

Shenzhen Huatongwei International Inspection Co., Ltd.

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FCC REPORT

Report Reference No.....: TRE1612016405 R/C.....: 27074

FCC ID.....: ZSW-30-041

Applicant's name.....: b mobile HK Limited

Address...... Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai

Tak Street; Kwai Chung; New Territories; Hong Kong.

Manufacturer..... b mobile HK Limited

Address...... Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai

Tak Street; Kwai Chung; New Territories; Hong Kong.

Test item description: Mobile Phone

Trade Mark Bmobile

Model/Type reference..... AX680+

Listed Model(s) -

Standard: 47 CFR FCC Part 15 Subpart B - Unintentional Radiators

ANSI C63.4: 2014

Date of receipt of test sample...... Dec. 27, 2016

Date of testing...... Dec. 27, 2016 - Dec. 30, 2016

Result...... Pass

Compiled by

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Approved by

(position+printed name+signature)..: RF Manager Hans Hu

Testing Laboratory Name: Shenzhen Huatongwei International Inspection Co., Ltd.

Tianliao, Gongming, Shenzhen, China

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1. Test standards and Report version

1.1. Test Standards

The tests were performed according to following standards:

47 CFR FCC Part 15 Subpart B - Unintentional Radiators

ANSI C63.4: 2014 – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40GHz

1.2. Report version

Version No.	Date of issue	Description
00	Jan. 03, 2017	Original

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2. Test Description

Test Item	FCC Rule	Result
Conducted Emissions Test	15.107	Pass
Radiated Emission Test	15.109	Pass

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

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3. SUMMARY

3.1. Client Information

Applicant:	b mobile HK Limited
Address:	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong.
Manufacturer:	b mobile HK Limited
Address:	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong.

3.2. Product Description

Name of EUT Mobile Phone			
Trade Mark: Bmobile			
Model No.: AX680+			
Listed Model(s):	-		
IMEI :	355196080000216		
Power supply:	DC 3.7V From internal battery		
Adapter information:	Input: 100-240Va.c., 50-60Hz, 0.4A		
Auapter information.	Output: 5Vd.c., 600mA		

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3.3. EUT operation mode

Test mode	Playing Video	Connect to PC (Down loading)	Camera	Adapter
1	•			
2		•		
3				

Note:

1. ■ is operation mode.

Pre-scan above all test mode, found below test mode which it was worse case mode.

Test item	Test mode (Worse case mode)
Conducted emission	Mode 2
Radiated emission	Mode 2

3.4. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

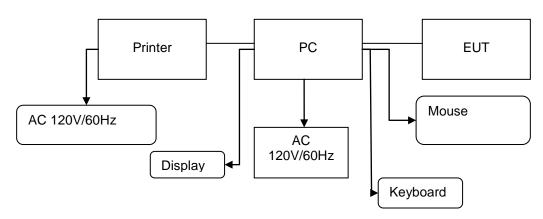
- supplied by the manufacturer
- supplied by the lab

	Length (m):	
	Shield:	
	Detachable :	
	Manufacturer:	
	Model No. :	-

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3.5. Configuration of Tested System

Configuration of Tested System



Equipment Used in Tested System

	Equipment Used in Tested System						
No.	Equipment	Manufacturer	Model No.	Serial No.	Length	shielded/unshielded	Notes
1	PC	DELL	DIMEN SION E520	1RNN42X	/	/	DOC
2	Printer	ESPOn	C3990	C3990A	/	/	DOC
3	Mouse	DELL	MO56U OA	G0E02SY7	1.00m	unshielded	DOC
4	Display	DELL	1707FPt	CN-OFC237-71618- 65G-AAKC	/	/	DOC
5	Keyboard	DELL	L100	CNRH65665890726 009L	/	/	DOC
6	USB Cable (EUT to PC)	ITALCOM GROUP	USB 2.0	N/A	0.80m	unshielded	N/A
7	USB Cable (Printer to PC)	Genshuo	USB 2.0	N/A	1.20m	unshielded	N/A
8	Power line	/	/	N/A	1.00m	unshielded	N/A

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4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.

Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China Phone: 86-755-26748019 Fax: 86-755-26748089

4.2. Test Facility

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

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: February 28, 2015. Valid time is until February 27, 2018.

A2LA-Lab Cert. No. 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. 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: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until December 31, 2016.

FCC-Registration No.: 317478

Shenzhen Huatongwei International Inspection 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 our files. Registration 317478, Renewal date Jul. 18, 2014, valid time is until Jul. 18, 2017.

IC-Registration No.: 5377A&5377B

The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377A on Dec. 31, 2013, valid time is until Dec. 31, 2016.

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B on Dec.03, 2014, valid time is until Dec.03, 2017.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

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Equipments Used during the Test

Condu	Conducted Emission						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.		
1	EMI TEST RECEIVER	Rohde & Schwarz	ESCI	100106	11/13/2016		
2	ARTIFICIAL MAINS	Rohde & Schwarz	ESH2-Z5	100028	11/13/2016		
3	PULSE LIMITER	Rohde & Schwarz	ESHSZ2	100044	11/13/2016		
4	EMI TEST SOFTWARE	Rohde & Schwarz	ES-K1	N/A	N/A		

Radia	Radiated Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	
1	ULTRA-BROADBAND ANTENNA	ShwarzBeck	VULB9163	538	11/13/2016	
2	EMI TEST RECEIVER	Rohde & Schwarz	ESI 26	100009	11/13/2016	
3	EMI TEST Software	Audix	E3	N/A	N/A	
4	TURNTABLE	MATURO	TT2.0		N/A	
5	ANTENNA MAST	MATURO	TAM-4.0-P		N/A	
6	EMI TEST Software	Rohde & Schwarz	ESK1	N/A	N/A	
7	ULTRA-BROADBAND ANTENNA	Rohde&Schwarz	HL562	100015	11/13/2016	
8	Amplifer	Sonoma	310N	E009-13	11/13/2016	
9	JS amplifer	Rohde & Schwarz	JS4-00101800- 28-5A	F201504	11/13/2016	
11	TURNTABLE	ETS	2088	2149	N/A	
12	ANTENNA MAST	ETS	2075	2346	N/A	
13	HORN ANTENNA	Rohde&Schwarz	HF906	100039	11/13/2016	

The calibration interval was one year.

4.3. Environmental conditions

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

Temperature:	15~35°C
lative Humidity:	30~60 %
Air Pressure:	950~1050mba

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4.4. Statement of the 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 CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods — Part 4: Uncertainty in EMC Measurements" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd 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.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.24 dB	(1)
Radiated Emission	1~18GHz	5.16 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.15~30MHz	3.39 dB	(1)

⁽¹⁾ This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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5. TEST CONDITIONS AND RESULTS

5.1. Conducted Emissions Test

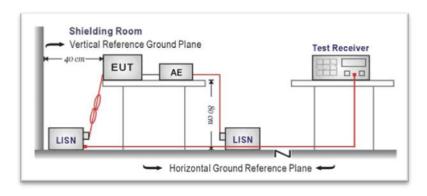
LIMIT

FCC CFR Title 47 Part 15 Subpart B Section 15.107:

Frequency range (MHz)	Limit (d	lBuV)
r requerity range (Miriz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

^{*} Decreases with the logarithm of the frequency.

TEST CONFIGURATION



TEST PROCEDURE

- 1. The EUT was setup according to ANSI C63.4-2014.
- 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 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 80 cm from any other grounded conducting surface.
- 3. The EUT and simulators are connected to the main power through a line impedancestabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for themeasuring equipment.
- 4. The peripheral devices are also connected to the main power through aLISN. (Please refer to the block diagram of the test setup and photographs)
- 5. 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.
- 6. The excess length of the power cord between the EUT and the LISN receptacle were foldedback and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- 7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHzusing a receiver bandwidth of 9 kHz.
- 8. During the above scans, the emissions were maximized by cable manipulation.

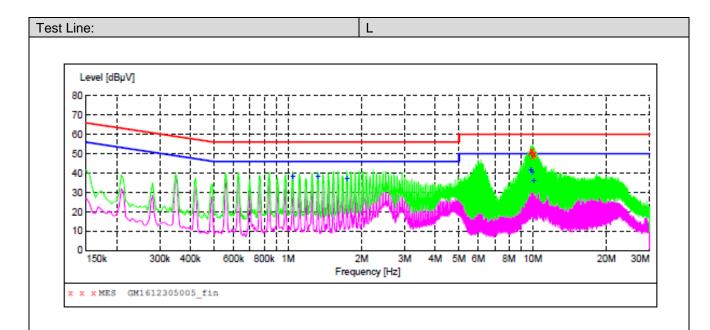
TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

Note:Transd=Cable lose+ PULSE LIMITER factor+ ARTIFICIAL MAINS factor; Margin= Limit -Level

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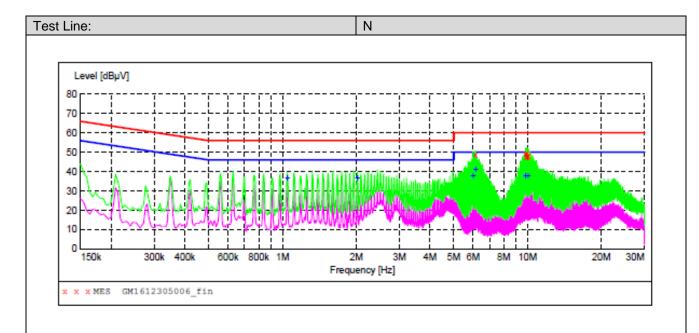
MEASUREMENT RESULT: "GM1612305005_fin"

12/	30/2016 9	:19AM						
	Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
	9.829500	50.60	10.6	60	9.4	QP	Ll	GND
	9.897000	51.50	10.6	60	8.5	QP	Ll	GND
	9.969000	51.60	10.6	60	8.4	QP	Ll	GND
	10.041000	48.90	10.6	60	11.1	QP	Ll	GND
	10.108500	49.70	10.6	60	10.3	QP	Ll	GND
	10.176000	49.60	10.6	60	10.4	QP	Ll	GND

MEASUREMENT RESULT: "GM1612305005_fin2"

12/30/2016 9:	19AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
1.045500	38.90	10.2	46	7.1	AV	Ll	GND
1.324500	38.50	10.2	46	7.5	AV	Ll	GND
1.743000	37.70	10.2	46	8.3	AV	Ll	GND
9.829500	41.90	10.6	50	8.1	AV	Ll	GND
9.969000	40.70	10.6	50	9.3	AV	Ll	GND
10.104000	36.60	10.6	50	13.4	AV	Ll	GND

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MEASUREMENT RESULT: "GM1612305006_fin"

12/30/2016 9	:23AM						
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
6.135000	49.00	10.3	60	11.0	QP	N	GND
9.829500	49.50	10.6	60	10.5	QP	N	GND
9.901500	47.50	10.6	60	12.5	QP	N	GND
9.969000	49.20	10.6	60	10.8	QP	N	GND
10.041000	47.60	10.6	60	12.4	QP	N	GND
10.108500	48.00	10.6	60	12.0	QP	N	GND

MEASUREMENT RESULT: "GM1612305006 fin2"

12/30/2016 9: Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
1.045500	37.20	10.2	46	8.8	AV	N	GND
2.022000	36.90	10.2	46	9.1	AV	N	GND
6.000000	38.20	10.3	50	11.8	AV	N	GND
6.135000	41.60	10.3	50	8.4	AV	N	GND
9.834000	38.20	10.6	50	11.8	AV	N	GND
10.045500	38.40	10.6	50	11.6	AV	N	GND

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5.2. Radiated Emission Test

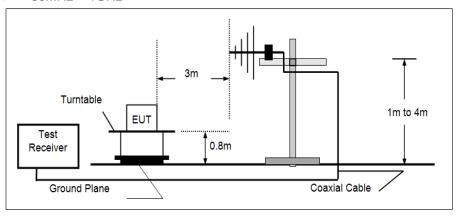
LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.209

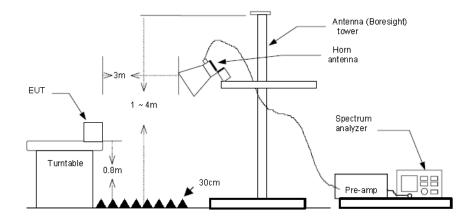
1 00 01 K Title 47 Talt 10 0abpart 0 0c	51.511 151265	
Frequency	Limit (dBuV/m @3m)	Value
30MHz-88MHz	40.00	Quasi-peak
88MHz-216MHz	43.50	Quasi-peak
216MHz-960MHz	46.00	Quasi-peak
960MHz-1GHz	54.00	Quasi-peak
Above 1GHz	54.00	Average
ABOVE TOTIZ	74.00	Peak

TEST CONFIGURATION

➢ 30MHz ~ 1GHz



Above 1GHz



TEST PROCEDURE

- 1. The EUT was tested according to ANSI C63.4:2014.
- 2. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated360 degrees to determine the position of the maximum emission level.
- 3. The EUT waspositioned 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. Thisis repeated for both horizontal and vertical polarization of the antenna.
- 5. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1GHz, RBW=120KHz, VBW=300KHz, Sweep=auto, Detector function=peak, Trace=max hold; If the emission level of the EUT measured by the peak detectoris 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, theemission measurement will be repeated using

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the quasi-peak detector and reported.
(3) Above 1GHz, RBW=1MHz, VBW=3MHz

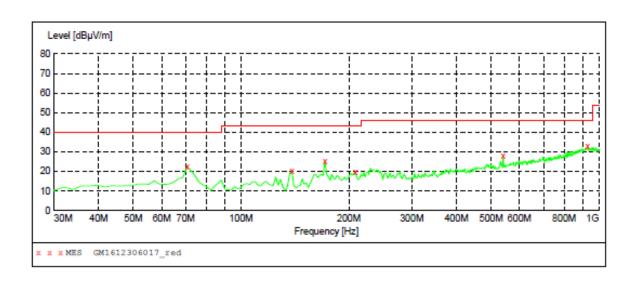
TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

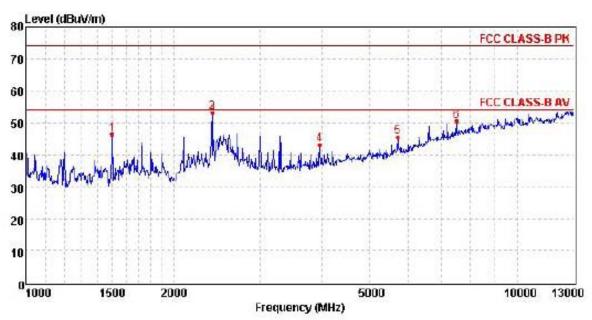
Note: Final Level =Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor

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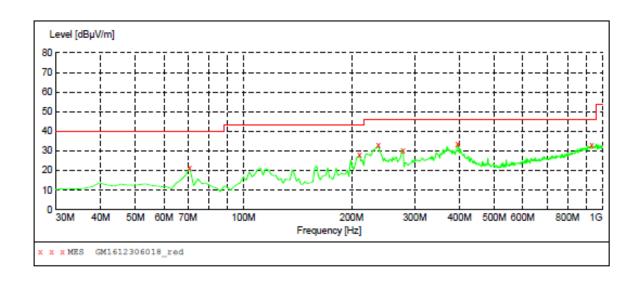
MEASUREMENT RESULT: "GM1612306017_red"

12/30/2016 10 Frequency MHz			Limit dBµV/m	_	Det.	Height cm	Azimuth deg	Polarization
70.740000	22.40	-19.1	40.0	17.6	QP	100.0	38.00	VERTICAL
138.640000	20.20	-20.3	43.5	23.3	QP	100.0	159.00	VERTICAL
171.620000	25.40	-18.9	43.5	18.1	QP	100.0	63.00	VERTICAL
208.480000	19.70	-15.7	43.5	23.8	QP	100.0	133.00	VERTICAL
540.220000	28.00	-6.5	46.0	18.0	QP	100.0	206.00	VERTICAL
930.160000	32.70	1.4	46.0	13.3	QP	100.0	133.00	VERTICAL



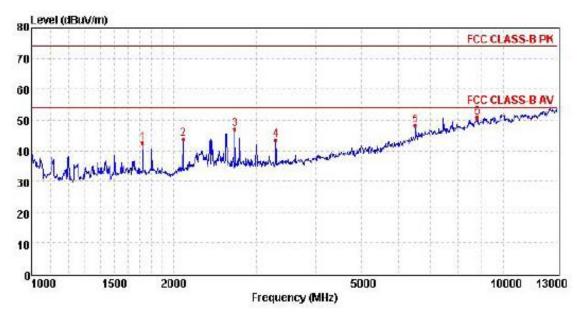
Mank	Frequency MHz	Reading dBuV/m	Antenna dB	a Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	100000000000000000000000000000000000000
1	1499.70	52.90	24.70	5.28	36.59	46.29	74.00	-27.71	Peak
3	2398.03	56.78	27.57	6.77	37.89	53.23	74.00	-20.77	Peak
4	3964.49	43.00	29.45	8.73	38.13	43.05	74.00	-30.95	Peak
5	5706.47	37.77	32.75	10.44	35.58	45.38	74.00	-28.62	Peak
6	7508.61	36.73	36.22	12.42	34.91	50.46	74.00	-23.54	Peak

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MEASUREMENT RESULT: "GM1612306018 red"

12/30/2016 10 Frequency MHz			Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
70.740000	21.50	-19.1	40.0	18.5	QP	300.0	143.00	HORIZONTAL
210.420000	28.00	-15.6	43.5	15.5	QP	100.0	76.00	HORIZONTAL
237.580000	33.10	-14.7	46.0	12.9	QP	100.0	76.00	HORIZONTAL
278.320000	30.30	-13.5	46.0	15.7	QP	100.0	76.00	HORIZONTAL
394.720000	33.50	-10.8	46.0	12.5	QP	100.0	279.00	HORIZONTAL
934.040000	32.90	1.5	46.0	13.1	QP	300.0	302.00	HORIZONTAL



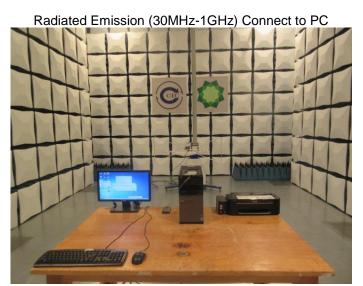
Mark	Frequency MHz	Reading dBuV/m	Antenna dB	Cable dB	Preamp dB	Level dBuV/m	Limit dBuV/m	Over limit	Remark
1	1722.49	48.26	25.37	5.81	36.98	42.46	74.99	-31.54	Peak
2	2098.60	48.16	26.47	6.35	37.32	43.66	74.88	-30.34	Peak
3	2698.34	49.66	28.15	7.14	38.10	46.85	74.99	-27.15	Peak
4	3295.97	45.21	28.62	7.84	38.37	43.30	74.00	-30.70	Peak
5	6503.97	37.11	35.10	11.18	35.34	48.05	74.00	-25.95	Peak
6	8802.86	34.32	37.66	13.10	34.28	50.80	74.00	-23.20	Peak

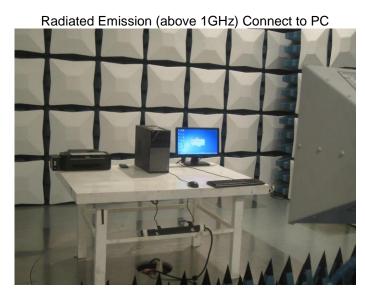
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6. Test Setup Photos of the EUT

Conducted Emission Connect to PC







7. External and Internal Photos of the EUT

Reference to the test report No.: TRE1612016401.