Report No: CCIS15010004505

FCC REPORT

Applicant: United Telelinks(Bangalore) Limited

Address of Applicant: NO 39/13, Appareddy palya Main Road, off 7th Main HAL 2nd

stage, Indiranagar 2nd stage, Bangalore, India-560038

Equipment Under Test (EUT)

Product Name: Mobile Phone

Model No.: Titanium S8

Trade mark: Karbonn

FCC ID: 2AD3GS82-8501900

Applicable standards: FCC CFR Title 47 Part 15 Subpart B

Date of sample receipt: 20 Jan., 2015

Date of Test: 20 Jan., to 02 Feb., 2015

Date of report issued: 03 Feb., 2015

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.

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





2 Version

Version No.	Date	Description
00	03 Feb., 2015	Original

Prepared by: Date: 03 Feb., 2015

Report Clerk

Reviewed by: Date: 03 Feb., 2015

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.



Report No: CCIS15010004505

5 General Information

5.1 Client Information

Applicant:	United Telelinks(Bangalore) Limited		
Address of Applicant:	NO 39/13, Appareddy palya Main Road, off 7th Main HAL 2nd stage, Indiranagar 2nd stage, Bangalore, India-560038		
Manufacturer:	TEM MOBILE LIMITED		
Address of Manufacturer:	No 1708, Cangsong Building, Tairan 6 Road, Futian ShenZhen, China.		

5.2 General Description of E.U.T.

Product Name:	Mobile Phone
Model No.:	Titanium S8
Power supply:	Rechargeable Li-ion Battery DC3.7V-1800mAh
AC adapter :	Input:100-240V AC,50/60Hz 0.15A Output:5V DC MAX 700mA

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.



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5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX745	N/A	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
HP	HP Printer		05257893	DoC
MERCURY	Wireless router	MW150R	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: +86-755-23118282 Fax: +86-755-23116366





5.7 Test Instruments list

Radiated Emission:								
Item	Test Equipment	Test Equipment Manufacturer		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	08-23-2014	08-22-2017		
2	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	04-19-2014	04-19-2015		
3	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	04-19-2014	04-19-2015		
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A		
5	Coaxial Cable	CCIS	N/A	CCIS0016	04-01-2014	03-31-2015		
6	Coaxial Cable	CCIS	N/A	CCIS0017	04-01-2014	03-31-2015		
7	Coaxial cable	CCIS	N/A	CCIS0018	04-01-2014	03-31-2015		
8	Coaxial Cable	CCIS	N/A	CCIS0019	04-01-2014	03-31-2015		
9	Coaxial Cable	CCIS	N/A	CCIS0087	04-01-2014	03-31-2015		
10	Amplifier(10kHz- 1.3GHz)	HP	8447D	CCIS0003	04-01-2014	03-31-2015		
11	Amplifier(1GHz- 18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	06-09-2014	06-08-2015		
12	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	04-01-2014	03-31-2015		
13	Horn Antenna	ETS-LINDGREN	3160	GTS217	03-31-2014	03-29-2015		
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	Spectrum analyzer Rohde & Schwarz		CCIS0023	04-19-2014	04-19-2015		
17	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	04-01-2014	03-31-2015		
18	Loop antenna	Laplace instrument	RF300	EMC0701	04-01-014	03-31-2015		
19	Universal radio communication tester	Universal radio Rhode & Schwarz		CCIS0069	05-29-2014	05-28-2015		
20	Signal Analyzer	Rohde & Schwarz	FSIQ3	CCIS0088	04-19-2014	04-19-2015		

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	06-09-2014	06-08-2015			
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	04-19-2014	04-19-2015			
3	LISN	CHASE	MN2050D	CCIS0074	01-10-2014	04-09-2015			
4	Coaxial Cable	CCIS	N/A	CCIS0086	04-01-2014	03-31-2015			



6 Test results and Measurement Data

6.1 Conducted Emission

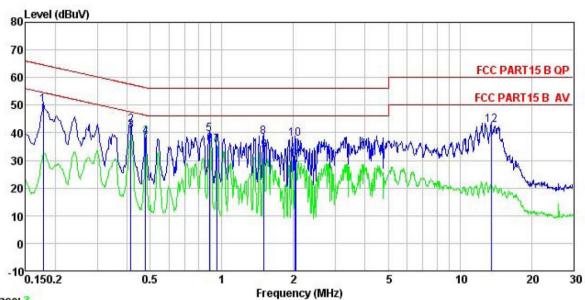
Test Requirement:	FCC Part 15 B Section 15.10)7						
Test Method:	ANSI C63.4:2003	ANSI C63.4:2003						
Test Frequency Range:	150kHz to 30MHz	150kHz to 30MHz						
Class / Severity:	Class B							
Receiver setup:	RBW=9kHz, VBW=30kHz							
Limit:	Frequency range (MHz)	Lin	nit (dBµV)					
	, , ,	Quasi-peak	Average					
	0.15-0.5	66 to 56*	56 to 46*					
	0.5-5 56 46							
	0.5-30 * Decreases with the logarith	60	50					
Test setup:	Reference Plan	•						
	LISN 40cm 80cm Filter AC power Equipment Test table/Insulation plane Remark E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m							
Test procedure	 The E.U.T and simulators line impedance stabilization 500hm/50uH coupling impedance. The peripheral devices are a LISN that provides a 500 termination. (Please refers photographs). Both sides of A.C. line are interference. In order to fir positions of equipment an according to ANSI C63.4: 	on network(L.I.S.N.) bedance for the mea e also connected to ohm/50uH coupling s to the block diagra e checked for maxin and the maximum em d all of the interface	The provide a asuring equipment. The main power through impedance with 500hm am of the test setup and num conducted aission, the relative cables must be changed					
Test environment:	Temp.: 23 °C Hun	nid.: 56%	Press.: 1 01kPa					
Measurement Record:			Uncertainty: 3.28dB					
Test Instruments:	Refer to section 5.7 for detail	ls						
	Refer to section 5.3 for details							
Test mode:	Refer to section 5.3 for detail	15						





Measurement data:

Line:



Trace: 3

Site

: CCIS Shielding Room : FCC PART15 B QP LISN LINE : 045RF Condition

Pro

: Mobile Phone EUT : 11tanium S8

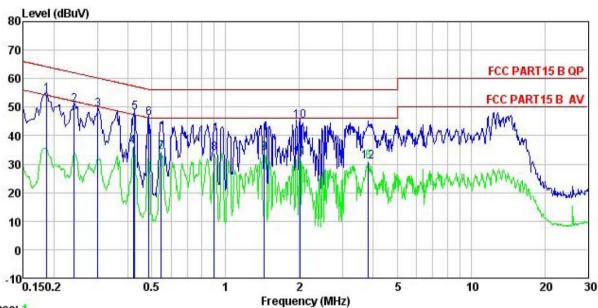
Test Mode : PC Mode
Power Rating : AC 120V/60Hz
Environment : Temp: 23 °C Huni:56% Atmos:101KPa
Test Engineer: Wendell
Remark :

Nemalk	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
200	MHz	dBu∜	<u>dB</u>	₫B	dBu∜	dBu∜	<u>dB</u>	
1	0.178	38.99	0.28	10.77	50.04	64.59	-14.55	QP
1 2 3	0.415	31.74	0.28	10.73	42.75	57.55	-14.80	QP
	0.415	29.85	0.28	10.73	40.86	47.55	-6.69	Average
4	0.479	27.44	0.29	10.75	38.48	46.36	-7.88	Average
4 5 6 7 8 9	0.885	28.32	0.24	10.84	39.40	56.00	-16.60	QP
6	0.890	24.71	0.24	10.84	35.79	46.00	-10.21	Average
7	0.953	24.47	0.25	10.86	35.58	46.00	-10.42	Average
8	1.495	27.14	0.26	10.92	38.32	56.00	-17.68	QP
9	1.503	22.35	0.26	10.92	33.53	46.00	-12.47	Average
10	2.033	26.62	0.26	10.96	37.84	56.00	-18.16	QP
11	2.044	19.11	0.26	10.96	30.33	46.00	-15.67	Average
12	13.551	31.44	0.32	10.91	42.67	60.00	-17.33	QP





Neutral:



Trace: 1

Site

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

Pro : 045RF EUT : Mobile Phone Model : Titanium S8

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

Test Engineer: Wendell

Remark		ъ.,	LTCH	C 17			^	
	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBu₹	<u>dB</u>	<u>dB</u>	dBu₹	<u>d</u> Bu∇	<u>d</u> B	
1	0.186	43.48	0.25	10.76	54.49	64.20	-9.71	QP
1 2 3	0.242	39.81	0.25	10.75	50.81	62.04	-11.23	QP
3	0.302	37.96	0.26	10.74	48.96	60.19	-11.23	QP
4 5	0.421	25.04	0.26	10.73	36.03	47.42	-11.39	Average
5	0.426	37.01	0.26	10.73	48.00	57.33	-9.33	QP
6 7	0.486	34.94	0.29	10.76	45.99	56.23	-10.24	QP
7	0.546	23.22	0.26	10.76	34.24	46.00	-11.76	Average
8	0.899	22.83	0.21	10.84	33.88	46.00	-12.12	Average
9	1.441	22.51	0.26	10.92	33.69	46.00	-12.31	Average
10	2.012	33.75	0.29	10.96	45.00	56.00	-11.00	QP
11	2.012	20.84	0.29	10.96	32.09	46.00	-13.91	Average
12	3.820	19.58	0.29	10.90	30.77	46.00	-15.23	Average

Notes:

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





6.2 Radiated Emission

Test Requirement:	FCC Part 15 B S	Section 1	5 109						
Test Method:	ANSI C63.4:2003								
Test Frequency Range:	30MHz to 6000MHz								
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)								
Receiver setup:	Frequency	Detec	ctor RBW		VBW		Remark		
	30MHz-1GHz Quasi-				300k		Quasi-peak Value		
	Above 1GHz	Pea		1MHz			Peak Value		
		Pea		1MHz 10H		lz	Average Value		
Limit:	Frequency		Limi	t (dBuV/m @	⊉3m)		Remark		
	30MHz-88M			40.0			Quasi-peak Value		
	88MHz-216N			43.5			Quasi-peak Value		
	216MHz-960I			46.0			Quasi-peak Value		
	960MHz-1G	Hz		54.0		(Quasi-peak Value		
	Above 1GF	lz -		54.0			Average Value		
				74.0			Peak Value		
Test setup:	Above 1GHz Antenna Tower Search Antenna RF T est Receiver Ground Plane Above 1GHz Antenna Tower Antenna Tower								





Test Procedure:	1. 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							

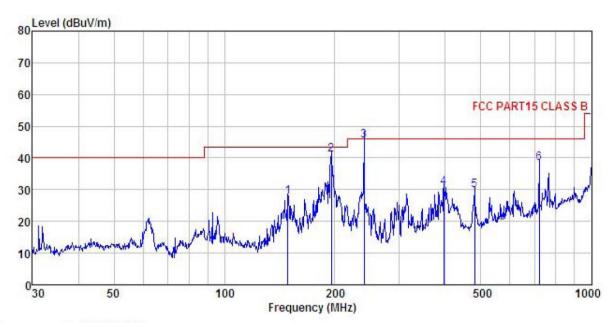




Measurement Data

Below 1GHz

Horizontal:



Site

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

EUT : Mobile Phone Model : Titanium S8
Test mode : PC Mode
Power Rating : AC 120V/60Hz

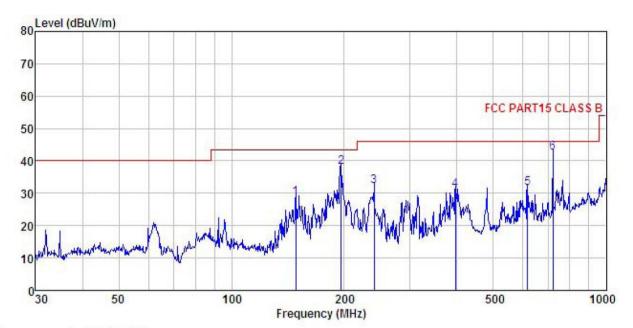
Environment : Temp: 25.5°C Huni: 55% Test Engineer: Wendell REMARK :

CHICKLY.									
	Freq		Antenna Factor				Limit Line		Remark
_	MHz	dBu∇	<u>dB</u> /m	dB	<u>dB</u>	dBuV/m	dBuV/m	<u>dB</u>	
1	148.963	47.41	8.26	1.31	29.23	27.75	43.50	-15.75	QP
2	195.822	58.08	10.57	1.38	28.86	41.17	43.50	-2.33	QP
3	239.987	60.49	12.09	1.58	28.59	45.57	46.00	-0.43	QP
4 5	396.242	42.43	14.97	2.11	28.76	30.75	46.00	-15.25	QP
5	480.528	40.40	16.07	2.35	28.92	29.90	46.00	-16.10	QP
6	721.726	44.74	19.10	2.97	28.58	38.23	46.00	-7.77	QP





Vertical:



Site

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

EUT : Mobile Phone : Titanium S8 Model Test mode : PC Mode
Power Rating : AC 120V/60Hz
Environment : Temp: 25.5°C Huni: 55%

Test Engineer: Wendell REMARK :

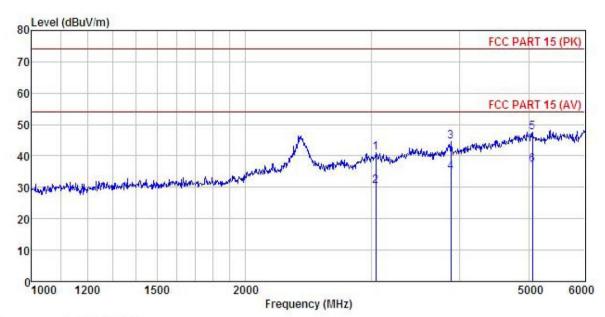
LMAKK									
	Freq		Antenna Factor				Limit Line	Over Limit	Remark
2	MHz	dBu₹	<u>dB</u> /m	₫B	<u>dB</u>	dBuV/m	dBuV/m	<u>dB</u>	
1	148.441	48.24	8.25	1.31	29.23	28.57	43.50	-14.93	QP
2	196.510	55.09	10.57	1.38	28.85	38.19	43.50	-5.31	QP
2	239.987	47.03	12.09	1.58	28.59	32.11	46.00	-13.89	QP
4	396.242	42.73	14.97	2.11	28.76	31.05	46.00	-14.95	QP
5	616.372	39.31	18.52	2.68	28.88	31.63	46.00	-14.37	QP
6	721.726	49.01	19.10	2.97	28.58	42.50	46.00	-3.50	QP





Above 1GHz

Horizontal:



Site

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

EUT : Mobile Phone Model : Titanium S8 Test mode : PC Mode Power Rating : AC 120V/60Hz

Environment : Temp: 25.5°C Huni: 55%

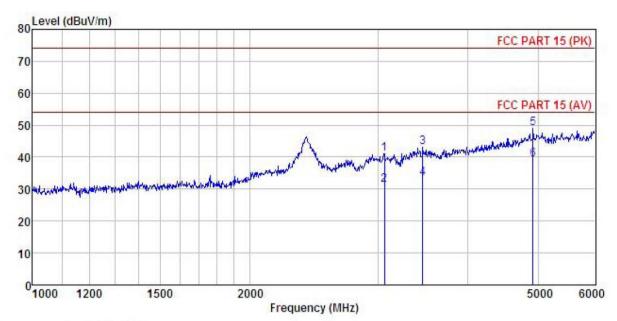
Test Engineer: Wendell REMARK :

JILAIN.									
	Freq		Antenna Factor				Limit Line		Remark
	MHz	—dBu₹	<u>dB</u> /m	dB	<u>d</u> B	dBuV/m	dBuV/m	<u>d</u> B	
1	3047.966	46.90	28.65	6.00	40.55	41.00	74.00	-33.00	Peak
2	3047.966	36.17	28.65	6.00	40.55	30.27			Average
3	3889.006	48.14	29.75	7.56	40.84	44.61	74.00	-29.39	Peak
4	3889.006	38.37	29.75	7.56	40.84	34.84	54.00	-19.16	Average
5	5060.890	46.54	32.01	9.13	40.02	47.66	74.00	-26.34	Peak
6	5060, 890	36, 06	32.01	9.13	40.02	37, 18			Average





Vertical:



Site

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

: Mobile Phone

Model : Titanium S8

Test mode : PC Mode

Power Rating : AC 120V/60Hz

Environment : Temp:25.5°C Huni:55%

Test Engineer: Wendell

REMARK :

THAIL									
	Freq		Antenna Factor				Limit Line	Over Limit	Remark
-	MHz	dBu₹	<u>dB</u> /m	<u>d</u> B	<u>dB</u>	dBuV/m	dBuV/m	<u>dB</u>	
1	3064.394	47.05	28.67	5.99	40.57	41.14	74.00	-32.86	Peak
2	3064.394	37.10	28.67	5.99	40.57	31.19	54.00	-22.81	Average
3	3461.456	47.48	28.67	6.33		43.14			
4	3461.456	37.58	28.67	6.33	39.34	33.24	54.00	-20.76	Average
5	4917.863	48.36	31.61	9.02	40.10	48.89	74.00	-25.11	Peak
6	4917.863	38.88	31.61	9.02	40.10	39.41	54.00	-14.59	Average