EMC TEST REPORT



Report No.: 16071058-FCC-E Supersede Report No.:N/A

Applicant	Shenzhen Konka Telecommunications Technology Co.,Ltd.				
Product Name	Smart Phone				
Model No.	ADS1				
Serial No.	N/A				
Test Standard	FCC Part 1	FCC Part 15 Subpart B Class B:2015, ANSI C63.4: 2014			
Test Date	August 31 to September 26, 2016				
Issue Date	September 27, 2016				
Test Result	Pass	Fail			
Equipment complied with the specification					
Equipment did not comply with the specification					
Loven	Luo	David	Huang		
Loren Luo Test Engineer			Huang ked 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
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Test Report	16071058-FCC-E
Page	2 of 29

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

Scope
EMC, RF/Wireless, SAR, Telecom
EMC, RF/Wireless, SAR, Telecom
EMC, RF, Telecom, SAR, Safety
RF/Wireless, SAR, Telecom
EMC, RF, Telecom, SAR, Safety
EMI, EMS, RF, SAR, Telecom, Safety
EMI, RF/Wireless, SAR, Telecom
EMC, RF, SAR, Telecom
EMC, RF, SAR, Telecom, Safety



Test Report	16071058-FCC-E
Page	3 of 29

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Test Report	16071058-FCC-E
Page	4 of 29

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	26
INA	NEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST	29



Test Report	16071058-FCC-E
Page	5 of 29

1. Report Revision History

Report No.	Report Version	Description	Issue Date
16071058-FCC-E	NONE	Original	September 27, 2016

2. Customer information

Applicant Name	Shenzhen Konka Telecommunications Technology Co.,Ltd.
Applicant Add	No.9008 Shennan Road, Overseas Chinese Town, Shen Zhen, Guangdong, China
Manufacturer	Shenzhen Konka Telecommunications Technology Co.,Ltd.
Manufacturer Add	No.9008 Shennan Road, Overseas Chinese Town, Shen Zhen, Guangdong, China

3. Test site information

	1
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.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0



Test Report	16071058-FCC-E
Page	6 of 29

4. Equipment under Test (EUT) Information

Description of EUT:	Smart Phone

ADS1 Main Model:

Serial Model: N/A

> GSM850: -0.20dBi PCS1900: 0.52dBi

UMTS-FDD Band V: -0.20dBi

Antenna Gain: UMTS-FDD Band II: 0.52dBi

LTE Band 4: 0.51dBi

Bluetooth/BLE/WIFI: -0.87dBi

GPS: -0.87dBi

Antenna Type: PIFA antenna

Adapter:

Model: HJ-0502000W2-AR

Input: AC 100-240V~50/60Hz,0.3A

Output: DC 5.0V,2A

Input Power:

Battery:

Model: KLB245P354

Normal Voltage: 3.8V,2450mAh

Charging Of Voltage: DC 4.5V,9.31Wh

Equipment Category: Class B

> GSM / GPRS: GMSK EGPRS: GMSK,8PSK UMTS-FDD: QPSK

LTE Band: QPSK, 16QAM

Type of Modulation: 802.11b/g/n: DSSS, OFDM

Bluetooth: GFSK, π /4DQPSK, 8DPSK

BLE: GFSK GPS:BPSK



Test Report	16071058-FCC-E
Page	7 of 29

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

UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz

UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz;

RX: 1932.4 ~ 1987.6 MHz

RF Operating Frequency (ies):

LTE Band 4 TX: 1710.7 ~ 1754.3 MHz; RX: 2110.7 ~ 2154.3 MHz

WIFI: 802.11b/g/n(20M): 2412-2462 MHz WIFI: 802.11n(40M): 2422-2452 MHz Bluetooth& BLE: 2402-2480 MHz

GPS: 1575.42 MHz

GSM 850: 124CH PCS1900: 299CH

UMTS-FDD Band V: 102CH UMTS-FDD Band II: 277CH

Number of Channels: WIFI :802.11b/g/n(20M): 11CH

WIFI:802.11n(40M):7CH

Bluetooth: 79CH

BLE: 40CH GPS:1CH

Port: Earphone Port, USB Port

Trade Name : ADMIRAL

FCC ID: UT3ADS1

Date EUT received: August 29, 2016

Test Date(s): August 31 to September 26, 2016



Test Report	16071058-FCC-E
Page	8 of 29

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

Emissions			
Test Item	Description	Uncertainty	
Band Edge and Radiated Spurious Emissions	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB	
-	-	-	



Test Report	16071058-FCC-E
Page	9 of 29

6. Measurements, Examination And Derived Results

6.1 AC Power Line Conducted Emissions

Temperature	23°C
Relative Humidity	55%
Atmospheric Pressure	1031mbar
Test date :	August 31, 2016
Tested By:	Loren Luo

Requirement(s):

Spec	Item	Requirement Applicable			
47CFR§15. 107	a)	For Low-power radio-freconnected to the public voltage that is conducted frequency or frequencied not exceed the limits in [mu] H/50 ohms line implower limit applies at the	c utility (AC) power line ed back onto the AC poes, within the band 150 the following table, as apedance stabilization r	the radio frequency ower line on any kHz to 30 MHz, shall measured using a 50 network (LISN). The	
107		Frequency ranges	Limit (
		(MHz)	QP	Average	
		0.15 ~ 0.5	66 – 56	56 – 46	
		0.5 ~ 5	56	46	
		5 ~ 30	60	50	
Test Setup	Vertical Ground Reference Plane EUT ### Receiver #### Receiver #### Receiver				
	Note: 1.Support units were connected to second LISN. 2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.				
Procedure	 The EUT and supporting equipment were set up in accordance with the require 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, connections. 				
filtered mains.					



Yes

Test Data

Test Plot

□_{N/A}

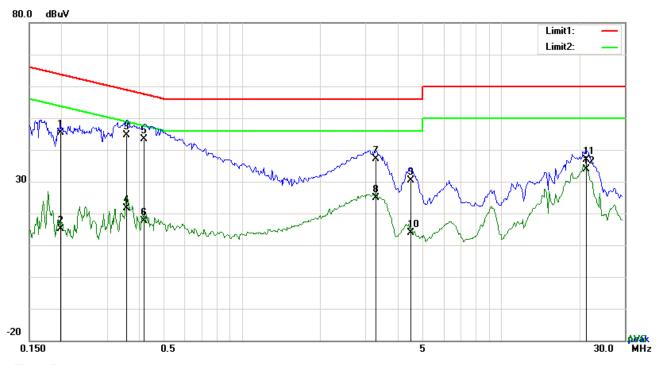
Yes (See below)

Test Report	16071058-FCC-E	
Page	10 of 29	

	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 tuned to the
	selected frequencies and the necessary measurements made with a receiver bandwidt
	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 Report	16071058-FCC-E
Page	11 of 29



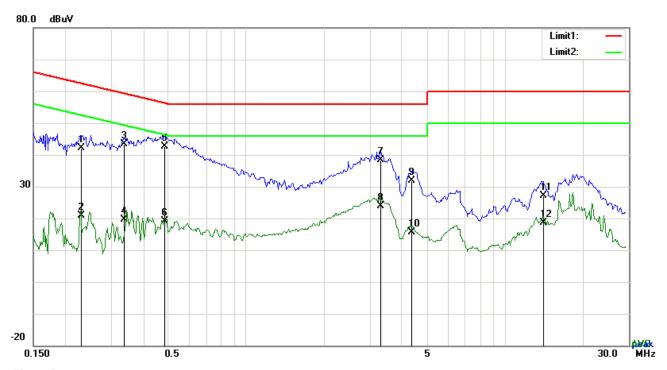
Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	L1	0.1976	35.39	QP	10.03	45.42	63.71	-18.29
2	L1	0.1976	5.16	AVG	10.03	15.19	53.71	-38.52
3	L1	0.3567	34.53	QP	10.03	44.56	58.80	-14.24
4	L1	0.3567	11.64	AVG	10.03	21.67	48.80	-27.13
5	L1	0.4191	33.34	QP	10.03	43.37	57.47	-14.10
6	L1	0.4191	7.61	AVG	10.03	17.64	47.47	-29.83
7	L1	3.2769	27.07	QP	10.06	37.13	56.00	-18.87
8	L1	3.2769	14.92	AVG	10.06	24.98	46.00	-21.02
9	L1	4.4976	20.30	QP	10.07	30.37	56.00	-25.63
10	L1	4.4976	3.93	AVG	10.07	14.00	46.00	-32.00
11	L1	21.3417	26.53	QP	10.33	36.86	60.00	-23.14
12	L1	21.3417	23.63	AVG	10.33	33.96	50.00	-16.04



Test Report	16071058-FCC-E
Page	12 of 29



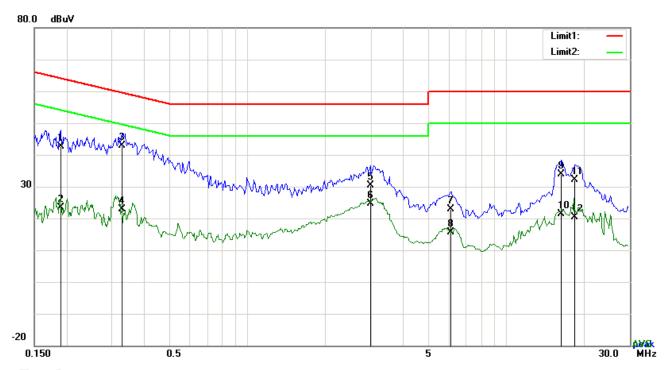
Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	N	0.2292	32.19	QP	10.02	42.21	62.48	-20.27
2	Ν	0.2292	10.83	AVG	10.02	20.85	52.48	-31.63
3	N	0.3374	33.48	QP	10.02	43.50	59.27	-15.77
4	N	0.3374	9.59	AVG	10.02	19.61	49.27	-29.66
5	N	0.4815	32.51	QP	10.02	42.53	56.31	-13.78
6	N	0.4815	9.04	AVG	10.02	19.06	46.31	-27.25
7	N	3.2964	28.36	QP	10.05	38.41	56.00	-17.59
8	N	3.2964	13.88	AVG	10.05	23.93	46.00	-22.07
9	Ν	4.3377	21.71	QP	10.06	31.77	56.00	-24.23
10	Ν	4.3377	5.60	AVG	10.06	15.66	46.00	-30.34
11	N	14.0448	17.01	QP	10.19	27.20	60.00	-32.80
12	Ν	14.0448	8.45	AVG	10.19	18.64	50.00	-31.36



Test Report	16071058-FCC-E
Page	13 of 29



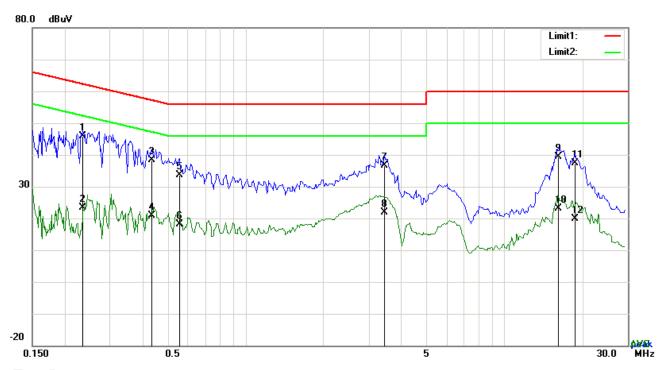
Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB)	(dBuV)	(dBuV)	(dB)
1	L1	0.1894	32.58	QP	10.03	42.61	64.06	-21.45
2	L1	0.1894	13.25	AVG	10.03	23.28	54.06	-30.78
3	L1	0.3268	32.89	QP	10.03	42.92	59.53	-16.61
4	L1	0.3268	12.93	AVG	10.03	22.96	49.53	-26.57
5	L1	2.9814	20.40	QP	10.05	30.45	56.00	-25.55
6	L1	2.9814	14.70	AVG	10.05	24.75	46.00	-21.25
7	L1	6.1122	12.77	QP	10.10	22.87	60.00	-37.13
8	L1	6.1122	5.54	AVG	10.10	15.64	50.00	-34.36
9	L1	16.3731	23.64	QP	10.25	33.89	60.00	-26.11
10	L1	16.3731	11.05	AVG	10.25	21.30	50.00	-28.70
11	L1	18.4245	21.77	QP	10.28	32.05	60.00	-27.95
12	L1	18.4245	10.10	AVG	10.28	20.38	50.00	-29.62



Test Report	16071058-FCC-E
Page	14 of 29



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	N	0.2341	35.88	QP	10.02	45.90	62.30	-16.40
2	N	0.2341	13.45	AVG	10.02	23.47	52.30	-28.83
3	N	0.4347	28.42	QP	10.02	38.44	57.16	-18.72
4	N	0.4347	10.87	AVG	10.02	20.89	47.16	-26.27
5	N	0.5556	23.50	QP	10.02	33.52	56.00	-22.48
6	N	0.5556	8.08	AVG	10.02	18.10	46.00	-27.90
7	N	3.4485	26.46	QP	10.05	36.51	56.00	-19.49
8	N	3.4485	11.93	AVG	10.05	21.98	46.00	-24.02
9	N	16.1781	29.19	QP	10.21	39.40	60.00	-20.60
10	N	16.1781	12.96	AVG	10.21	23.17	50.00	-26.83
11	N	18.8028	27.02	QP	10.25	37.27	60.00	-22.73
12	N	18.8028	9.51	AVG	10.25	19.76	50.00	-30.24



Test Report	16071058-FCC-E
Page	15 of 29

6.2 Radiated Emissions

Temperature	23°C
Relative Humidity	55%
Atmospheric Pressure	1031mbar
Test date :	August 31, 2016
Tested By :	Loren Luo

Requirement(s):

Spec	Item	tem Requirement Applicable							
47CFR§15.	a)	Except higher limit as specified else emissions from the low-power radio exceed the field strength levels spe the level of any unwanted emission the fundamental emission. The tight edges	>						
109(d)	,	Frequency range (MHz)	Field Strength (μV/m)						
		30 - 88	100						
		88 – 216	150						
		216 960	200						
		Above 960 500							
Test Setup	Ant. Tower Support Units Turn Table Ground Plane Test Receiver								
Procedure	 The EUT was switched on and allowed to warm up to its normal operating condition. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: Vertical or horizontal polarization (whichever gave the higher emission level 								



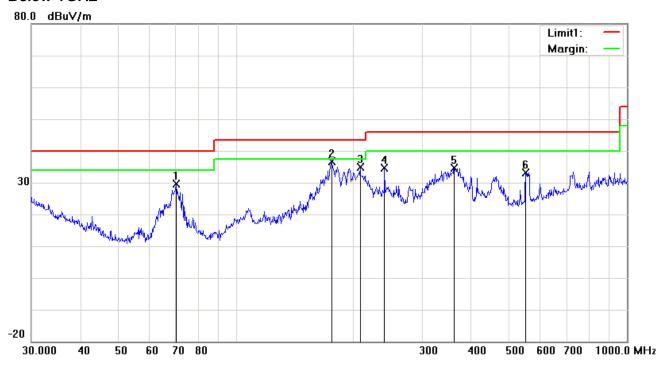
Test Report	16071058-FCC-E
Page	16 of 29

			over a full rotation of the EUT) was chosen.
		b.	The EUT was then rotated to the direction that gave the maximum
			emission.
		C.	Finally, the antenna height was adjusted to the height that gave the maximum
			emission.
	3.	The re	solution bandwidth and video bandwidth of test receiver/spectrum analyzer is
		120 kF	Iz for Quasiy Peak detection at frequency below 1GHz.
	4.	The res	solution bandwidth of test receiver/spectrum analyzer is 1MHz and video
		bandw	ridth is 3MHz with Peak detection for Peak measurement at frequency above
		1GHz.	
		The re	esolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video
		band	width with Peak detection for Average Measurement as below at frequency
		above	e 1GHz.
		■ 1 kl	Hz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%)
	5.	Steps	2 and 3 were repeated for the next frequency point, until all selected frequency
		points	were measured.
Remark			
	V D		F
Result	Pa	ass	└ Fail
l.	7		n
Test Data	Yes		N/A
Test Plot	Yes (S	See belo	ow) N/A



Test Report	16071058-FCC-E
Page	17 of 29

Below 1GHz



Test Data

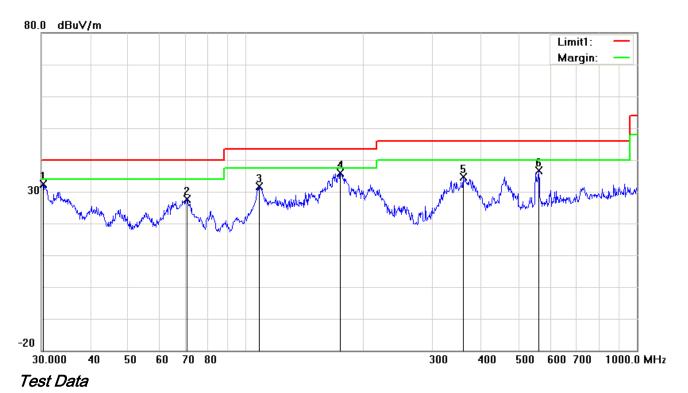
Horizontal Polarity Plot @3m

No.	P/L	Frequency	Readin g	Detector	Corrected	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/ m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	Ι	70.3365	43.21	peak	-13.61	29.60	40.00	-10.40	100	48
2	Н	175.6516	46.06	peak	-9.54	36.52	43.50	-6.98	100	26
3	Н	207.8501	43.66	peak	-8.81	34.85	43.50	-8.65	100	134
4	Н	239.9873	43.73	peak	-9.10	34.63	46.00	-11.37	100	105
5	Н	361.7139	39.70	peak	-5.19	34.51	46.00	-11.49	100	97
6	Н	550.9480	33.99	peak	-0.80	33.19	46.00	-12.81	100	238



Test Report	16071058-FCC-E
Page	18 of 29

Below 1GHz



Vertical Polarity Plot @3m

No.	P/L	Frequency	Readin g	Detector	Corrected	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/ m)		(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)
1	V	30.3173	32.77	peak	-0.49	32.28	40.00	-7.72	100	64
2	٧	70.5836	41.34	peak	-13.61	27.73	40.00	-12.27	100	30
3	٧	108.2667	40.86	peak	-9.33	31.53	43.50	-11.97	100	19
4	V	174.4241	45.26	peak	-9.45	35.81	43.50	-7.69	100	120
5	٧	359.1860	39.80	peak	-5.25	34.55	46.00	-11.45	100	186
6	V	560.6928	37.38	peak	-0.64	36.74	46.00	-9.26	100	258



Test Report	16071058-FCC-E
Page	19 of 29

Above 1GHz

Frequency (MHz)	Amplitude (dΒμV/m)	Azimuth	Height (cm)	Polarity (H/V)	Factors (dB)	Limit (dBµV/m)	Margin (dB)	Detector (PK/AV)
1462.157	53.16	89	168	V	-24.02	74	-20.84	PK
2032.546	51.24	118	134	V	-21.12	74	-22.76	PK
2618.952	49.82	64	117	V	-23.08	74	-24.18	PK
2304.338	53.72	49	172	Н	-23.53	74	-20.28	PK
2900.215	51.04	73	146	Н	-22.86	74	-22.96	PK
1893.679	52.15	36	99	Н	-24.45	74	-21.85	PK

Note1: The highest frequency of the EUT is 2480 MHz, so the testing has been conformed to 5*2472MHz=12,360MHz.

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	16071058-FCC-E
Page	20 of 29

Annex A. TEST INSTRUMENT

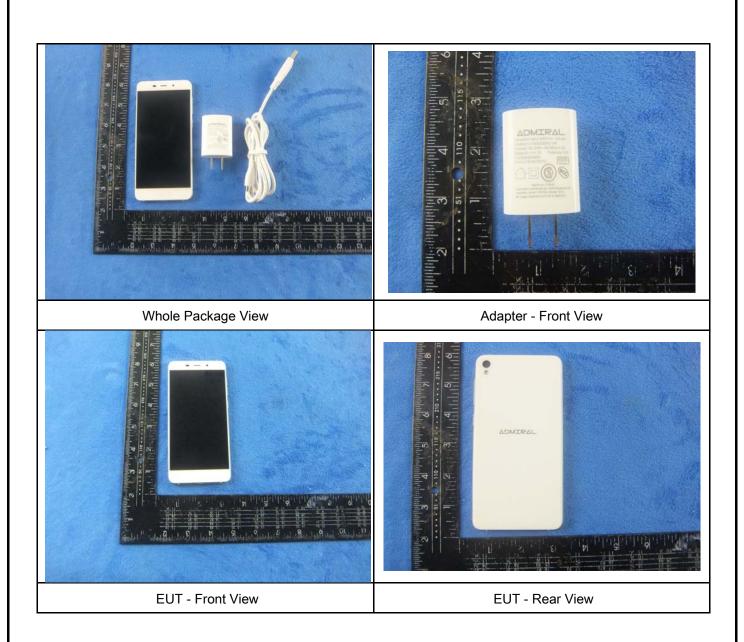
Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emis	ssions				
EMI test receiver	ESCS30	8471241027	09/17/2015	09/16/2016	>
Line Impedance Stabilization Network	LI-125A	191106	09/25/2015	09/24/2016	>
Line Impedance Stabilization Network	LI-125A	191107	09/25/2015	09/24/2016	(
LISN	ISN T800	34373	09/25/2015	09/24/2016	<
Transient Limiter	LIT-153	531118	08/31/2016	08/30/2017	<
Radiated Emissions					
EMI test receiver	ESL6	100262	09/17/2015	09/16/2016	~
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/31/2016	08/30/2017	>
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/24/2016	03/23/2017	>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/21/2015	09/20/2016	\
Double Ridge Horn Antenna	AH-118	71259	09/24/2015	09/23/2016	\



Test Report	16071058-FCC-E
Page	21 of 29

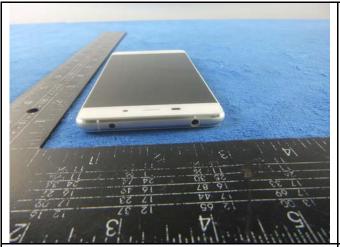
Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo





Test Report	16071058-FCC-E
Page	22 of 29





EUT - Top View







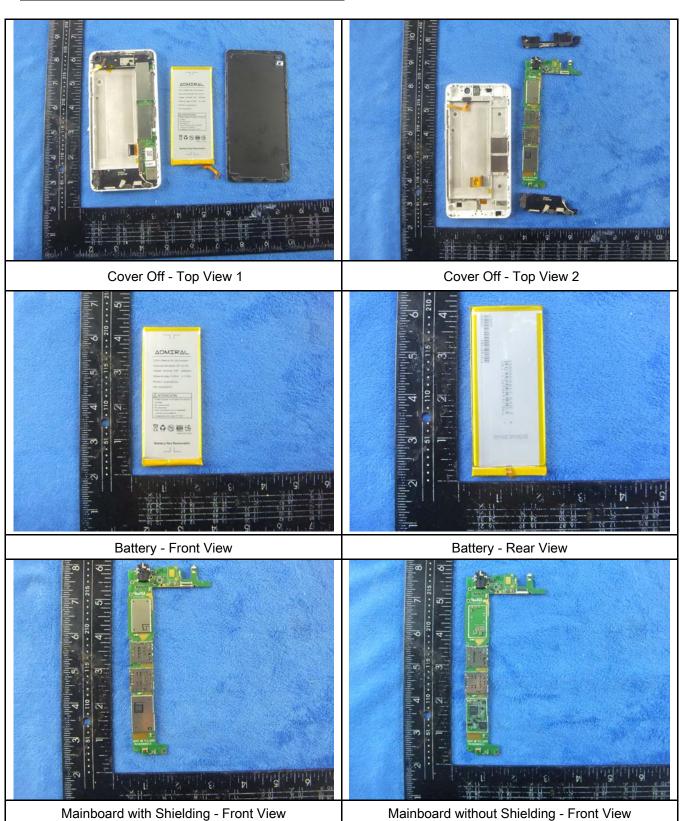


EUT - Right View



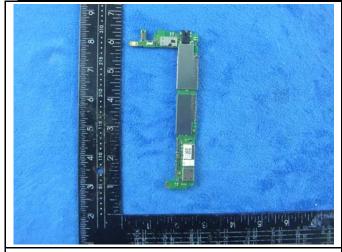
Test Report	16071058-FCC-E
Page	23 of 29

Annex B.ii. Photograph: EUT Internal Photo





Test Report	16071058-FCC-E	
Page	24 of 29	



Mainboard with Shielding - Rear View

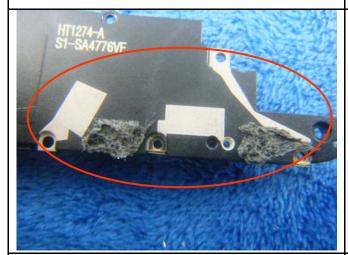
Mainboard without Shielding - Rear View

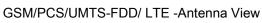




LCD - Front View

LCD - Rear View







WIFI/BT/BLE/GPS - Antenna View

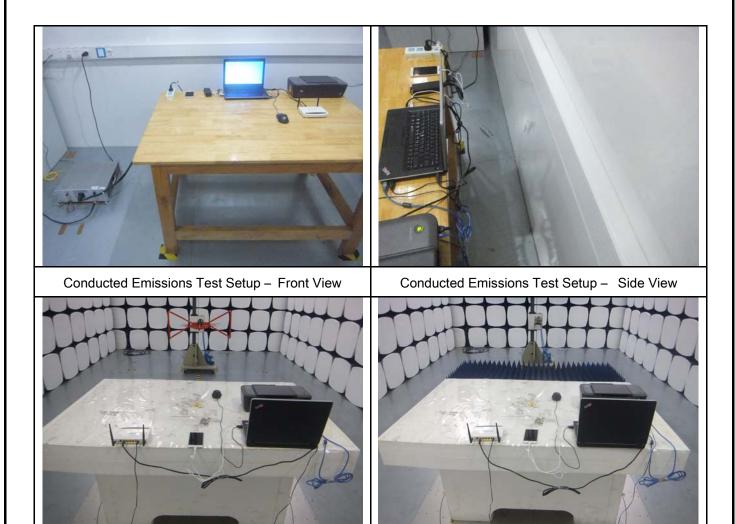


Test Report	16071058-FCC-E
Page	25 of 29

Radiated Emissions Test Setup Above 1GHz

Annex B.iii. Photograph: Test Setup Photo

Radiated Emissions Test Setup Below 1GHz

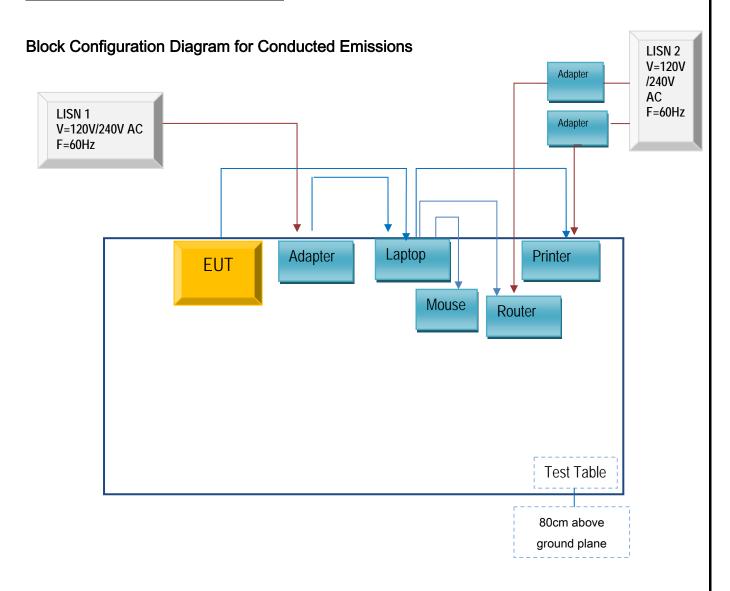




Test Report	16071058-FCC-E
Page	26 of 29

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

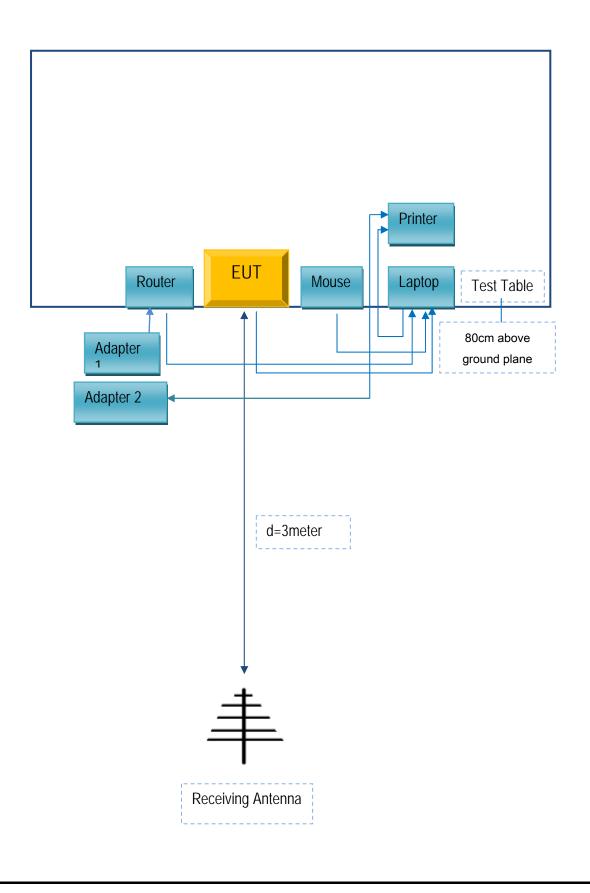
Annex C.ii. TEST SET UP BLOCK





Test Report	16071058-FCC-E	
Page	27 of 29	

Block Configuration Diagram for Radiated Emissions





Test Report	16071058-FCC-E	
Page	28 of 29	

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
Shenzhen Konka Telecommunications Technology Co.,Ltd.	Adapter	HJ-0502000W2-AR	HJ16H4C00010
Lenovo	AC Adapter	42T4416	21D9JU
HP	Printer	VCVRA-1003	CN36M19JWX
DELL	Mouse	E100	912NMTUT41481
BULL	Socket	GN-403	GN201203

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	2m	JX120051274
USB Cable	Un-shielding	No	2m	JX110725002
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	16071058-FCC-E	
Page	29 of 29	

Annex D. User Manual / Block Diagram / Schematics / Partlist Please see attachment