EMC TEST REPORT



Report No.: 17071365-FCC-E Supersede Report No: N/A

Applicant	TECNO MOBILE LIMITED			
Product Name	Mobile phone			
Model No.	T473			
Serial No.	N/A			
Test Standard	FCC Part 15 Subpart B Class B:2016, ANSI C63.4: 2014			
Test Date	December 07 to January 03, 2018			
Issue Date	January 04	, 2018		
Test Result	Pass	Fail		
Equipment complied with the specification				
Equipment did not comply with the specification				
mais.	He	David Huang		
Evans He Test Engineer		David Huang Checked By		

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn



Test Report	17071365-FCC-E
Page	2 of 36

Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

	<u> </u>
Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety



Test Report	17071365-FCC-E
Page	3 of 36

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Test Report	17071365-FCC-E
Page	4 of 36

CONTENTS

1.	REPORT REVISION HISTORY	5
2.	CUSTOMER INFORMATION	5
3.	TEST SITE INFORMATION	5
4.	EQUIPMENT UNDER TEST (EUT) INFORMATION	6
5.	TEST SUMMARY	8
6.	MEASUREMENTS, EXAMINATION AND DERIVED RESULTS	9
6.1	AC POWER LINE CONDUCTED EMISSIONS	9
6.2	RADIATED EMISSIONS	15
INA	NEX A. TEST INSTRUMENT	20
INA	NEX B. EUT AND TEST SETUP PHOTOGRAPHS	21
INA	NEX C. TEST SETUP AND SUPPORTING EQUIPMENT	32
INA	NEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST	35
INA	NEX E. DECLARATION OF SIMILARITY	36



Test Report	17071365-FCC-E
Page	5 of 36

1. Report Revision History

Report No.	Report Version	Description	Issue Date
17071365-FCC-E	NONE	Original	January 04, 2018

2. Customer information

Applicant Name	TECNO MOBILE LIMITED	
Applicant Add	ROOMS 05-15, 13A/F., SOUTH TOWER, WORLD FINANCE CENTRE,	
	HARBOUR CITY, 17 CANTON ROAD, TSIM SHA TSUI, KOWLOON, HONG	
	KONG	
Manufacturer	SHENZHEN TECNO TECHNOLOGY CO.,LTD.	
Manufacturer Add	1-4th Floor,3rd Building,Pacific Industrial Park,No.2088,Shenyan Road,Yantian	
	District,Shenzhen,Guangdong,China	

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES	
	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park	
Lab Address	South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China	
	518108	
FCC Test Site No.	535293	
IC Test Site No.	4842E-1	
Test Software of	Redicted Emission Program To Changhan v2.0	
Radiated Emission	Radiated Emission Program-To Shenzhen v2.0	
Test Software of	EZ EMC(ver len 0244)	
Conducted Emission	EZ-EMC(ver.lcp-03A1)	



Port:

Test Report	17071365-FCC-E
Page	6 of 36

4. Equipment under Test (EUT) Information

<u>Equipment andor 1</u>	oct (201) morniadori
Description of EUT:	Mobile phone
Main Model:	T473
Serial Model:	N/A
Antenna Gain:	GSM850: -0.2dBi PCS1900: 1.7dBi Bluetooth: 2.0dBi
Antenna Type:	GSM: PIFA antenna BT: PCB antenna
Input Power:	Adapter: Model: A31-500500 Input: AC100-240V~50/60Hz,0.2A Output: DC 5.0V, 500mA Battery: Model: BL-19CT Spec: 3.7V, 1900mAh/1850mAh, 7.03Wh/6.84Wh Voltage: 4.2V
Equipment Category :	JBP
Type of Modulation:	GSM / GPRS: GMSK Bluetooth: GFSK, π /4DQPSK, 8DPSK
RF Operating Frequency (ies):	GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz Bluetooth: 2402-2480 MHz
Number of Channels:	GSM 850: 124CH PCS1900: 299CH Bluetooth: 79CH

USB Port, Earphone Port



Test Report	17071365-FCC-E
Page	7 of 36

Trade Name : TECNO

FCC ID: 2ADYY-T473

GPRS Multi-slot class 8/10/11/12

Date EUT received: December 06, 2017

Test Date(s): December 07 to January 03, 2018



Test Report	17071365-FCC-E
Page	8 of 36

5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.107; ANSI C63.4: 2014	AC Power Line Conducted Emissions	Compliance
§15.109; ANSI C63.4: 2014	Radiated Emissions	Compliance

Measurement Uncertainty

Parameter	Uncertainty	
AC Power Line Conducted Emissions	±3.11dB	
(150kHz~30MHz)		
Radiated Emission(30MHz~1GHz)	±5.12dB	
Radiated Emission(1GHz~6GHz)	±5.34dB	



Test Report	17071365-FCC-E
Page	9 of 36

6. Measurements, Examination And Derived Results

6.1 AC Power Line Conducted Emissions

Temperature	25 °C		
Relative Humidity	50%		
Atmospheric Pressure	1008mbar		
Test date :	December 08, 2017		
Tested By:	Evans He		

Requirement(s):

Spec	Item	Requirement Applicable					
47CFR§15.	For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 [mu] H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequencies ranges.				\Z		
107		Frequency ranges	Limit (dBμV)			
		(MHz)	QP	Average			
		0.15 ~ 0.5	66 – 56	56 – 46			
		0.5 ~ 5	56	46			
		5 ~ 30	60	50			
Test Setup			stand Ground Brence Plane	Test Receiver			
Procedure	 The EUT and supporting equipment were set up in accordance with the requirement the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table. The power supply for the EUT was fed through a 50Ω /50mH EUT LISN, connected filtered mains. 						



Test Report	17071365-FCC-E
Page	10 of 36

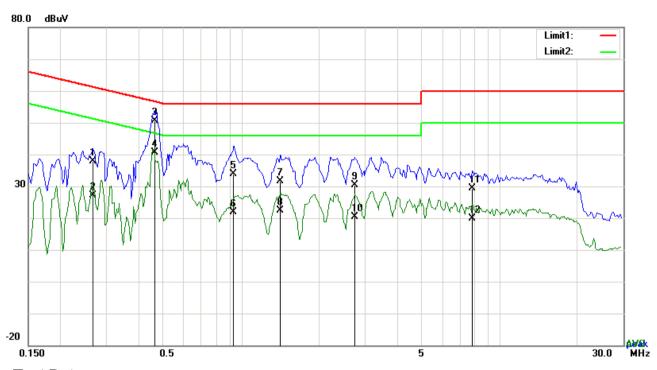
	3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss		
	coaxial cable.		
	4. All other supporting equipment were powered separately from another main supply.		
	5. The EUT was switched on and allowed to warm up to its normal operating condition.		
	6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power)		
	over the required frequency range using an EMI test receiver.		
7. High peaks, relative to the limit line, The EMI test receiver was then tune			
	selected frequencies and the necessary measurements made with a receiver bandwidth		
	setting of 10 kHz.		
	8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).		
Remark			
Result	Pass Fail		

Test Data	Yes	□ _{N/A}
Test Plot	Yes (See below)	□ _{N/A}



Test Report	17071365-FCC-E
Page	11 of 36

Test Mode : USB Mode



Test Data

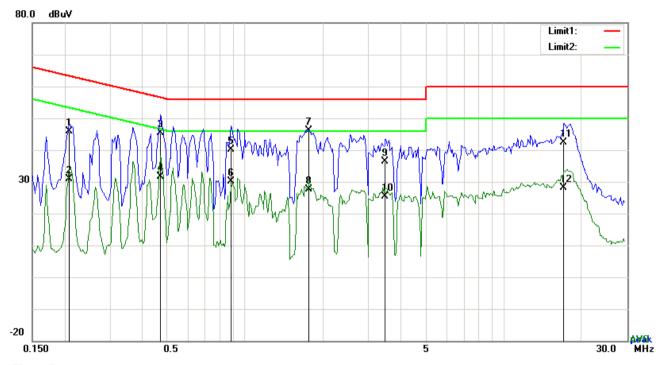
Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	L1	0.2670	27.82	QP	10.03	37.85	61.21	-23.36
2	L1	0.2670	17.04	AVG	10.03	27.07	51.21	-24.14
3	L1	0.4620	40.50	QP	10.03	50.53	56.66	-6.13
4	L1	0.4620	30.63	AVG	10.03	40.66	46.66	-6.00
5	L1	0.9378	23.74	QP	10.03	33.77	56.00	-22.23
6	L1	0.9378	11.97	AVG	10.03	22.00	46.00	-24.00
7	L1	1.4175	21.60	QP	10.04	31.64	56.00	-24.36
8	L1	1.4175	12.41	AVG	10.04	22.45	46.00	-23.55
9	L1	2.7396	20.43	QP	10.05	30.48	56.00	-25.52
10	L1	2.7396	10.43	AVG	10.05	20.48	46.00	-25.52
11	L1	7.8360	19.16	QP	10.12	29.28	60.00	-30.72
12	L1	7.8360	9.86	AVG	10.12	19.98	50.00	-30.02



Test Report	17071365-FCC-E
Page	12 of 36

Test Mode:



Test Data

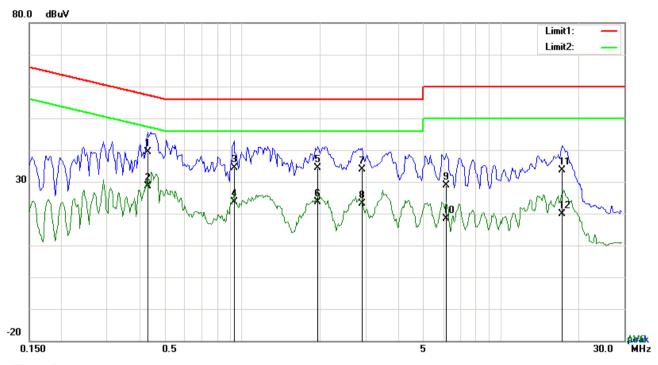
Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.2085	35.74	QP	10.02	45.76	63.26	-17.50
2	Ν	0.2085	20.96	AVG	10.02	30.98	53.26	-22.28
3	Ν	0.4698	35.41	QP	10.02	45.43	56.52	-11.09
4	N	0.4698	21.55	AVG	10.02	31.57	46.52	-14.95
5	Ν	0.8832	30.06	QP	10.03	40.09	56.00	-15.91
6	Ζ	0.8832	20.17	AVG	10.03	30.20	46.00	-15.80
7	Ζ	1.7685	36.09	peak	10.04	46.13	56.00	-9.87
8	Ν	1.7685	17.47	QP	10.04	27.51	56.00	-28.49
9	N	3.4875	26.36	QP	10.05	36.41	56.00	-19.59
10	Ν	3.4875	15.25	AVG	10.05	25.30	46.00	-20.70
11	Ν	17.0595	32.05	QP	10.22	42.27	60.00	-17.73
12	N	17.0595	17.92	AVG	10.22	28.14	50.00	-21.86



Test Report	17071365-FCC-E
Page	13 of 36

Test Mode : USB Mode



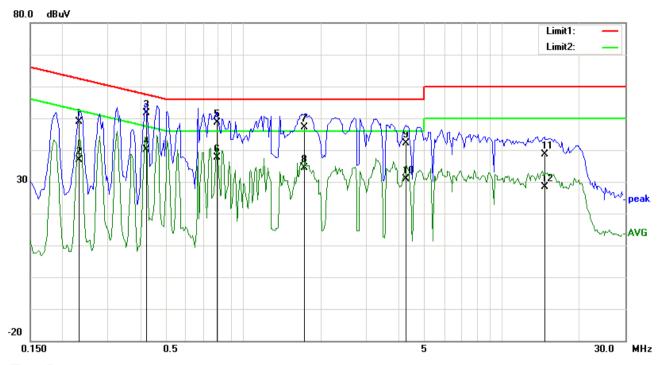
Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	L1	0.4308	29.44	QP	10.03	39.47	57.24	-17.77
2	L1	0.4308	18.61	AVG	10.03	28.64	47.24	-18.60
3	L1	0.9300	24.26	QP	10.03	34.29	56.00	-21.71
4	L1	0.9300	13.61	AVG	10.03	23.64	46.00	-22.36
5	L1	1.9635	24.42	QP	10.04	34.46	56.00	-21.54
6	L1	1.9635	13.61	AVG	10.04	23.65	46.00	-22.35
7	L1	2.9034	23.72	QP	10.05	33.77	56.00	-22.23
8	L1	2.9034	13.00	AVG	10.05	23.05	46.00	-22.95
9	L1	6.1356	18.88	QP	10.10	28.98	60.00	-31.02
10	L1	6.1356	8.29	AVG	10.10	18.39	50.00	-31.61
11	L1	17.2818	23.38	QP	10.26	33.64	60.00	-26.36
12	L1	17.2818	9.71	AVG	10.26	19.97	50.00	-30.03



Test Report	17071365-FCC-E
Page	14 of 36



Test Data

Phase Neutral Plot at 240Vac, 60Hz

	,							
No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	Ν	0.2319	38.97	QP	10.02	48.99	62.38	-13.39
2	Ν	0.2319	26.98	AVG	10.02	37.00	52.38	-15.38
3	Ν	0.4230	41.69	QP	10.02	51.71	57.39	-5.68
4	N	0.4230	30.12	AVG	10.02	40.14	47.39	-7.25
5	N	0.7935	38.71	QP	10.03	48.74	56.00	-7.26
6	N	0.7935	27.60	AVG	10.03	37.63	46.00	-8.37
7	N	1.7295	37.02	QP	10.04	47.06	56.00	-8.94
8	Ν	1.7295	24.28	AVG	10.04	34.32	46.00	-11.68
9	Ν	4.2519	31.95	QP	10.06	42.01	56.00	-13.99
10	Ν	4.2519	20.74	AVG	10.06	30.80	46.00	-15.20
11	N	14.6142	28.38	QP	10.20	38.58	60.00	-21.42
12	Ν	14.6142	18.20	AVG	10.20	28.40	50.00	-21.60



Test Report	17071365-FCC-E
Page	15 of 36

6.2 Radiated Emissions

Temperature	24 °C
Relative Humidity	55%
Atmospheric Pressure	1008mbar
Test date :	December 13, 2017
Tested By :	Evans He

Requirement(s):

Spec	Item	Requirement	Requirement Applicable		
47CFR§15. 109(d)	30 - 88 100		o-frequency devices shall not ecified in the following table and is shall not exceed the level of ter limit applies at the band Field Strength (µV/m)	\	
		216 - 960	200		
		Above 960	500		
Test Setup		Ant. Tower Support Units Turn Table Ground Plane Test Receiver			
Procedure	1.	' ' '			



Test Report	17071365-FCC-E
Page	16 of 36

		over a full rotation of the EUT) was chosen.
	b	. The EUT was then rotated to the direction that gave the maximum
		emission.
	С	Finally, the antenna height was adjusted to the height that gave the maximum
		emission.
	3. T	he resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is
	1	20 kHz for Quasiy Peak detection at frequency below 1GHz.
	4. Th	e resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video
	b	andwidth is 3MHz with Peak detection for Peak measurement at frequency above
	1	GHz.
		The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video
		pandwidth with Peak detection for Average Measurement as below at frequency
		above 1GHz.
		■ 1 kHz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%)
	5. S	teps 2 and 3 were repeated for the next frequency point, until all selected frequency
	р	oints were measured.
Remark		
	-	
Result	Pass	La Fail
	7	
Test Data	Yes	N/A
Test Plot	Yes (See	below)

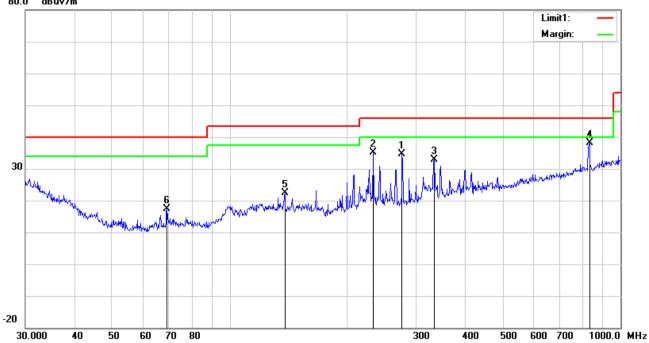


Test Report	17071365-FCC-E
Page	17 of 36

USB Mode Test Mode:

Below 1GHz





Test Data

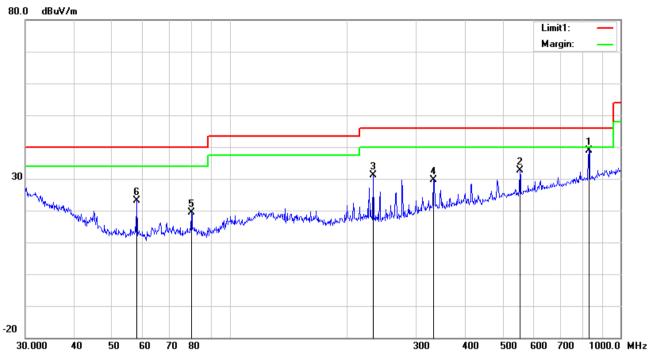
Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	(cm)	()
1	Н	276.1236	42.70	peak	12.55	22.29	1.75	34.71	46.00	-11.29	100	194
2	I	232.5318	44.25	peak	11.64	22.32	1.64	35.21	46.00	-10.79	100	331
3	Н	333.6867	38.93	peak	14.31	22.20	1.96	33.00	46.00	-13.00	200	340
4	Н	833.3171	34.42	peak	21.77	21.06	2.90	38.03	46.00	-7.97	100	132
5	Н	138.3873	30.87	peak	12.70	22.41	1.26	22.42	43.50	-21.08	100	213
6	Н	69.1141	30.94	peak	7.76	22.38	0.96	17.28	40.00	-22.72	100	28



Test Report	17071365-FCC-E
Page	18 of 36

Below 1GHz



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/ m)	(dB)	(cm)	()
1	٧	830.4002	35.34	peak	21.73	21.07	2.91	38.91	46.00	-7.09	100	312
2	V	552.8833	33.52	peak	18.44	21.69	2.48	32.75	46.00	-13.25	100	0
3	V	232.5318	40.19	peak	11.64	22.32	1.64	31.15	46.00	-14.85	100	17
4	V	332.5187	35.66	peak	14.28	22.20	1.95	29.69	46.00	-16.31	100	231
5	٧	79.8003	33.14	peak	7.60	22.42	1.05	19.37	40.00	-20.63	100	12
6	V	57.7962	37.14	peak	7.54	22.40	0.76	23.04	40.00	-16.96	100	177



Test Report	17071365-FCC-E
Page	19 of 36

Above 1GHz

Frequency	Read_level	Allerande	Height	Polarity	Level	Factors	Limit	Margin	Detector
(MHz)	(dBµV/m)	Azimuth	(cm)	(H/V)	(dBµV/m)	(dB)	(dBµV/m)	(dB)	(PK/AV)
1507.14	66.88	130	100	V	-18.29	48.59	74	-25.41	PK
1657.39	64.15	354	100	V	-17.17	46.98	74	-27.02	PK
2182.17	62.39	117	100	V	-14.83	47.56	74	-26.44	PK
1998.21	59.98	223	100	Н	-14.7	45.28	74	-28.72	PK
2595.17	62.7	271	100	Н	-14.05	48.65	74	-25.35	PK
2904.42	59.17	159	100	Н	-12.32	46.85	74	-27.15	PK

Note1: The highest frequency of the EUT is 2480 MHz, so the testing has been conformed to 5*2480MHz=12,400MHz.

Note 2: The frequency that above 3GHz is mainly from the environment noise.

Note3: The AV measurement performed, more than 20dB below limit so AV test data was not presented.



Test Report	17071365-FCC-E
Page	20 of 36

Annex A. TEST INSTRUMENT

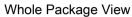
Instrument	Model	Serial#	Cal Date	Cal Due	In use			
AC Line Conducted Emissions								
EMI test receiver	ESCS30	8471241027	09/15/2017	09/14/2018	<			
Line Impedance Stabilization Network	LI-125A	191106	09/23/2017	09/22/2018	(
Line Impedance Stabilization Network	LI-125A	191107	09/23/2017	09/22/2018	<u>\</u>			
ISN	ISN T800	34373	09/23/2017	09/22/2018				
Transient Limiter	LIT-153	531118	08/30/2017	08/29/2018	~			
Radiated Emissions								
EMI test receiver	E SL6	100262	09/15/2017	09/14/2018	~			
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/30/2017	08/29/2018	V			
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/23/2017	03/22/2018	V			
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/19/2017	09/18/2018	V			
Double Ridge Horn Antenna	AH-118	71259	09/22/2017	09/21/2018	K			



Test Report	17071365-FCC-E
Page	21 of 36

Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo





Adapter - Lable View





Test Report	17071365-FCC-E
Page	22 of 36

EUT - Front View



EUT - Rear View





Test Report	17071365-FCC-E
Page	23 of 36

EUT - Top View



EUT - Bottom View





Test Report	17071365-FCC-E
Page	24 of 36

EUT - Left View



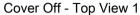
EUT - Right View





Test Report	17071365-FCC-E
Page	25 of 36

Annex B.ii. Photograph: EUT Internal Photo





Cover Off - Top View 2





Test Report	17071365-FCC-E
Page	26 of 36

Battery - Front View



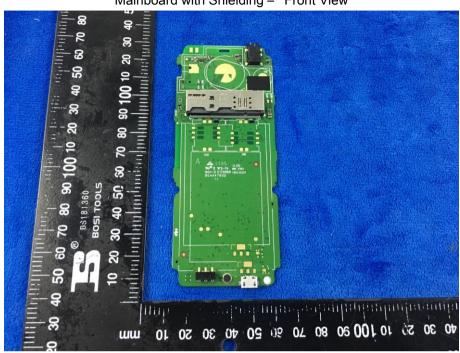
Battery - Rear View



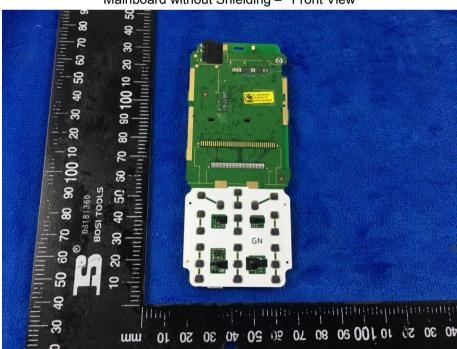


Test Report	17071365-FCC-E
Page	27 of 36

Mainboard with Shielding - Front View



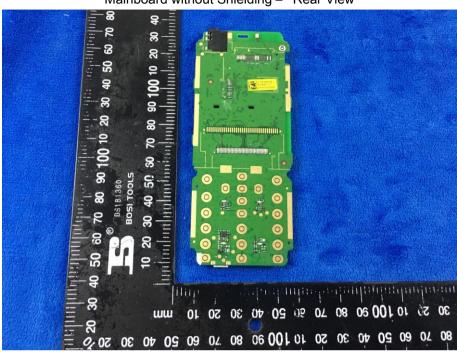
Mainboard without Shielding - Front View



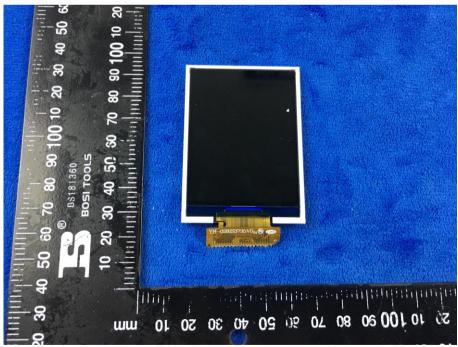


Test Report	17071365-FCC-E
Page	28 of 36

Mainboard without Shielding - Rear View



LCD - Front View





Test Report	17071365-FCC-E
Page	29 of 36

LCD - Rear View



GSM/PCS/UMTS-FDD - Antenna View





Test Report	17071365-FCC-E
Page	30 of 36

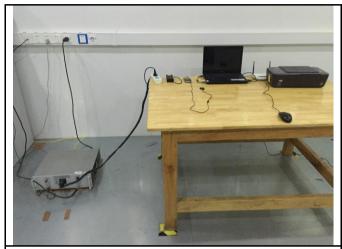
BT - Antenna View





Test Report	17071365-FCC-E
Page	31 of 36

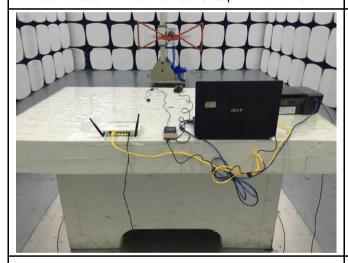
Annex B.iii. Photograph: Test Setup Photo



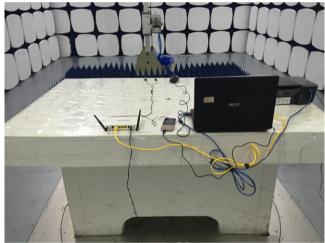
Conducted Emissions Test Setup - Front View



Conducted Emissions Test Setup - Side View



Radiated Emissions Test Setup Below 1GHz



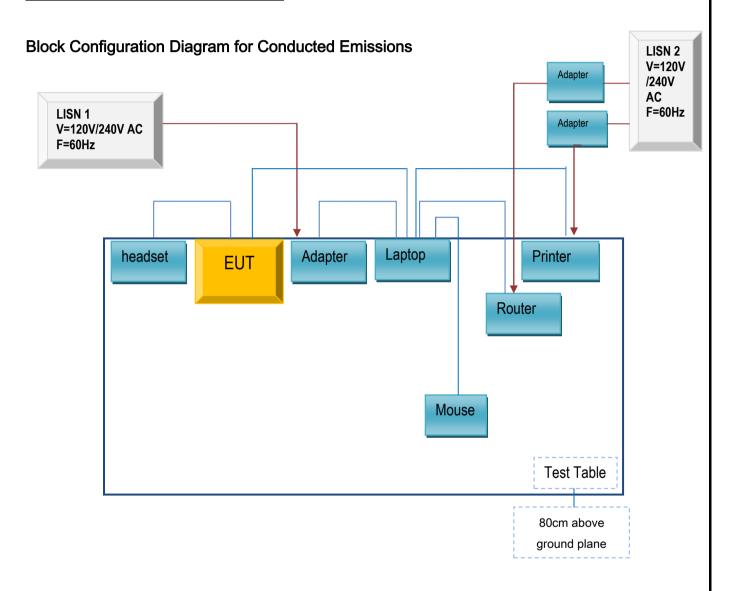
Radiated Emissions Test Setup Above 1GHz



Test Report	17071365-FCC-E
Page	32 of 36

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

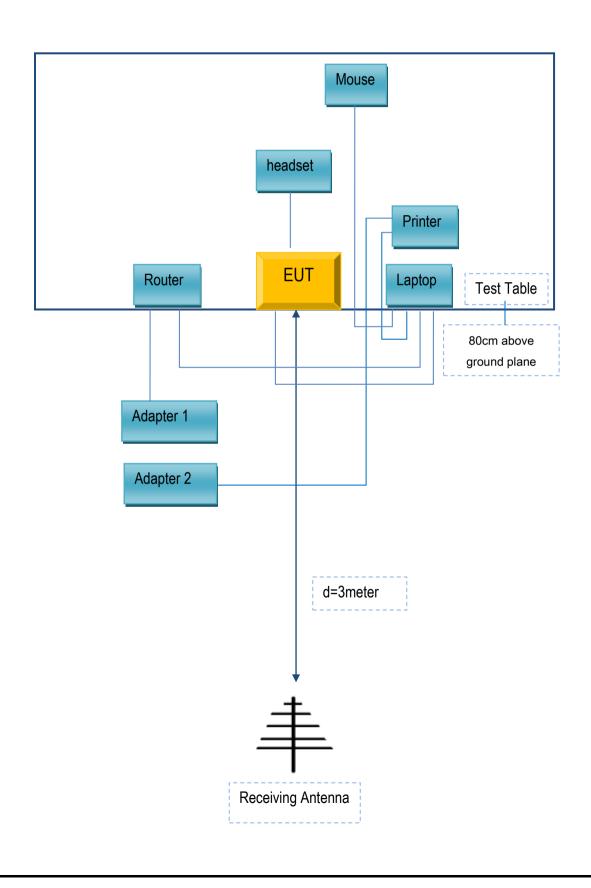
Annex C.ii. TEST SET UP BLOCK





Test Report	17071365-FCC-E
Page	33 of 36

Block Configuration Diagram for Radiated Emissions





Test Report	17071365-FCC-E
Page	34 of 36

Annex C. il. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Supporting Equipment:

Manufacturer	Equipment Description	Model	Serial No
Lenovo	Laptop	E40	LR-1EHRX
GOLDWEB	Router	R102	1202032094
Lenovo	AC Adapter	42T4416	21D9JU
HP	Printer	VCVRA-1003	CN36M19JWX
DELL	Mouse	E100	912NMTUT41481
BULL	Socket	GN-403	GN201203
SAMSUNG	headset	HS330	N/A

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	2m	JX120051274
USB Cable	Un-shielding	No	2m	CBA3000AH0C1
RJ45 Cable	Un-shielding	No	2m	KX156327541
Router Power cable	Un-shielding	No	2m	13274630Z
Printer Power cable	Un-shielding	No	2m	127581031
Power Cable	Un-shielding	No	0.8m	GT211032



Test Report	17071365-FCC-E
Page	35 of 36

Annex D. User Manual / Block Diagram / Schematics / Partlist

Please see the attachment



Test Report	17071365-FCC-E
Page	36 of 36

Annex E. DECLARATION OF SIMILARITY

N/A