FCC Report

Application Purpose	: Original grant
Applicant Name:	: INFINIX MOBILITY LIMITED
FCC I D	: 2ADYY- X601-LTE
Equipment Type	: Mobile phone
Model Name	: X601-LTE
Report Number	: FCC16083896A-4
Standard(S)	: FCC Part 15 Subpart C
Date Of Receipt	: August 19, 2016
Date Of Issue	: September 27, 2016
Test By	Datsy REA
Reviewed By	(Daisy Qin) : Sol Gin
Authorized by	(Sol Qin)
Prepared by	 <u>(Michal Ling)</u> CTC Certification & Testing Co., Ltd. 2nd Floor,Bl Building,Fengyeyuan Industrial Plant,, Liuxian 2st. Road, Xin'an Street, Bao'an District,,Shenzhen,518000 Registration Number: 588523

REPORT REVISE RECORD							
Report Version	Revise Time	Issued Date	Valid Version	Notes			
V1.0	/	September 27, 2016	Valid	Original Report			
V1.1		October 08, 2016	Valid	Original Report			

Table of Contents	Page
1. GENERAL INFORMATION	4
2. TEST DESCRIPTION	6
2.1 MEASUREMENT UNCERTAINTY	6
2.2 DESCRIPTION OF TEST MODES	7
2.3 CONFIGURATION OF SYSTEM UNDER TEST	8
2.4 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE)	8
3. SUMMARY OF TEST RESULTS	10
4. MEASUREMENT INSTRUMENTS	11
5. EMC EMISSION TEST	12
5.1 CONDUCTED EMISSION MEASUREMENT	12
5.1.1 POWER LINE CONDUCTED EMISSION LIMITS	12
5.1.2 TEST PROCEDURE	13
5.1.3 DEVIATION FROM TEST STANDARD	13
5.1.4 TEST SETUP 5.1.5 EUT OPERATING CONDITIONS	13 13
5.1.5 EUT OPERATING CONDITIONS 5.1.6 TEST RESULTS	13
	••
5.2 RADIATED EMISSION MEASUREMENT 5.2.1 RADIATED EMISSION LIMITS	20 20
5.2.2 TEST PROCEDURE	20 21
5.2.3 DEVIATION FROM TEST STANDARD	21
5.2.4 TEST SETUP	22
5.2.5 EUT OPERATING CONDITIONS	22
5.2.5.1 TEST RESULTS (BETWEEN 30M – 1000 MHZ)	23
5.2.5.2 TEST RESULTS(1GHZ TO 6GHZ)	29
6. EUT TEST PHOTO	32
7. PHOTOGRAPHS OF EUT	34

1. GENERAL INFORMATION

I	
Test Model	X601-LTE
Applicant	INFINIX MOBILITY LIMITED
Address	RMS 05-15, 13A/F SOUTH TOWER WORLD FINANCE CTR HARBOUR CITY 17 CANTON RD TST KLN HONG KONG
Manufacturer	SHENZHEN TECNO TECHNOLOGY CO.,LTD.
Address	1-4th Floor,3rd Building,Pacific Industrial Park,No.2088,Shenyan Road,Yantian District,Shenzhen,Guangdong,China
Equipment Type	Mobile phone
Brand Name	Infinix
Hardware	V2.1
Software	X601-H537B1-M-160715V13
Battery information:	Li-ion Battery : BL-45BX Voltage: 3.85V Capacity: 4500mAh Limited Charge Voltage: 4.4V
Adapter Information:	Adapter: CQ-24KX Input: AC 100~240V 50Hz 600mA Output: DC 5~12V 2A
Data of receipt	August 19, 2016
Date of test	August 19, 2016 to September 25, 2016
Deviation	None
Condition of Test Sample	Normal

We hereby certify that:

The above equipment was tested by QTC Certification & Testing Co., Ltd.

2nd Floor,BI Building,Fengyeyuan Industrial Plant,, Liuxian 2st. Road, Xin'an Street, Bao'an District,,Shenzhen,518000

Registration Number: 588523

The data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C 63.4:2014. The sample tested as described in this report is in compliance with the FCC Rules Part15 Subpart B.

The test results of this report relate only to the tested sample identified in this report.

2. TEST DESCRIPTION

2.1 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y \pm U , where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95** % °

No.	Item	Uncertainty
1	Conducted Emission Test	±3.2dB
2	RF power, conducted	±0.16dB
3	Spurious emissions, conducted	±0.21dB
4	All emissions, radiated(<1G)	±4.7dB
5	All emissions, radiated(>1G)	±4.7dB
6	Temperature	±0.5°C
7	Humidity	±2%

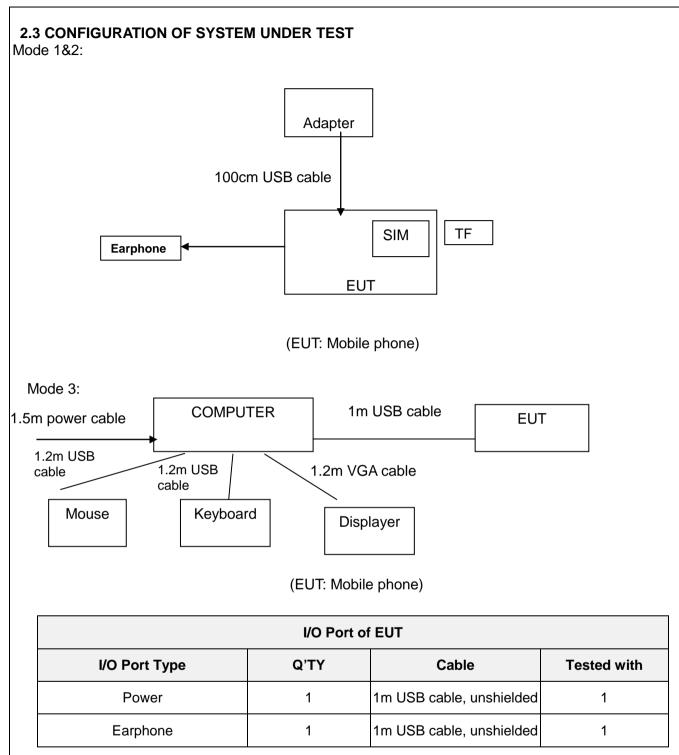
2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Video Recording
Model 2	Video Playing
Mode 3	Exchange data with computer

For Conducted Emission			
Final Test Mode	Test with Keyboard and Mouse		
Mode 1	Video Recording		
Model 2	Video Playing		
Mode 3	Exchange data with computer		

For Radiated Emission			
Final Test Mode	Test with Keyboard and Mouse		
Mode 1	Video Recording		
Model 2	Video Playing		
Mode 3	Exchange data with computer		



2.4 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
1	Adapter	/	CQ-24KX	/	/
2	Keyboard	HP	SK-2880	435302-AA-	/
3	Mouse	DELL	MS111-1	/	/

Note:

- (1)
- The support equipment was authorized by Declaration of Confirmation. For detachable type I/O cable should be specified the length in cm in $\[\]$ Length $\[\]$ column. (2)

3. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 , Subpart B					
Standard Section	Test Item	Judgment	Remark		
15.107	CONDUCTED EMISSION	PASS			
15.109	RADIATED EMISSION	PASS			

NOTE:

(1)" N/A" denotes test is not applicable in this test report.

4. MEASUREMENT INSTRUMENTS						
Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibrated	Calibrated until	
ESCI Test Receiver	R&S	ESCI	100005	08/19/2016	08/18/2017	
LISN	AFJ	LS16	16010222119	08/19/2016	08/18/2017	
LISN(EUT)	Mestec	AN3016	04/10040	08/19/2016	08/18/2017	
pre-amplifier	CDSI	PAP-1G18-38		08/19/2016	08/18/2017	
System Controller	СТ	SC100	-	08/19/2016	08/18/2017	
Bi-log Antenna	Chase	CBL6111C	2576	08/19/2016	08/18/2017	
Spectrum analyzer	R&S	FSU26	200409	08/19/2016	08/18/2017	
Horn Antenna	SCHWARZBECK	9120D	1141	08/19/2016	08/18/2017	
Bi-log Antenna	SCHWAREBECK	VULB9163	9163/340	08/19/2016	08/18/2017	
Pre Amplifier	H.P.	HP8447E	2945A02715	10/13/2016	10/12/2017	
9*6*6 Anechoic				08/21/2016	08/20/2017	

5. EMC EMISSION TEST

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 POWER LINE CONDUCTED EMISSION Limits

its (Frequency Range 150KHz-30MHz)

	Class A (dBuV)		Class B (dBuV)		Standard	
FREQUENCY (MHz)	Quasi-peak	Average	Quasi-peak	Average	Standard	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC	
0.50 -5.0	73.00	60.00	56.00	46.00	FCC	
5.0 -30.0	73.00	60.00	60.00	50.00	FCC	

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting			
Attenuation	10 dB			
Start Frequency	0.15 MHz			
Stop Frequency	30 MHz			
IF Bandwidth	9 kHz			

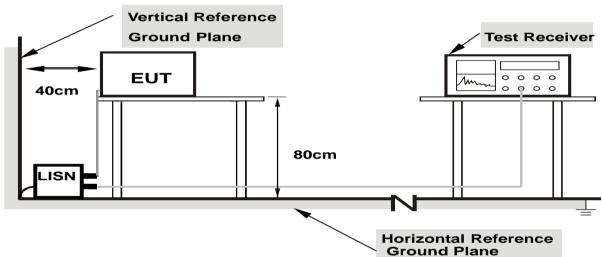
5.1.2 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

5.1.3 DEVIATION FROM TEST STANDARD

No deviation

5.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

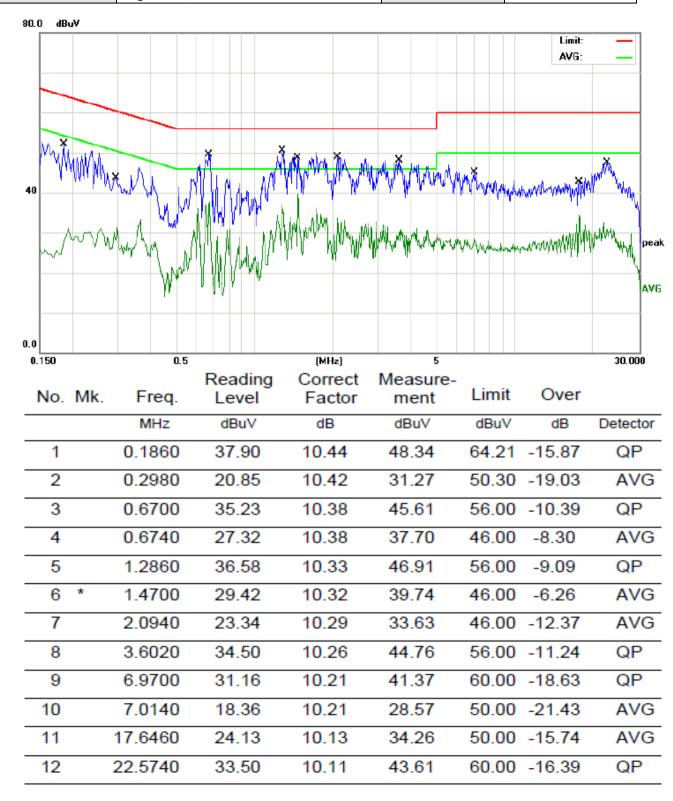
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

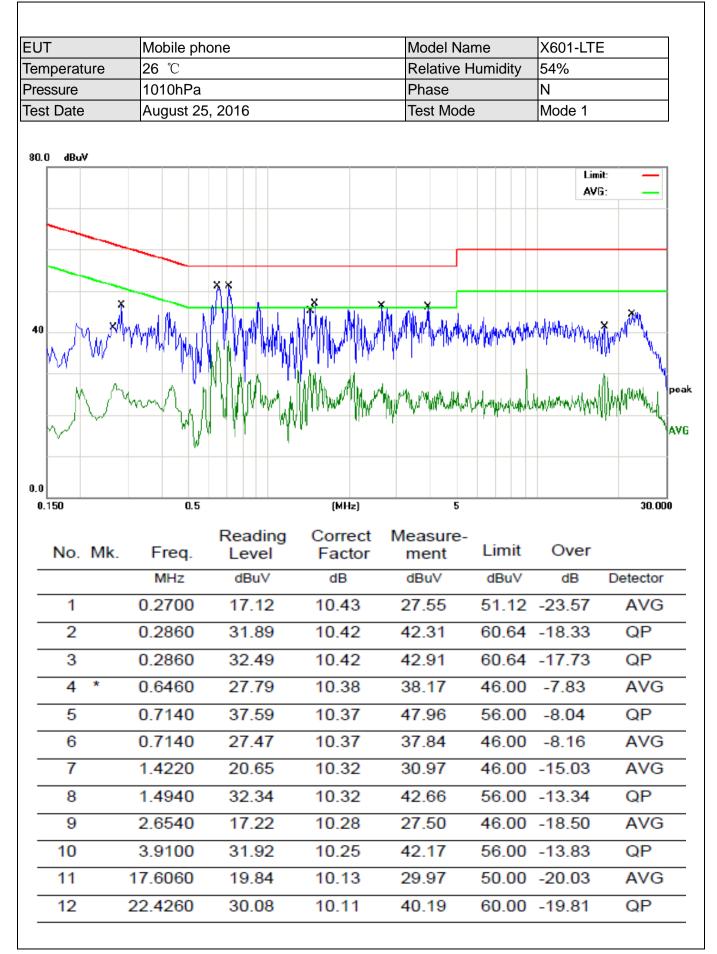
5.1.5 EUT OPERATING CONDITIONS

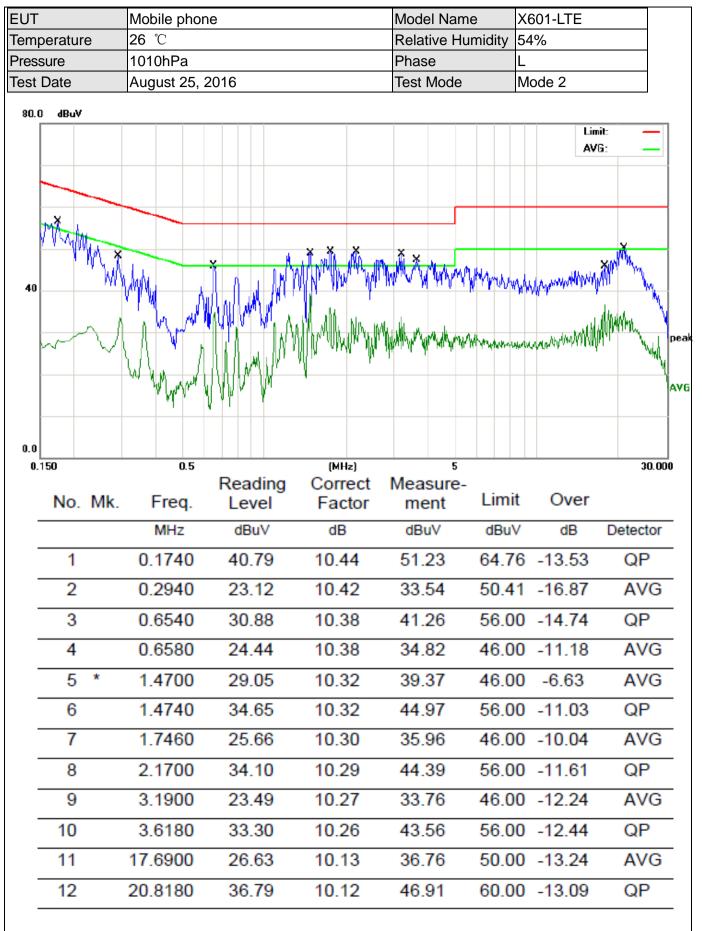
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

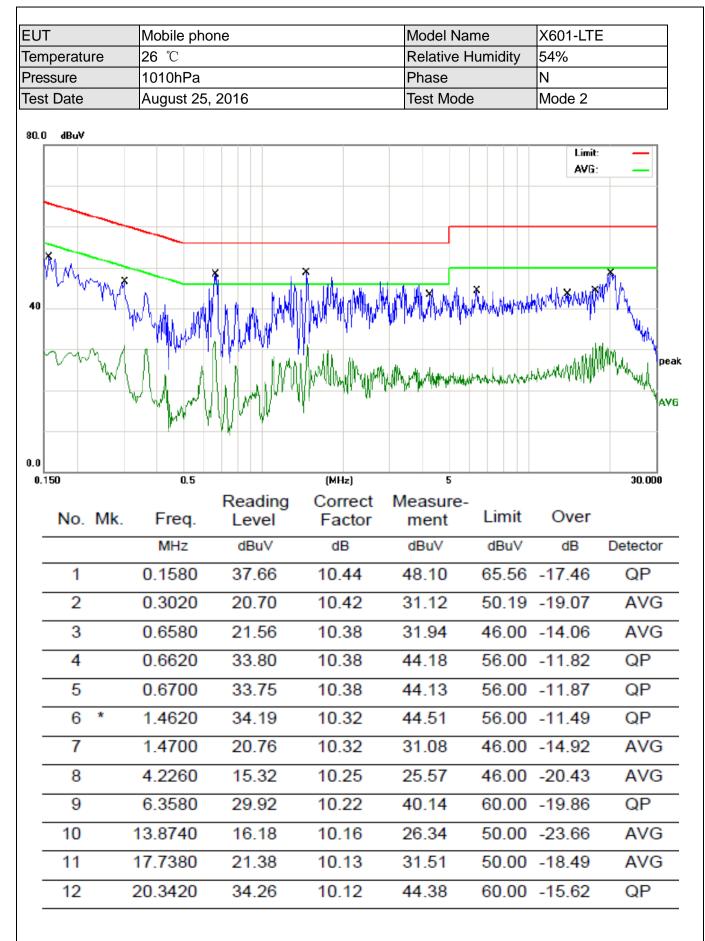
5.1.6 TEST RESULTS

EUT	Mobile phone	Model Name	X601-LTE
Temperature	26 ℃	Relative Humidity	54%
Pressure	1010hPa	Phase	L
Test Date	August 25, 2016	Test Mode	Mode 1

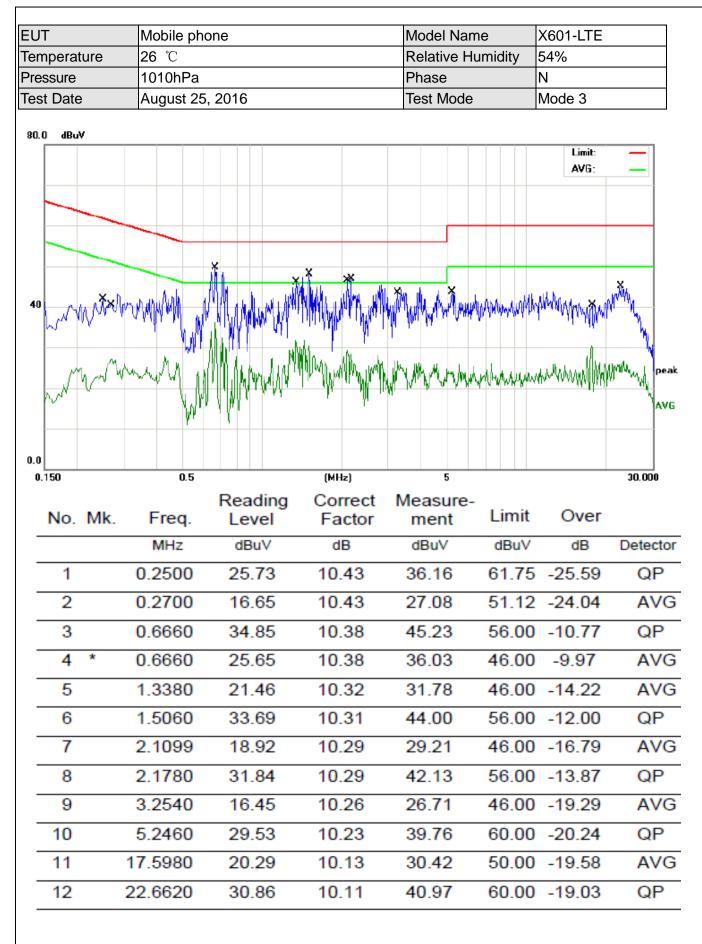








EUT	Mobile pho	one		Model Na	me	X601-LTE		
emperature	26 ℃	26 ℃			lumidity	54%		
Pressure	1010hPa	1010hPa August 25, 2016				L		
Test Date	August 25,				e	Mode 3		
80.0 dBuV								
						Limit AVG		
40	×hummy M				WYWWWW WWWWW	Narrow (MAN) Narrow (MAN)	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
0.0 0.150	0.5	Reading	(MHz) Correct	5 Measure-	Limit	Over	30.000	
No. Mk	. Freq. MHz	Level dBuV	Factor dB	dBuV	dBuV	dB	Detector	
4								
1	0.2660	21.23	10.43	31.66		-19.58	AVG	
2	0.2900	32.22	10.42	42.64	60.52	-17.88	QP	
3	0.6300	34.01	10.38	44.39	56.00	-11.61	QP	
4	0.7019	27.32	10.38	37.70	46.00	-8.30	AVG	
5	1.4740	37.91	10.32	48.23	56.00	-7.77	QP	
6 *	1.4740	28.99	10.32	39.31	46.00	-6.69	AVG	
7	2.0420	26.22	10.29	36.51	46.00		AVG	
8	2.0579	35.62	10.29	45.91		-10.09	QP	
0	4.8540					-13.29	AVG	
0	4.0040	22.48	10.23	32.71				
9		00.41	art (1/1	43.67	56.00	-12.33	QP	
10	4.8980	33.44	10.23					
		33.44 24.11	10.23	34.24	50.00	-15.76	AVG	



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

	Limit (dBuV/m) (at 3M)				
FREQUENCY (MHz)	PEAK	AVERAGE			
Above 1000	74	54			

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting			
Attenuation	Auto			
Start Frequency	1000 MHz			
Stop Frequency	10th carrier harmonic			
RB / VB (emission in restricted	1 MHz / 1 MHz for Dook 1 MHz / 1Hz for Average			
band)	1 MHz / 1 MHz for Peak, 1 MHz / 1Hz for Average			

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

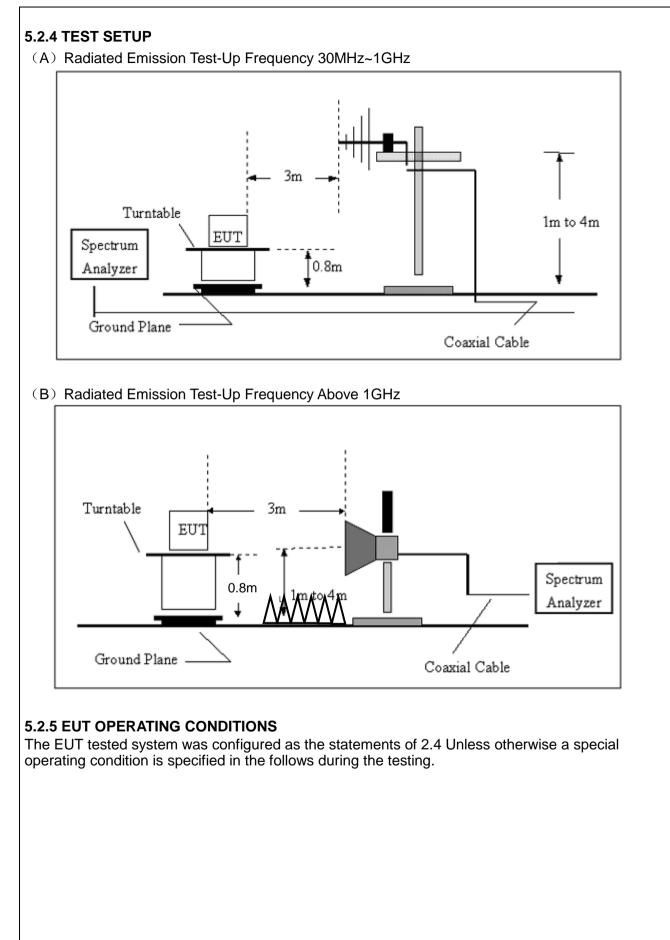
5.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos. Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

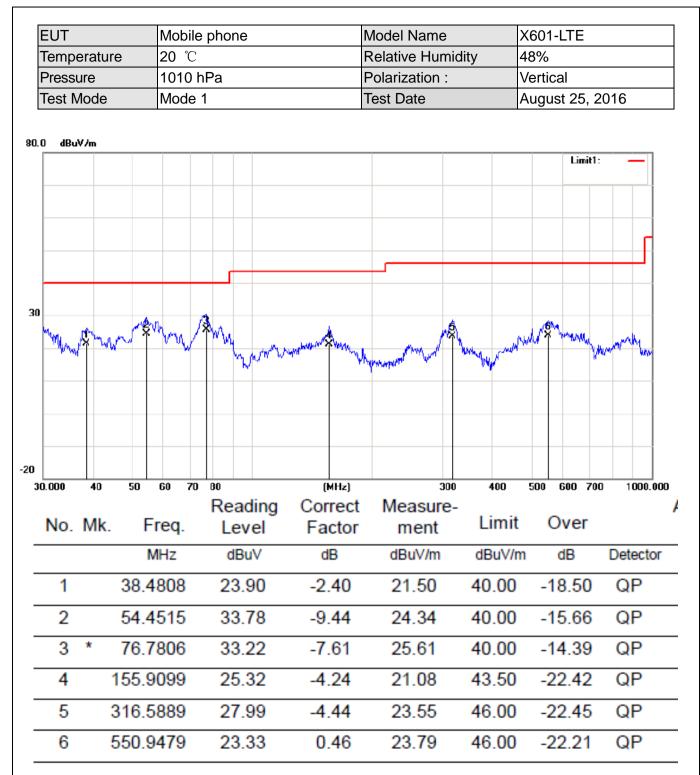
5.2.3 DEVIATION FROM TEST STANDARD

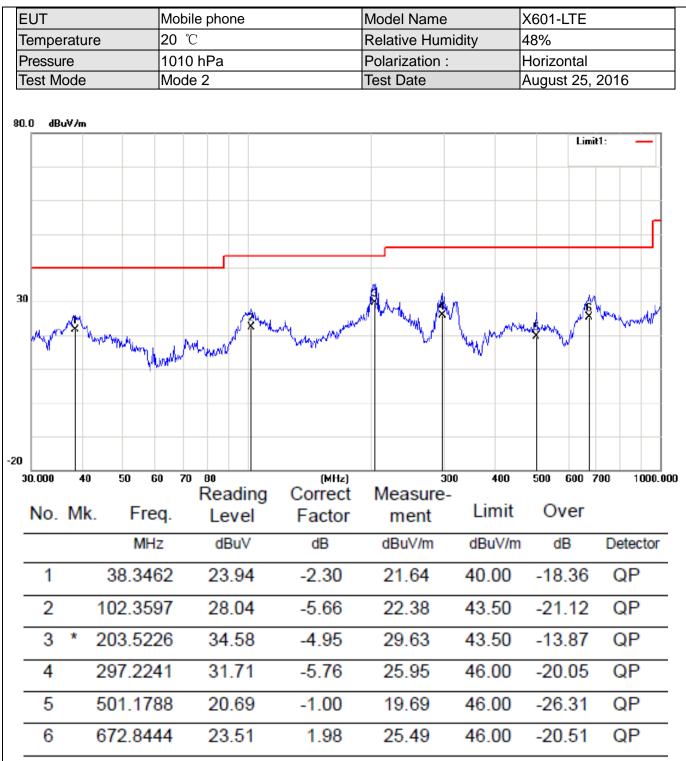
No deviation

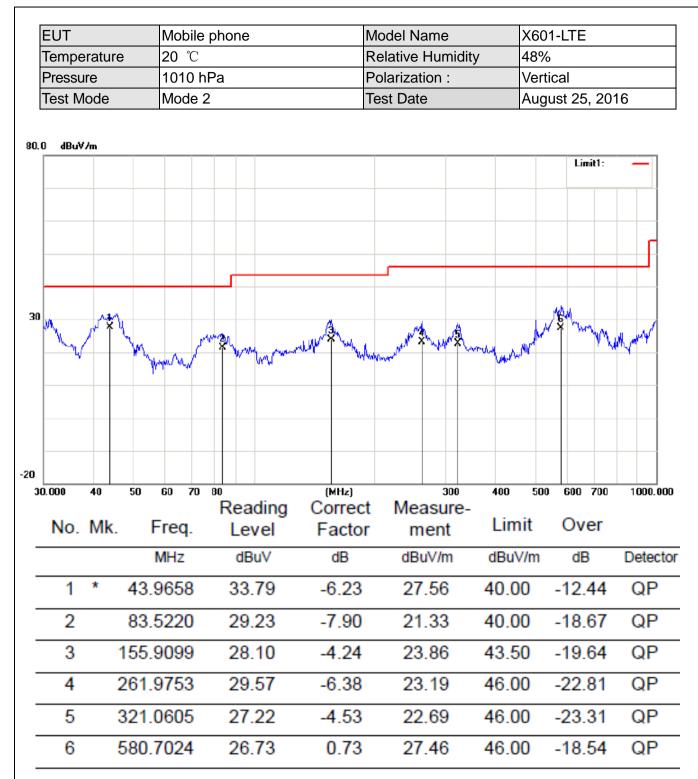


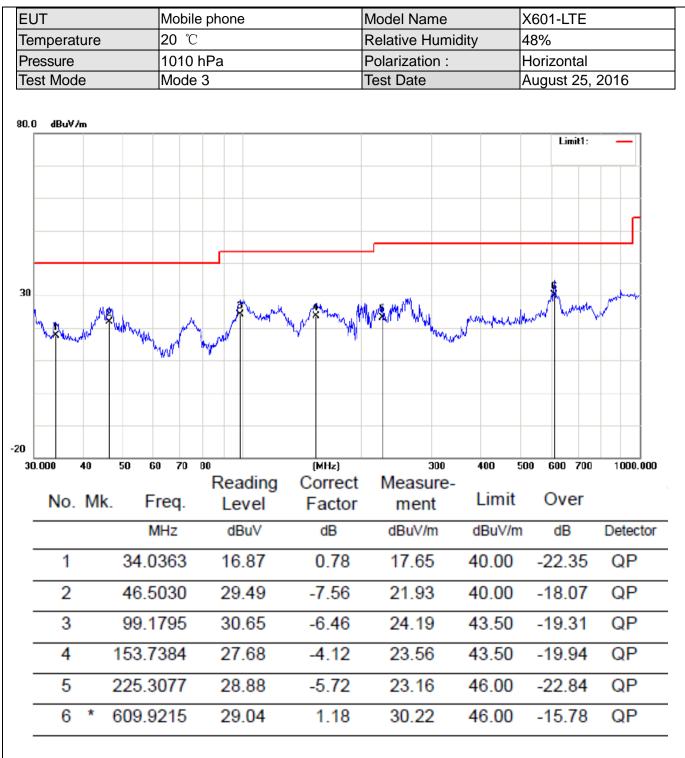
5.2.5.1 TEST RESULTS (BETWEEN 30M - 1000 MHZ)

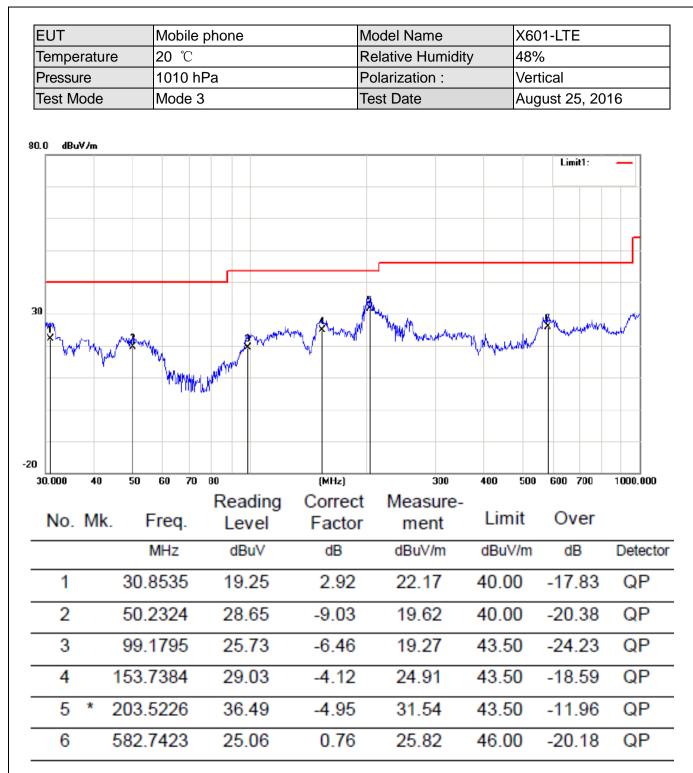
EUT				bile pho	one		Model Name		X601-LTE			
Temper	rature		20	20 °C Relative Humidity 48%					48%			
Pressur				10 hPa			Polarization : Horizontal					
Test Mo	ode		Mo	de 1			Test Date		August	t 25, 2	2016	
:0.0 dBu	ıV/m											
										Limit	1: •	
												L L
							Alexandre		6			
30		* N			AM	weighting 1	A March		Å.			ľ
Warth	WWW -		٩.	of front		1 munt	5	Whymwrapy and	р «теля	WWW HANNY	+ phone	
			-7/7	V".								
0 30.000	40	50	60 7	70 80		(MHz)	3	00 400	500	600 7	00 1	000.00
No.	Mk.	F	req.		eading evel	g Correct Factor	Measure ment	e- Limit	O	/er		
		M	1Hz	C	dBuV	dB	dBuV/m	dBuV/n	ı d	В	Dete	ector
1		47.4	917	3	2.97	-7.98	24.99	40.00	-15	.01	QF	
2		99.8	777	2	6.38	-6.32	20.06	43.50	-23	.44	QF	>
3		125.4			3.94	-2.13	21.81	43.50	-21	.69	QF	•
4	* 2	202.8	103	3	5.22	-4.92	30.30	43.50	-13	.20	QF	0
5		295.1 501.1			1.09 1.43		15.29 30.43	46.00 46.00		.71 .57	QF QF	











5.2.5.2 TEST RESULTS(1GHZ TO 6GHZ)

EUT	Mobile phone	Model Name	X601-LTE	
Temperature	20 °C	Relative Humidity	48%	
Pressure	1010 hPa	Test Mode	Mode 1	
Test Date	August 25, 2016			

Freq. (MHz)	Ant. Pol.	Emission Level(dBuV)		Limi 3m(dBu)		Over(dB)		
	H/V	PK	AV	PK	AV	PK	AV	
1632.45	V	60.28	40.97	74	54	-13.72	-13.03	
2829.27	V	59.75	39.34	74	54	-14.25	-14.66	
1684.52	Н	59.03	39.51	74	54	-14.97	-14.49	
2831.6	Н	58.95	39.95	74	54	-15.05	-14.05	

Remark:

All emissions not reported were more than 20dB below the specified limit or in the noise floor. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.

EUT	Mobile	Mobile phone				l Name	X601-LTE	X601-LTE	
Temperature	20 ℃	20 ℃				ive dity	48%	48%	
Pressure	1010 h	1010 hPa Test Mode			Mode 2				
Test Date	Test Date August 25, 2016								
Freq.	Ant.	Emi	ssion		Limit		Over(dB)		
(MHz)	Pol.	Level	(dBuV)	3m	(dBu\	√/m)			
	H/V	PK	AV	Pł	<	AV	PK	AV	
1583.35	V	58.44	40.87	74	1	54	-15.56	-13.13	
2641.52	V	59.72	40.10	74	1	54	-14.28	-13.90	
1628.42	Н	58.35	39.56	74	1	54	-15.65	-14.44	
2810.39	Н	58.48	39.48	74	1	54	-15.52	-14.52	

Remark:

All emissions not reported were more than 20dB below the specified limit or in the noise floor. Factor = Antenna Factor + Cable Loss – Pre-amplifier. All the x/y/z orientation has been investigated, and only worst case is presented in this report.

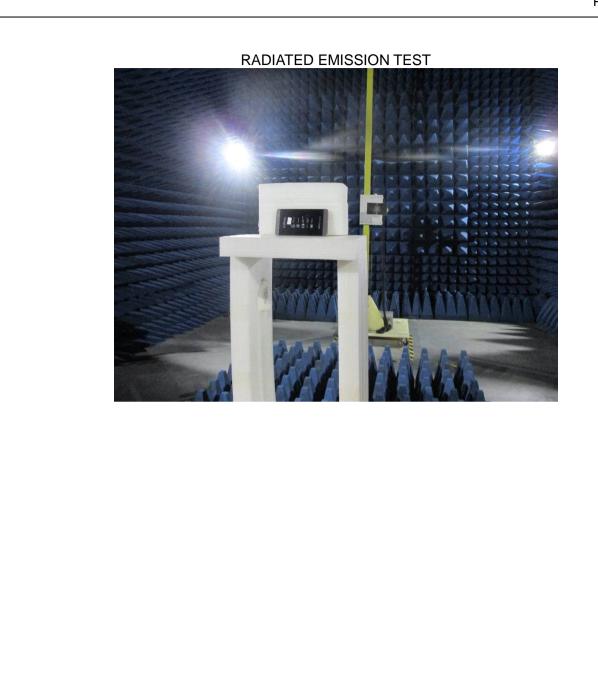
EUT	Mobile	Mobile phone				l Name	X601-LTE	
Temperature	20 ℃					ive dity	48%	
Pressure	1010 h	Pa			Test N	Node	Mode 3	
Test Date	August	25, 2016						
Freq. (MHz)	Ant. Pol.		ssion dBuV)	3m	Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	Pł	<	AV	PK	AV
1577.35	V	59.30	39.67	74	1	54	-14.70	-14.33
2652.38	V	59.46	40.01	74	1	54	-14.54	-13.99
1699.33	Н	59.02	39.51	74	1	54	-14.98	-14.49
2739.42	Н	58.67	39.67	74	1	54	-15.33	-14.33

Remark:

All emissions not reported were more than 20dB below the specified limit or in the noise floor. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.





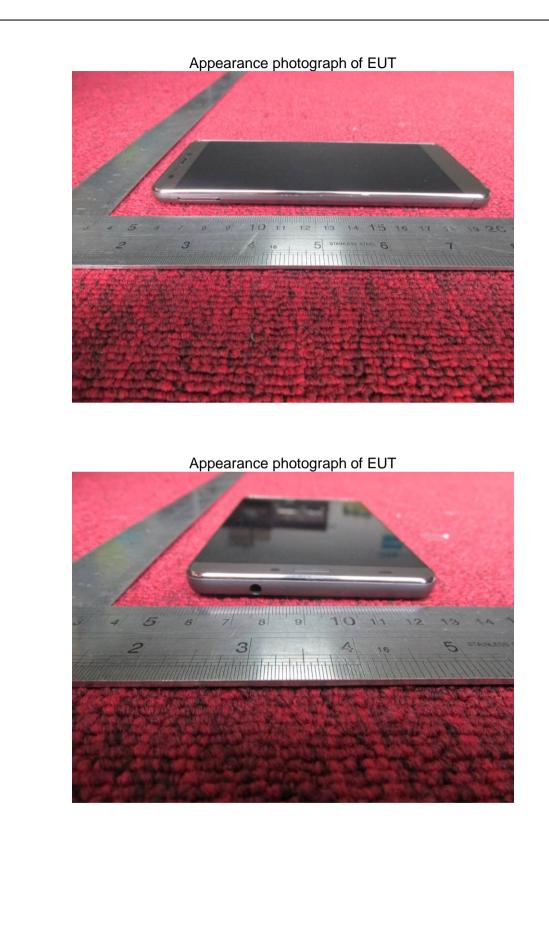




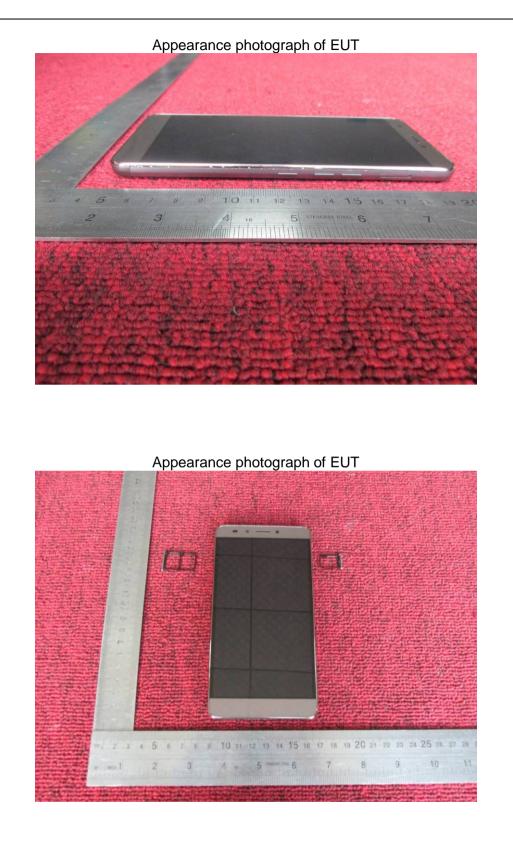
Appearance photograph of EUT



Page 36 of 47



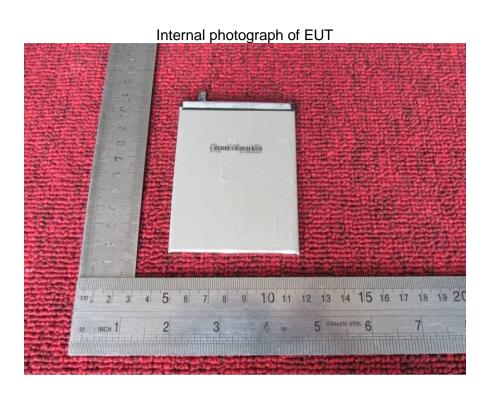
Page 37 of 47





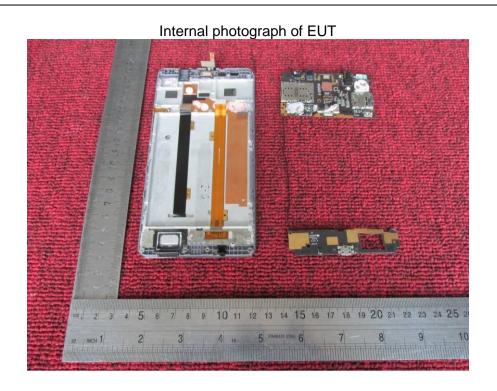
Internal photograph of EUT



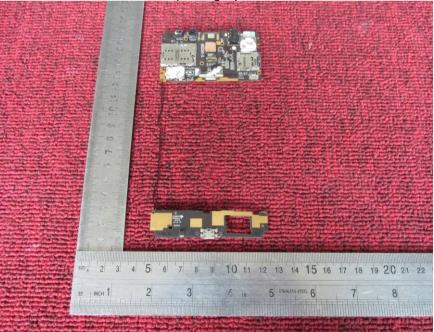


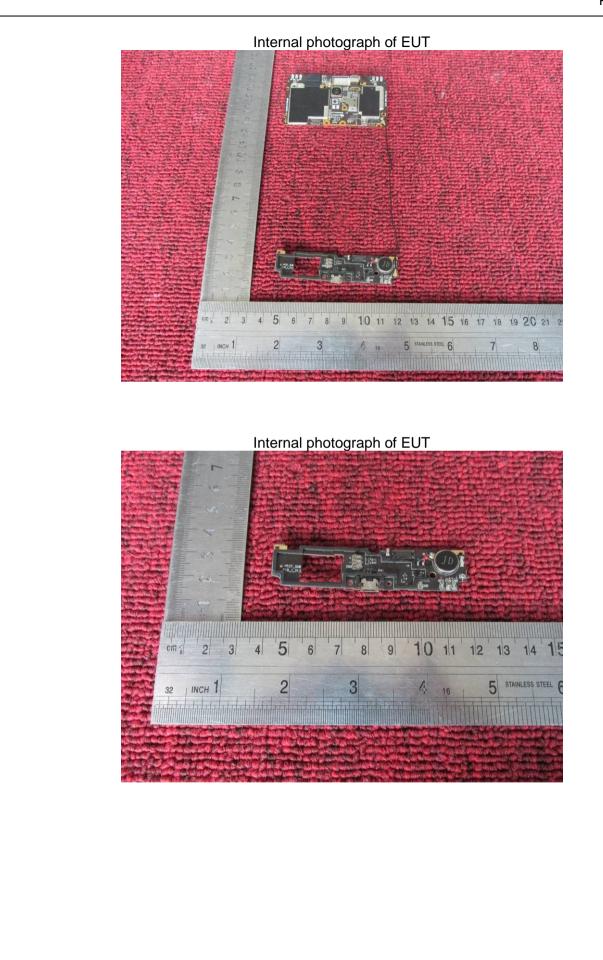
Internal photograph of EUT

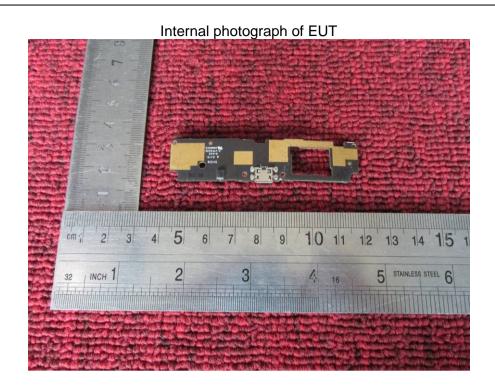




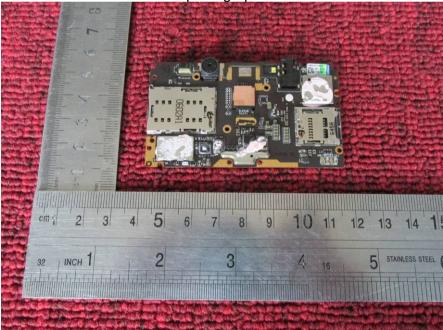
Internal photograph of EUT



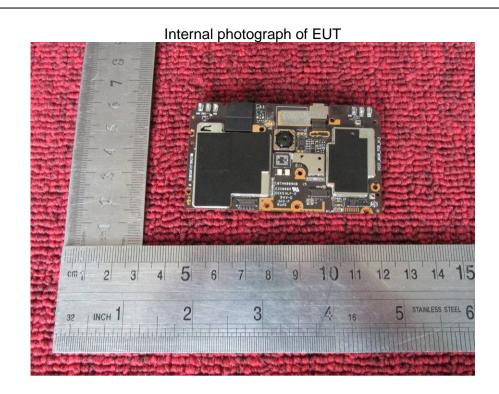




Internal photograph of EUT

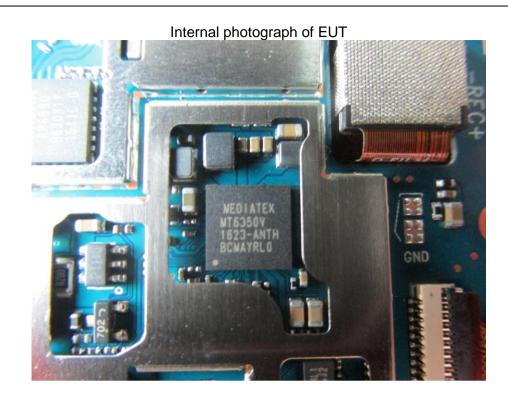


Page 43 of 47

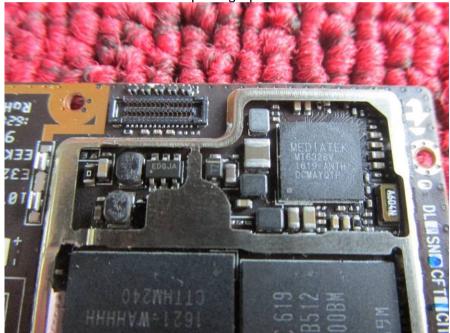


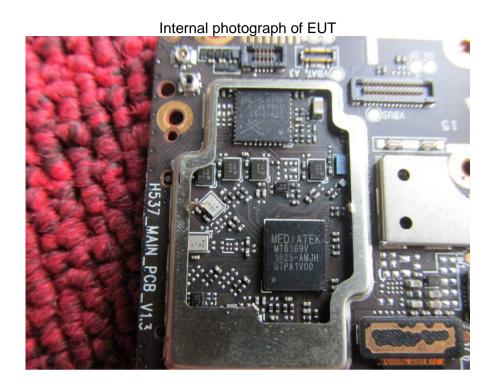
Internal photograph of EUT





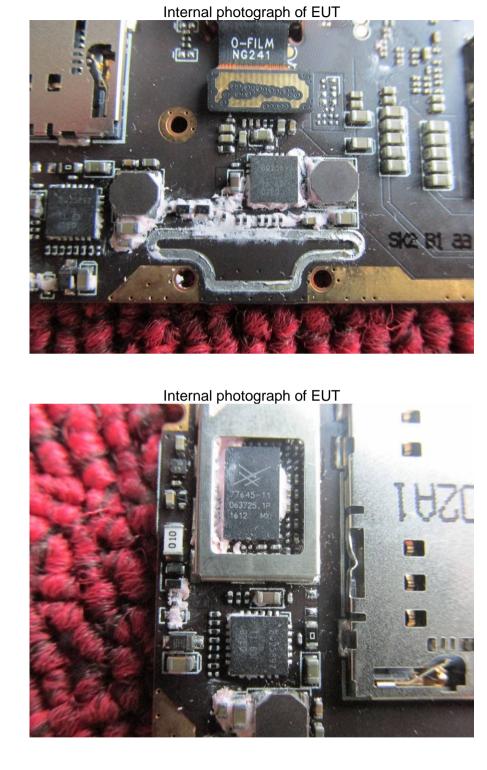
Internal photograph of EUT

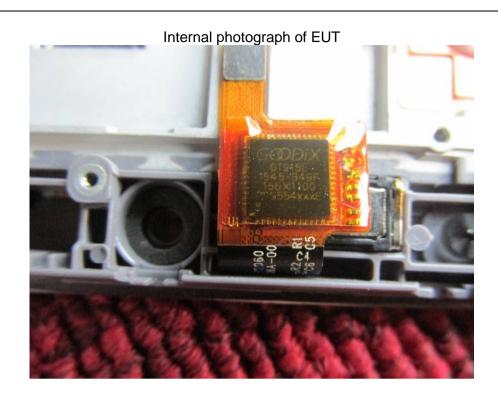




Internal photograph of EUT







---END OF REPORT---