



中国认可
国际互认
检测
TESTING
CNAS L2264

EMC TEST REPORT

Applicant ZTE Corporation
FCC ID SRQ-ZTEB2017G
Product LTE/WCDMA/CDMA/GSM (GPRS)
Mutil-Mode Digital Mobile Phone
Brand ZTE
Model ZTE B2017G
Report No. RXA1607-0132EMC
Issue Date September 1, 2016

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC Code CFR47 Part15B (2015)/ ANSI C63.4 (2014)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Wei Liu

Guangchang Fan

Performed by: Wei Liu/ Manager

Reviewed by: Guangchang Fan/ Director

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Summary of measurement results

Number	Test Case	Clause in FCC Rules	Conclusion
1	Radiated Emission	15.109, ANSI C63.4-2014	PASS
2	Conducted Emission	15.107, ANSI C63.4-2014	PASS
Test Date: July 10, 2016 ~ August 12, 2016			

1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of TA technology (shanghai) co., Ltd).The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above. This report must not be used by the client to claim product certification, approval, or endorsement by CNAS or any government agencies.

1.2 Test facility

CNAS (accreditation number: L2264)

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

FCC (recognition number is 428261)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

IC (recognition number is 8510A)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

VCCI (recognition number is C-4595, T-2154, R-4113, G-766)

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.



1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Xu Kai
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Website: <http://www.ta-shanghai.com>
E-mail: xukai@ta-shanghai.com

2 General Description of Equipment under Test

2.1 Client Information

Applicant	ZTE Corporation
Applicant address	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong,518057,P.R. China
Manufacturer	ZTE Corporation
Manufacturer address	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong,518057,P.R. China

2.2 General information

EUT Description	
Device Type:	Portable Device
Model Number:	ZTE B2017G
HW Version:	uj3A
SW Version:	ZTE B2017G_USAV1.0.0B01
IMEI:	SIM1:860935030016782 SIM2:860935030018788
Antenna Type:	Internal Antenna
Used Host Product:	PC: Model: DELL E6430(SN : 32RKWW1)
Test Mode:	Transfer Data Mode
EUT Accessory	
Adapter	Manufacturer: Salcomp (Shenzhen) Co., Ltd Model: STC-A5915A-Z Input power: 100-240Vac, 50/60Hz, 0.45A Output power: 5.0V, 1.5A/9.0V, 1.5A
Battery 1	Manufacturer: SHENZHEN RUIDE ELECTRONIC INDUSTRIAL CO.,LTD Model: Li3927T44P8h726044 Power Rating: 3.85V/2705mAh
Battery 2	Manufacturer: SCUD (Fujian) Electronics Co., Ltd. Model: Li3927T44P8h726044 Power Rating: 3.85V/2705mAh
Earphone	Manufacturer: KINGSTATE ELECTRONICS CORP. Model: KJAG4020AWKCB-2



Phone cover	Manufacturer: Shenzhen senyuanxiang Technology Co. Ltd. Model: senyuanxiang
Remark: The information of the EUT is declared by the manufacturer. Please refer to the specifications or user manual for details.	



2.3 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards

FCC Code CFR47 Part15B (2015)

ANSI C63.4 (2014)

3 Test Case Results

3.1 Radiated Emission

Ambient condition

Temperature	Relative humidity	Pressure
24°C~26°C	45%~50%	102.5kPa

Methods of Measurement

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The distance between EUT and receive antenna should be 3 meters. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Sweep the whole frequency band through the range from 30MHz to the 5th harmonic of the carrier. During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated signal level.

The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. During the test, the EUT is worked at maximum output power.

Set the spectrum analyzer in the following:

Below 1GHz:

RBW=100 kHz / VBW=300 kHz / Sweep=AUTO

Above 1GHz:

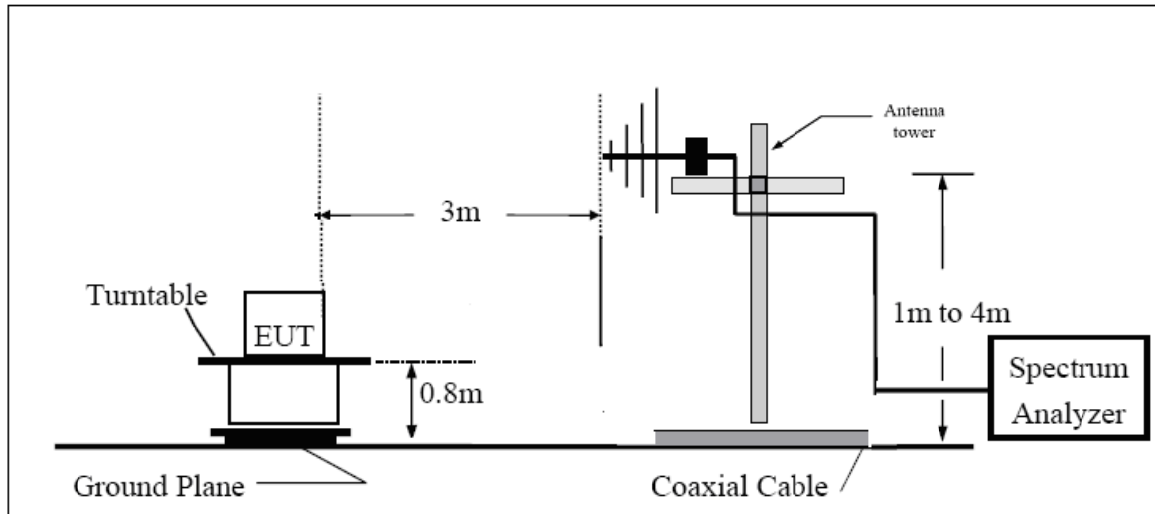
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

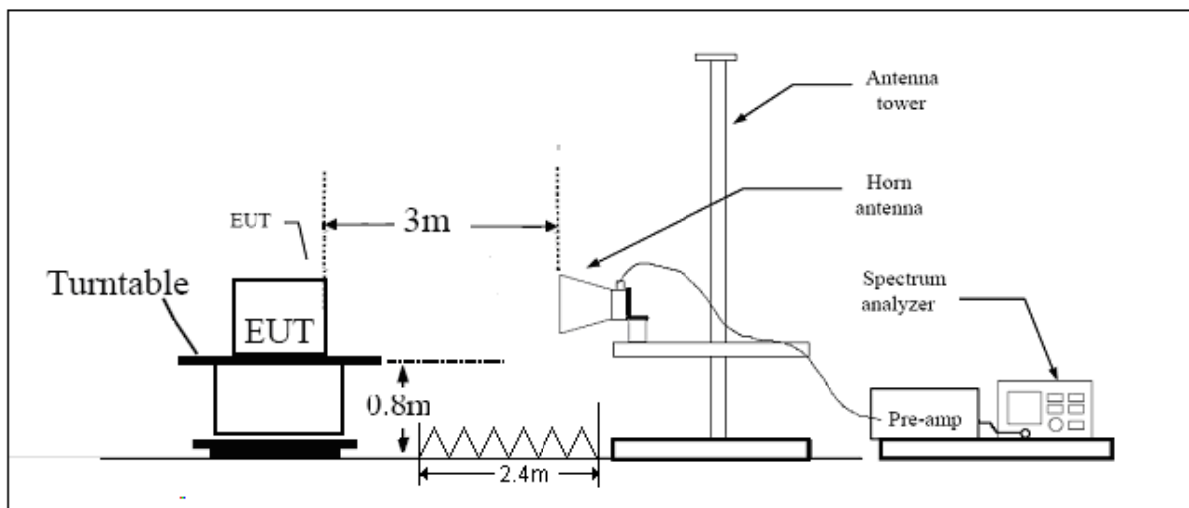
During the test, EUT is connected to a laptop via a USB cable in the case of Transfer Data mode. The EUT is used as the peripheral equipment of the PC. The data is transferred from EUT to PC; PC is connected to server via a long LAN cable.

Test Setup

Below 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Antenna Tower meets ANSI C63.4 requirements for measurements above 1 GHz by keeping the antenna aimed at the EUT during the antenna's ascent/ descent along the antenna mast.

Limits

Frequency (MHz)	Field Strength (dB μ V/m)	Detector
30 -88	40.0	Quasi-peak
88-216	43.5	Quasi-peak
216 – 960	46.0	Quasi-peak
960-1000	54.0	Quasi-peak
1000-5 th harmonic of the highest frequency or 40GHz, which is lower	54 74	Average Peak

Measurement Uncertainty

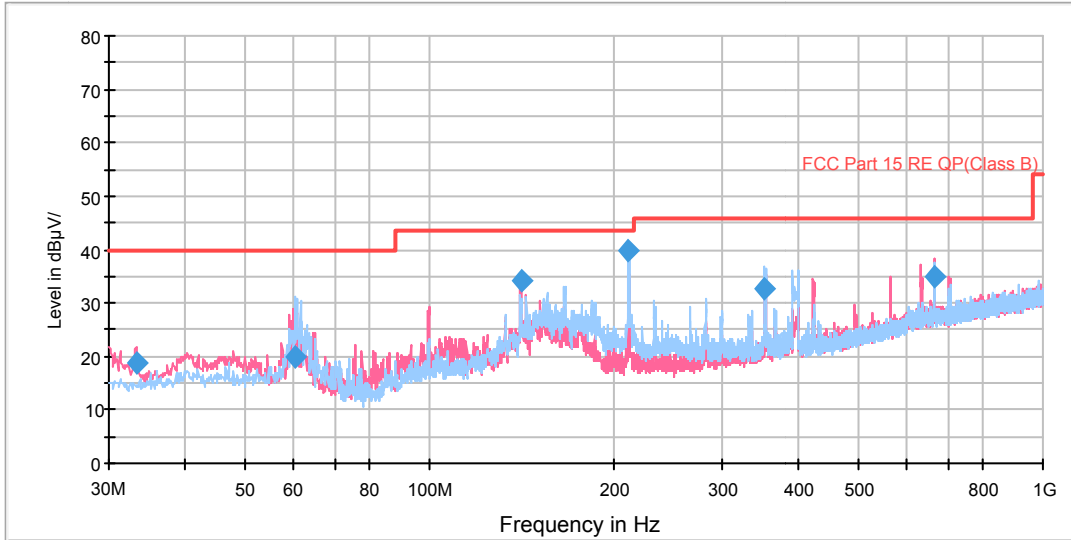
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$. $U = 3.92$ dB.



Test Results

The following graphs display the maximum values of horizontal and vertical by software.
For above 1GHz, Blue trace uses the peak detection, Green trace uses the average detection.

FCC RE 0.03-1GHz QP Class B

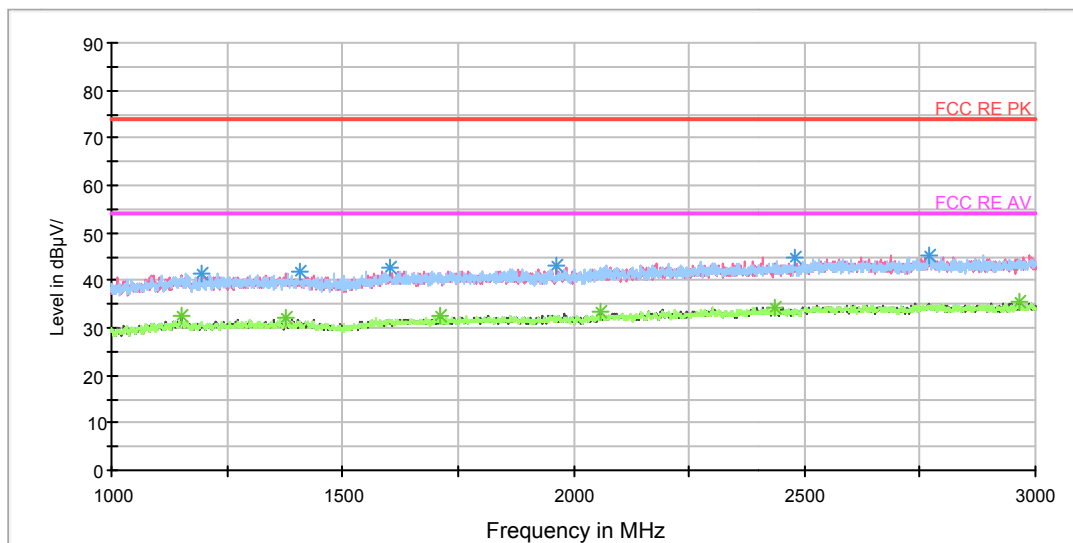


Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
33.313750	18.9	30.8	100.0	V	282.0	11.9	21.1	40.0
60.552500	19.8	32.1	125.0	H	241.0	12.3	20.2	40.0
141.342500	34.1	43.0	100.0	V	141.0	8.9	9.4	43.5
211.268750	39.7	52.2	125.0	H	44.0	12.5	3.8	43.5
352.120000	32.7	49.4	100.0	H	0.0	16.7	13.3	46.0
663.855000	35.1	57.7	100.0	V	207.0	22.6	10.9	46.0

- Remark:**
1. Quasi-Peak = Reading value + Correction factor
 2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)
 3. Margin = Limit – Quasi-Peak

RE 1G-6GHz PK+AV Class B

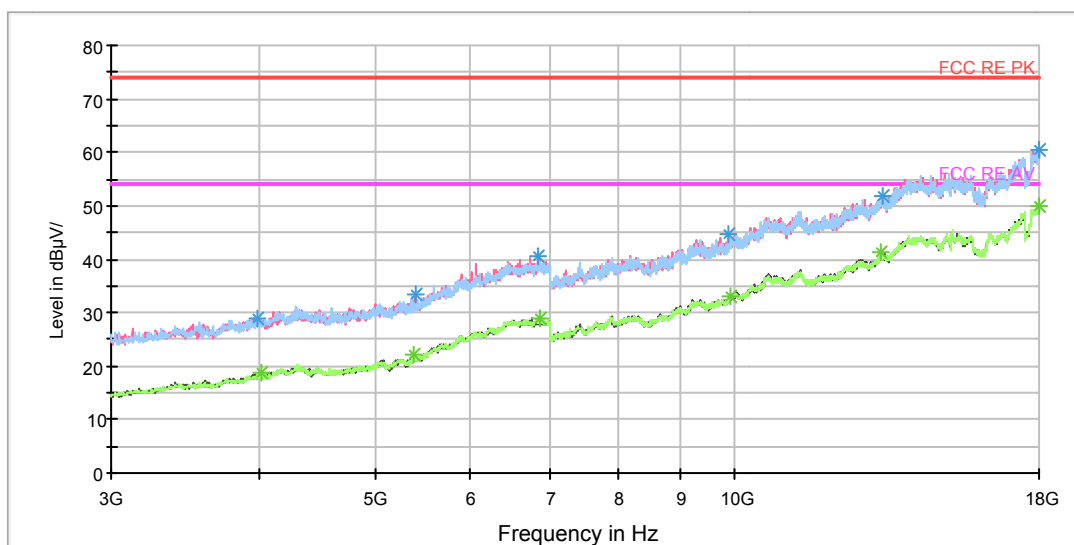


Radiated Emission from 1GHz to 3GHz

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1196.000000	41.5	42.2	100.0	H	0.0	-0.7	32.5	74
1407.000000	41.7	41.8	100.0	H	4.0	0.1	32.3	74
1603.000000	42.6	43.6	100.0	H	139.0	1.0	31.4	74
1962.500000	43.0	45.1	100.0	V	0.0	2.1	31.0	74
2481.000000	44.7	49.6	100.0	H	180.0	4.9	29.3	74
2771.500000	45.3	51.0	100.0	V	190.0	5.7	28.7	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1151.500000	32.4	33.1	100.0	V	229.0	-0.7	21.6	54
1377.000000	31.9	32.0	100.0	V	0.0	0.1	22.1	54
1710.500000	32.5	33.5	100.0	V	319.0	1.0	21.5	54
2057.000000	33.2	35.3	100.0	V	0.0	2.1	20.8	54
2436.500000	34.4	39.3	100.0	V	348.0	4.9	19.6	54
2966.500000	35.5	41.2	100.0	V	357.0	5.7	18.5	54

RE 3G-18GHz PK+AV Class B

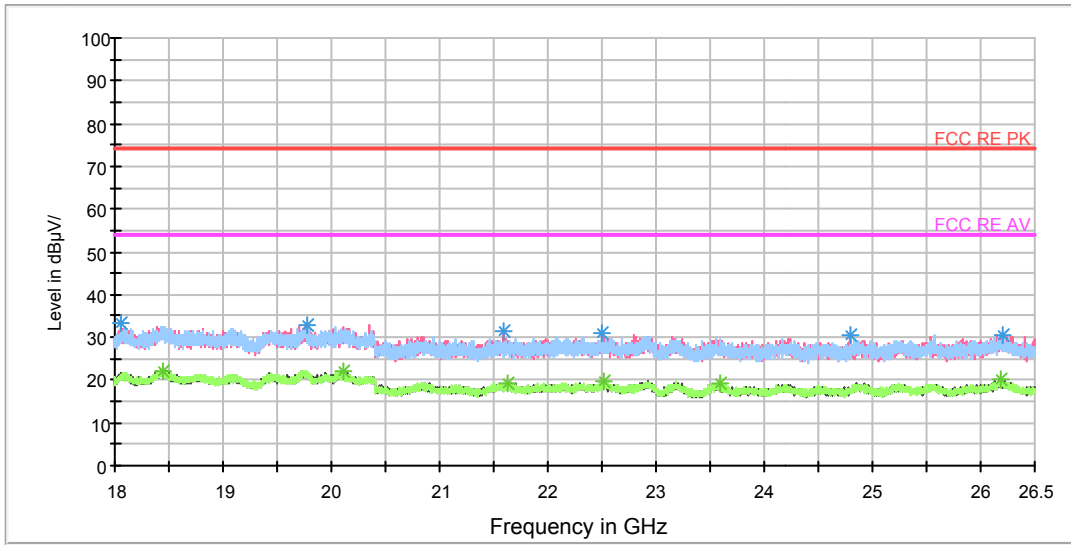


Radiated Emission from 3GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3986.250000	29.0	31.1	100.0	H	162.0	-2.1	45.0	74
5392.500000	33.3	34.3	100.0	V	350.0	1.0	40.7	74
6847.500000	40.4	45.4	100.0	H	189.0	5.0	33.6	74
9888.750000	44.5	55.9	100.0	H	9.0	11.4	29.5	74
13305.000000	51.7	69.4	100.0	V	341.0	17.7	22.3	74
17985.000000	60.6	86.3	100.0	V	208.0	25.7	13.4	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
4016.250000	18.6	20.6	100.0	H	134.0	-2.0	35.4	54
5385.000000	22.0	22.9	100.0	V	299.0	0.9	32.0	54
6877.500000	28.9	33.9	100.0	H	344.0	5.0	25.1	54
9903.750000	33.0	44.4	100.0	H	3.0	11.4	21.0	54
13282.500000	41.2	58.9	100.0	H	60.0	17.7	12.8	54
17988.750000	49.9	75.6	100.0	H	18.0	25.7	4.1	54

RE 18-26.5GHz PK+AV



Radiated Emission from 18GHz to 26.5GHz

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18062.687500	33.3	33.3	V	0	-3.6	0.0	74
19780.750000	32.8	32.8	V	0	-4.7	0.0	74
21589.125000	31.3	31.3	V	0	-5.3	0.0	74
22507.125000	31.2	31.2	V	0	-4.4	0.0	74
24787.250000	30.4	30.4	V	0	-5.8	0.0	74
26208.875000	30.7	30.7	V	0	-5.1	0.0	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
18450.500000	22.2	22.2	V	0	-3.5	0.0	54
20112.250000	22.2	22.2	V	0	-4.9	0.0	54
21631.625000	19.3	19.3	H	0	-5.2	0.0	54
22524.125000	19.6	19.6	V	0	-4.4	0.0	54
23587.687500	19.2	19.2	V	0	-5.3	0.0	54
26187.625000	20.1	20.1	H	0	-5.1	0.0	54

3.2 Conducted Emission

Ambient condition

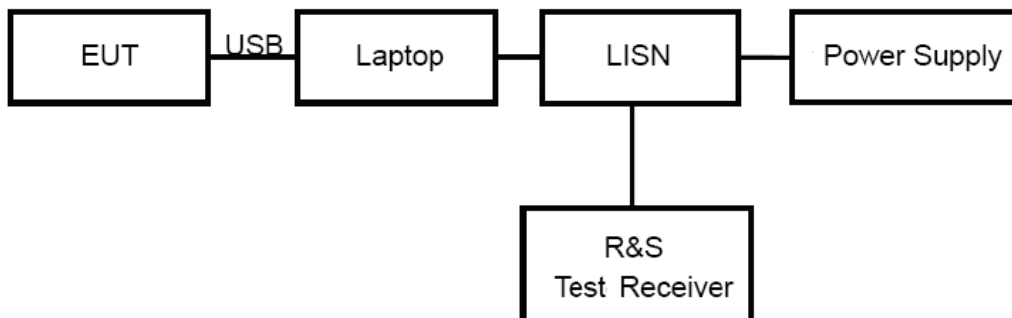
Temperature	Relative humidity	Pressure
24°C ~26°C	50%~55%	102.5kPa

Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2014. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz. The measurement result should include both L line and N line.

During the test, EUT is connected to a laptop via a USB cable in the case of Transfer Data mode. The EUT is used as the peripheral equipment of the PC. The data is transferred from EUT to PC; PC is connected to server via a long LAN cable.

Test Setup



Note: Power Supply is AC Power source and it is used to change the voltage 120V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

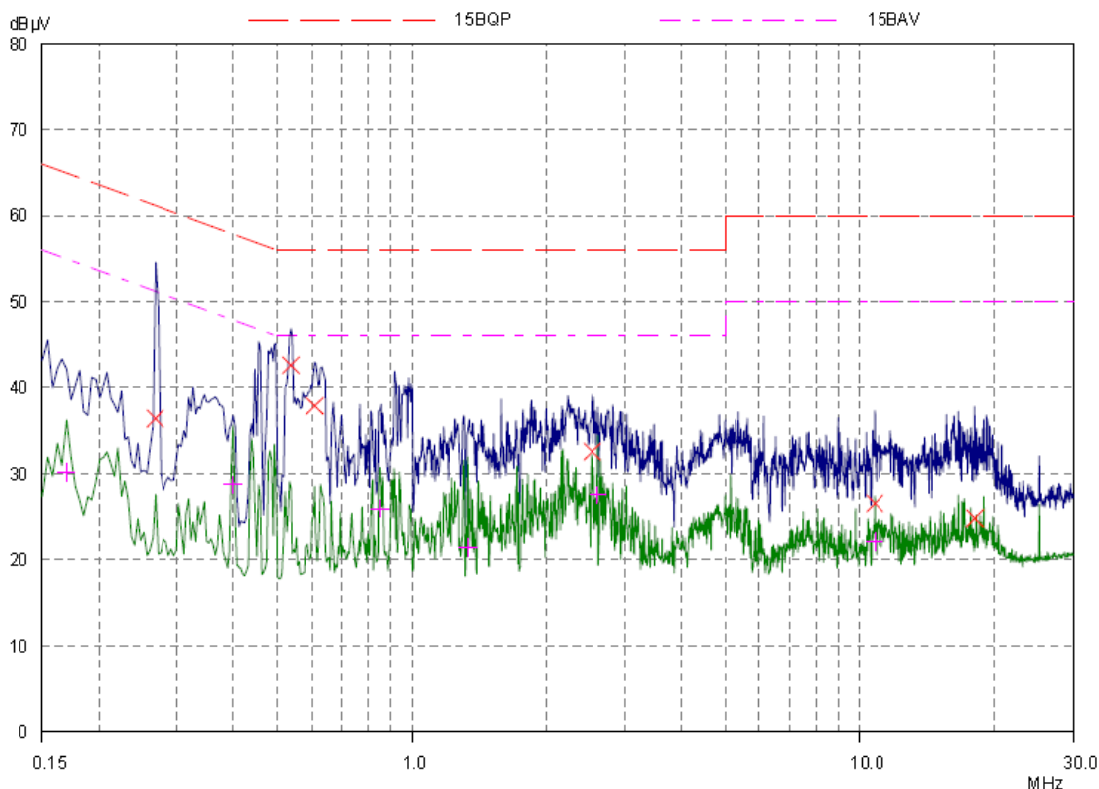
*: Decreases with the logarithm of the frequency.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$. $U = 2.69$ dB.

Test Results

Following plots, Blue trace uses the peak detection; Green trace uses the average detection.



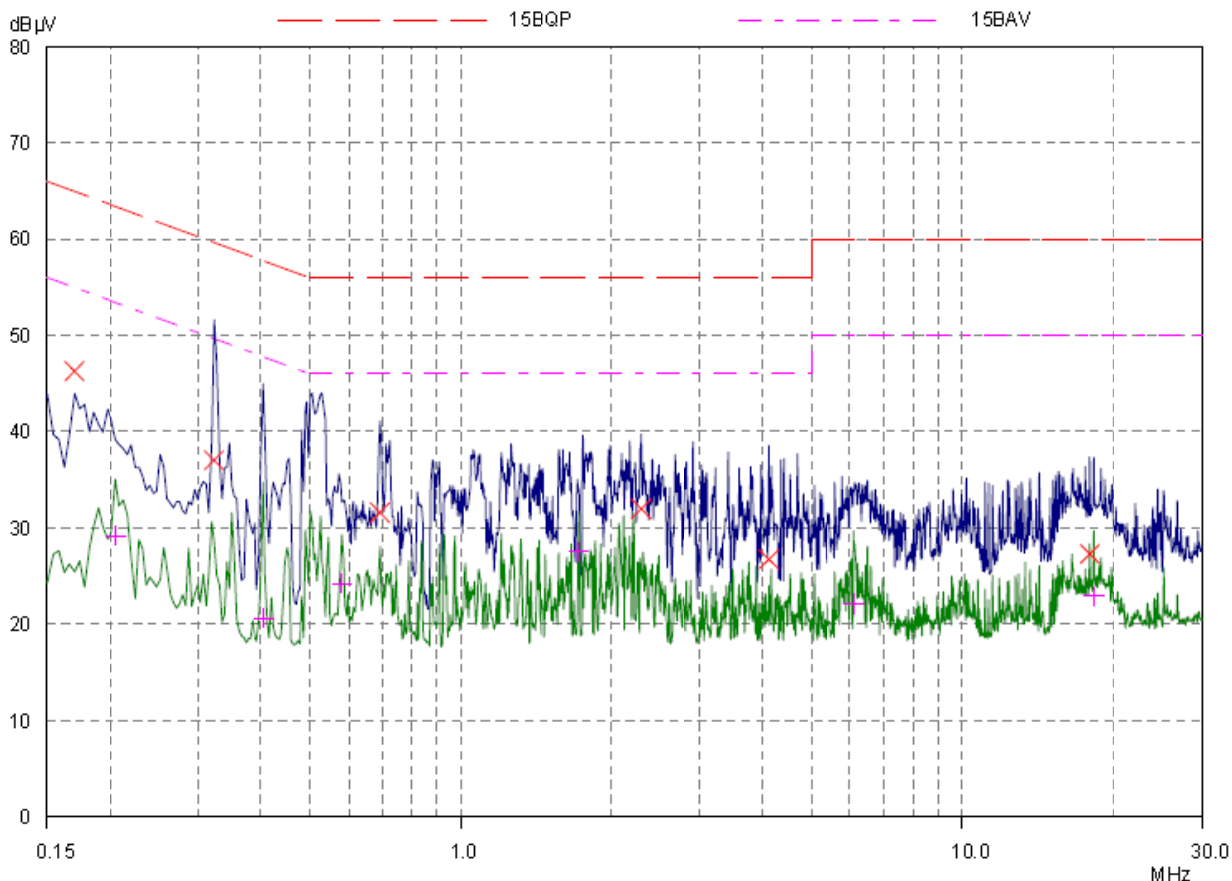
Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase -	PE -
0.26718	36.43	61.21	24.78	L1	gnd
0.53671	42.62	56.00	13.38	L1	gnd
0.60703	37.90	56.00	18.10	L1	gnd
2.5289	32.56	56.00	23.44	L1	gnd
10.81015	26.52	60.00	33.48	L1	gnd
18.10703	24.83	60.00	35.17	L1	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase -	PE -
0.16953	30.21	54.98	24.77	L1	gnd
0.4	28.71	47.85	19.14	L1	gnd
0.84921	25.92	46.00	20.08	L1	gnd
1.33359	21.47	46.00	24.53	L1	gnd
2.61093	27.56	46.00	18.44	L1	gnd
10.81015	22.08	50.00	27.92	L1	gnd

L line

Conducted Emission from 150 KHz to 30 MHz



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB	Phase	PE
0.16953	46.28	64.98	18.70	N	gnd
0.32187	37.01	59.66	22.65	N	gnd
0.68906	31.59	56.00	24.41	N	gnd
2.29062	31.98	56.00	24.02	N	gnd
4.11875	26.72	56.00	29.28	N	gnd
17.91562	27.31	60.00	32.69	N	gnd

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB	Phase	PE
0.20468	29.19	53.42	24.23	N	gnd
0.4039	20.63	47.77	27.14	N	gnd
0.57968	24.25	46.00	21.75	N	gnd
1.72031	27.54	46.00	18.46	N	gnd
6.09531	22.10	50.00	27.90	N	gnd
18.25546	22.92	50.00	27.08	N	gnd

N line
Conducted Emission from 150 KHz to 30 MHz

4 Main Test Equipment

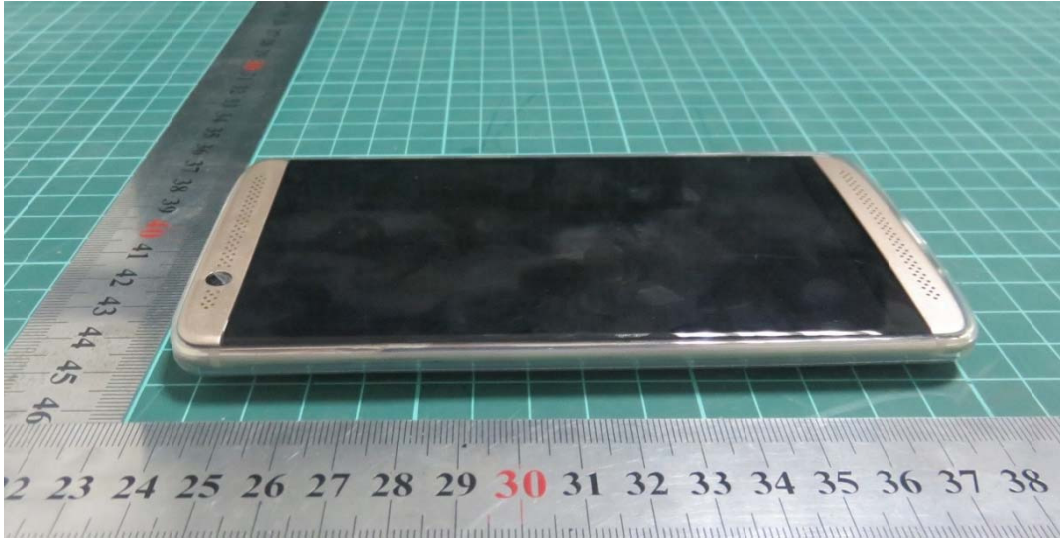
Name	Type	Manufacturer	Serial Number	Last Cal.	Cal. Due Date
EMI Test Receiver	ESC13	R&S	100948	2016-06-01	2017-05-31
Signal Analyzer	FSV30	R&S	100815	2015-12-17	2016-12-16
Trilog Antenna	VULB 9163	SCHWARZBECK	9163-201	2014-12-06	2017-12-05
Horn Antenna	HF907	R&S	100126	2014-12-06	2017-12-05
Horn Antenna	3160-09	ETS-Lindgren	00102643	2015-01-30	2018-01-29
EMI Test Receiver	ESCS30	R&S	100138	2015-12-17	2016-12-16
LISN	ENV216	R&S	101171	2013-12-18	2016-12-17
Bore Sight Antenna mast	2171B	ETS	00058752	NA	NA

ANNEX A: The EUT Appearance and Test Configuration

A.1 EUT Appearance



a1: EUT

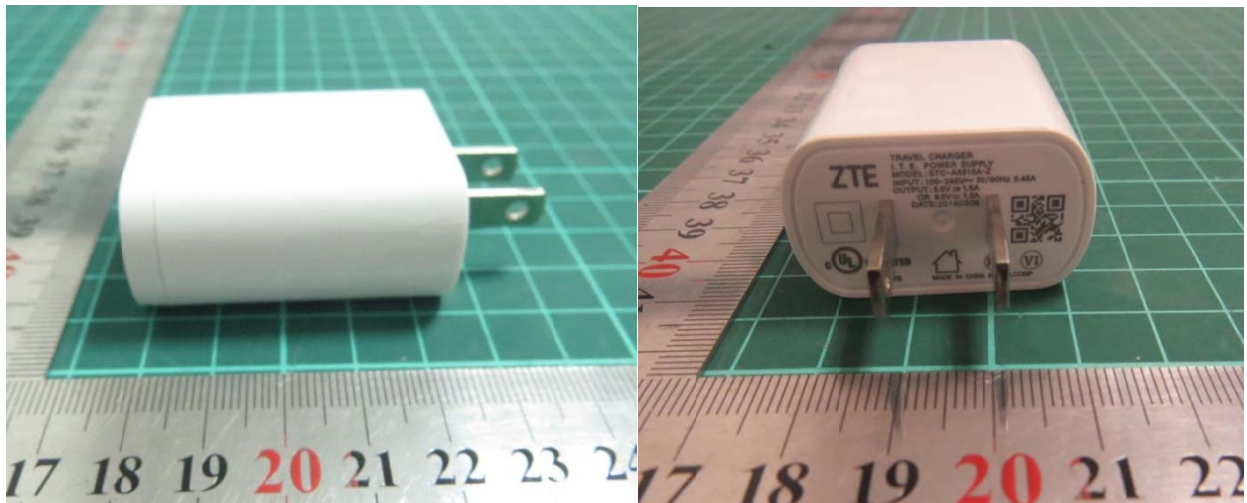


a2: EUT with Phone cover

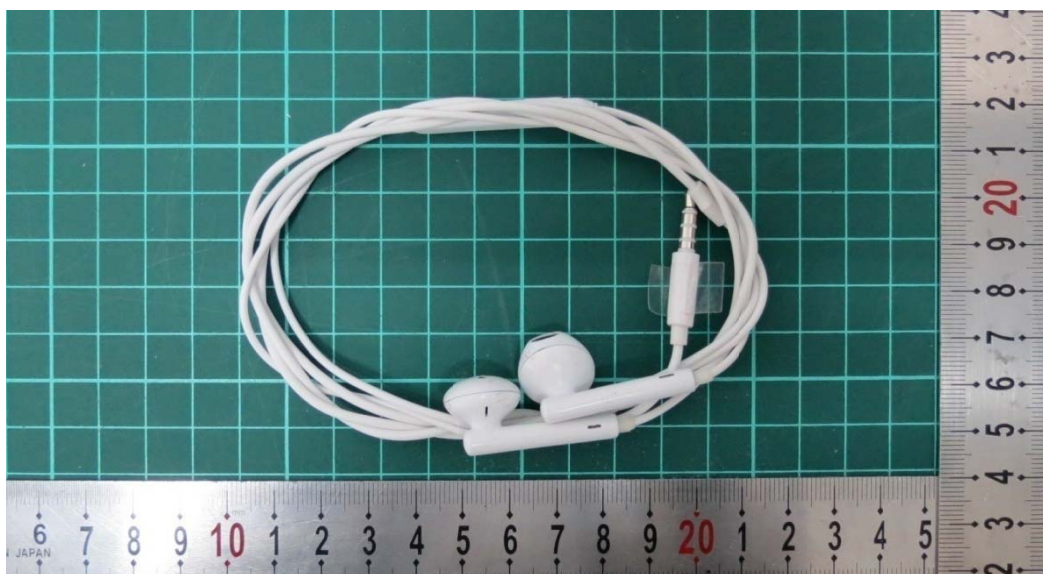
a: EUT



Phone cover



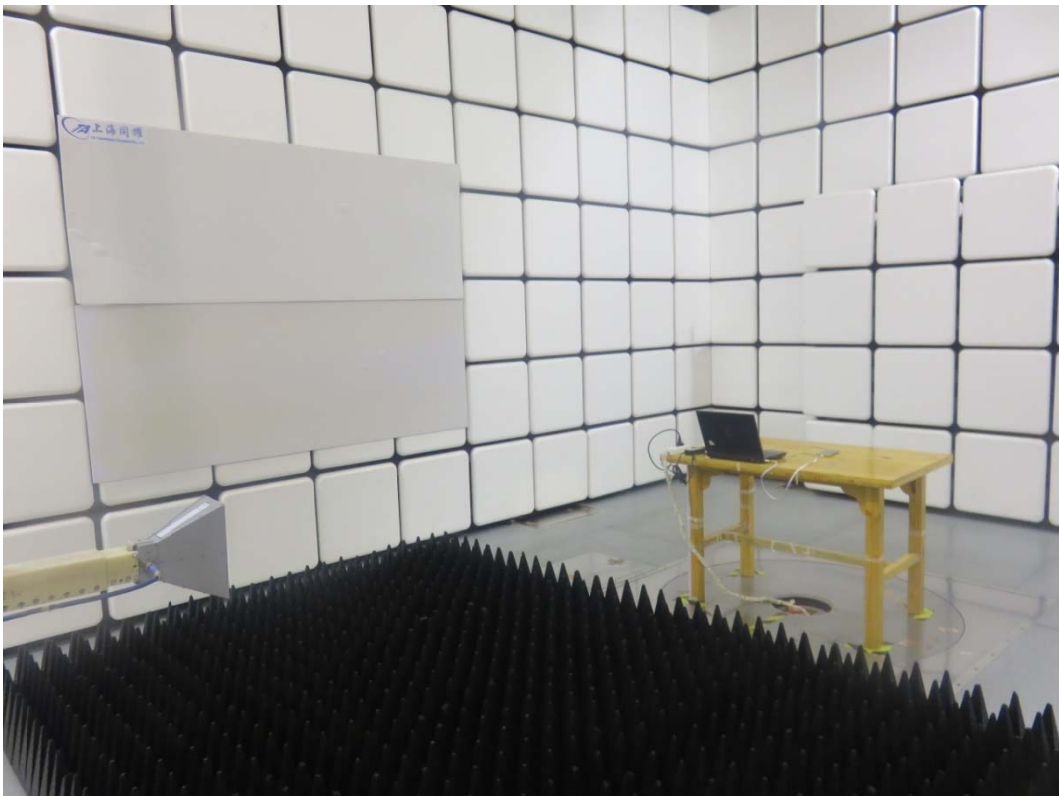
Adapter



Earphone

Picture 1 Constituents of EUT

A.2 Test Setup



Picture 2 Radiated Emission Test Setup



Picture 3 Conducted Emission Test Setup

A.3 Host Product

