.37         65.47         -13.10           0.160         28.05         0.25         10.78         39.08         55.47         -16.39           0.200         34.97         0.25         10.76         45.98         63.62         -17.64           0.200         22.63         0.25         10.76         33.64         53.62         -19.98           0.476         33.52         0.28         10.75         44.55         56.41         -11.86           0.481         19.54         0.28         10.75         30.57         46.32         -15.75           0.521         17.24         0.28         10.76         28.28         46.00         -17.72           0.524         31.91         0.27         10.76         42.94         56.00         -13.06           0.634         29.73         0.21         10.77         40.71         56.00         -15.29           0.634         17.50         0.21         10.77         28.48         46.00         -17.52           1.511         27.98         0.26

### Notes:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT
- 2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

Shenzhen, China 518102

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### 6.2 Radiated Emission

 Nadiated Ellission								
Test Requirement:	FCC Part15 B Section 15.109							
Test Method:	ANSI C63.4:2003							
Test Frequency Range:	30MHz to 6000MHz  Measurement Distance: 3m (Semi-Anechoic Chamber)							
Test site:								
Receiver setup:	Frequency	Remark						
	30MHz-1GHz	Quasi-peak	120 kHz	300KHz	Quasi-peak Value			
	Above 1GHz	Peak	1MHz	3MHz	Peak Value			
	715070 10112	Peak	1MHz 10Hz		Average Value			
Limit:	Freque		Limit (dBuV/		Remark			
	30MHz-8		40.0		Quasi-peak Value			
	88MHz-2		43.5		Quasi-peak Value			
	216MHz-9		46.0		Quasi-peak Value			
	960MHz-	·1GHz	54.0		Quasi-peak Value			
	Above 1	IGHz	54.0		Average Value			
			74.0	)	Peak Value			
Test setup:	Tum Table 0.  Ground Plane -  Above 1GHz	3m		Antenna Tower  Search Antenna  RF Test Receiver  Antenna Tower  Horn Antenna  spectnam unalyzer				



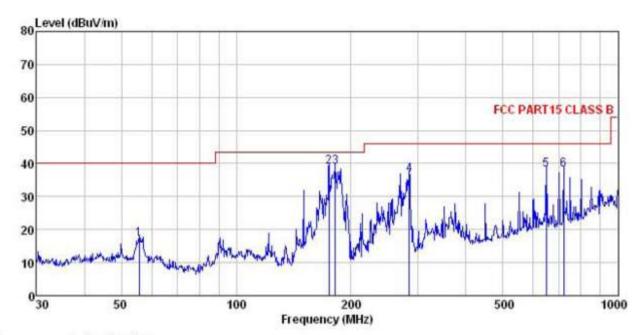
Test Procedure:	The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.							
	2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.							
	3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.							
	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 rotatable 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 environment:	Temp.: 25 °C Humid.: 55% Press.: 1 01kPa							
Measurement Record:	Uncertainty: 4.88dB							
Test Instruments:	Refer to section 5.7 for details							
Test mode:	Refer to section 5.3 for details							
Test results:	Passed							



#### **Measurement Data**

Below 1GHz

Horizontal:



Site 3m chamber

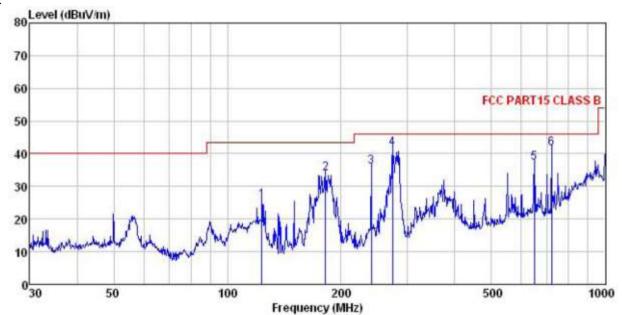
Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) HORIZONTAL

736RF Jobi NO. T97601T4 EUT : Bang Model Test mode : PC mode Power Rating : AC 120V/60Hz Environment : Temp:25.5°C Huni:55%

est	Engineer: Freq	Read	åntenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	
	MHz	dBu₹	dB/m	₫₿	dB	dBuV/m	dBu√/m	dB	
1	55.609	33.34	12.99	0.65	29.80	17.18	40.00	-22.82	QP
2	175.037	57.46	9.29	1.35	29.01	39.09	43.50	-4.41	QP
3	181.920	56.79	9.84	1.36	28.96	39.03	43.50	-4.47	QP
4	283.979	50.70	12.75	1.72	28.48	36.69	46.00	-9.31	QP
5	649.660	45.32	18.64	2.79	28.78	37.97	46.00	-8.03	QP
6	721.726	44.58	19.10	2.97	28.58	38.07	46.00	-7.93	QP



#### Vertical:



Site

: 3m chamber : FCC PART15 CLASS B 3m VULB9163(30M1G) VERTICAL Condition

Jobi NO. : 736RF EUT : T97601T4

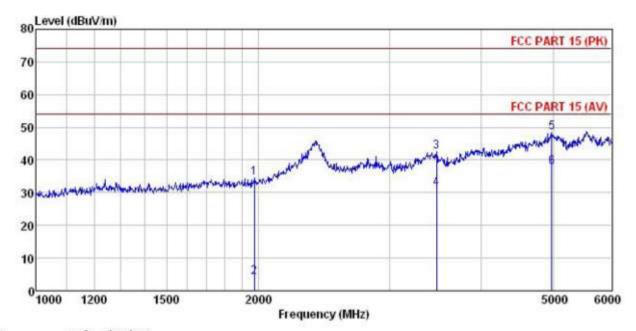
Model : Bang Test mode : PC mode Power Rating : AC 120V/60Hz Environment : Temp:25.5°C Huni:55%

est	Engineer: Freq	Read	Antenna Factor				Limit Line		
	MHz	dBu∜	dB/m	₫B	₫B	dBuV/m	dBuV/m	₫B	
1	123.266	43.83	10.00	1.15	29.37	25.61	43.50	-17.89	QP
2	181.920	51.75	9.84	1.36	28.96	33.99	43.50	-9.51	QP
2 3 4 5	239.987	50.91	12.09	1.58	28.59	35.99	46.00	-10.01	QP
4	273.234	56.09	12.46	1.69	28.50	41.74	46.00	-4.26	QP
5	649.660	44.53	18.64	2.79	28.78	37.18	46.00	-8.82	QP
6	721, 726	48.27	19.10	2,97	28.58	41.76	46.00	-4.24	QP



#### Above 1GHz

#### Horizontal:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18) HORIZONTAL Condition

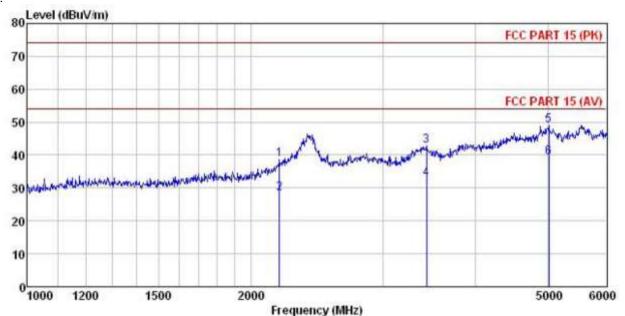
: 736RF Jobi NO. : T97601T4 EUT Model : Bang Test mode : PC mode Power Rating : AC 120V/60Hz

Environment : Temp: 25.5°C Huni: 55% Test Engineer: Carey

St	Engineer:								
	- X-50	ReadAntenna					Limit	Over	
	Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBu∜	$\overline{-dB/m}$	₫B	₫B	$\overline{dBuV/m}$	dBuV/m	₫₿	
1	1972.056	44.56	26.00	4.80	40.86	34.50	74.00	-39.50	Peak
1 2 3 4	1972.056	14.06	26.00	4.80	40.86	4.00	54.00	-50.00	Average
3	3480.112	46.91	28.76						
4	3480.112	35.61	28.76	6.30	39.46	31.21	54.00	-22.79	Average
5	4979.933	47.51	31.74	9.10	40.00	48, 35	74.00	-25.65	Peak
6	4979.933	37.03	31.74	9.10	40.00	37.87	54.00	-16.13	Average



#### Vertical:



Site

: 3m chamber : FCC PART 15 (PK) 3m BBHA9120(1G18) VERTICAL Condition

: 736RF : T97601T4 Jobi NO. EUT Model : Bang Test mode : PC mode
Power Rating : AC 120V/60Hz
Environment : Temp:25.5°C Huni:55%
Test Engineer: Carey

	Fred	Read	Antenna Factor				Limit		
	rreq	rever	ractor	Luss	ractor	rever	LINE	LIMIC	Kemark
	MHz	dBu∀	dB/m	dB	dB	dBuV/m	dBuV/m	₫B	
1	2180.197	45.81	27.81	5.19	40.28	38.53	74.00	-35.47	Peak
2	2180.197	35.60	27.81	5.19	40.28	28.32	54.00	-25.68	Average
3	3436.736	47.03	28.60	6.38	39.09	42.92	74.00	-31.08	Peak
4	3436.736	36.82	28.60	6.38	39.09	32.71	54.00	-21.29	Average
5	5015.753	48.01	31.85	9.12	39.99	48.99	74.00	-25.01	Peak
6	5015, 753	38, 18	31, 85	9.12	39, 99	39, 16	54.00	-14.84	Average