



# EMC TEST REPORT

**Applicant** ZTE CORPORATION  
**FCC ID** SRQ-ZTEBLADEV8  
**Product** LTE/WCDMA/GSM(GPRS)  
Multi-Mode Digital Mobile Phone  
**Model** ZTE BLADE V8/ZTE BLADE V0800  
**Report No.** RXA1707-0240EMC  
**Issue Date** August 11, 2017

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC Code CFR47 Part15B (2017)/ 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*

*Approved 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 31, 2017			

# 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 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-10766)**

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.  
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## 2 General Description of Equipment under Test

### 2.1 Client Information

<b>Applicant</b>	ZTE CORPORATION
<b>Applicant address</b>	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R. China
<b>Manufacturer</b>	ZTE CORPORATION
<b>Manufacturer address</b>	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
Product Name:	LTE/WCDMA/GSM (GPRS) Multi-Mode Digital Mobile Phone
Model Number:	ZTE BLADE V8/ZTE BLADE V0800
HW Version:	us9B
SW Version:	ENT_CL_BLADE_V8V1.0.0B01
IMEI:	SIM 1: 862121030072137 SIM 2: 862121030073630
Antenna Type:	Internal Antenna
Used Host Product:	PC Manufacturer: Dell Model: E5430 (SN : R98M9 A02)
Test Mode:	Transfer Data Mode
EUT Accessory	
Adapter	Manufacturer: DOKOCOM Model: STC-A515A-Z Input power:100-240 VAC 50-60Hz 300mA Output power:5V DC 1500mA
Battery	Manufacturer: HARBIN COSLIGHT POWER CO LTD Model: Li3927T44P8h786035 Ratings:3.87Vdc,2730mAh,10.6Wh
Earphone	Manufacturer: GoerTek Model: HA3-3
USB Cable	100cm Cable, Shielded
Remark: The information of the EUT is declared by the manufacturer.	



## 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 (2017)**

**ANSI C63.4 (2014)**

## 2.4 Test Mode

Test Mode	
Mode 1:	Adapter + USB cable+ earphone + Camera On +GPS Rx +Idle
Mode 2:	Adapter + USB cable+ earphone +FM +Idle
Mode 3:	Adapter + USB cable+ earphone + MP3 +Idle
Mode 4:	Adapter + USB cable+ earphone +Idle
Mode 5:	Adapter + USB cable +Idle
Mode 6:	USB Copy(EUT with PC) + USB cable +earphone +Idle
Mode 7:	Camera On +earphone + GPS Rx +Idle
Mode 8:	Earphone+MP3+Idle
Mode 9:	Earphone +Idle

During the test, the preliminary test was performed in all modes (Camera/ FM /MP3 /GPS) with all frequency bands (GSM/ WCDMA/ LTE/ BT/ Wi-Fi), mode 6 (with Camera + FM + MP3 + GPS Rx + GSM/ WCDMA/ LTE/ BT/ Wi-Fi idle) selected as the worst condition. The test data of the worst-case condition was recorded in this report.

### 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

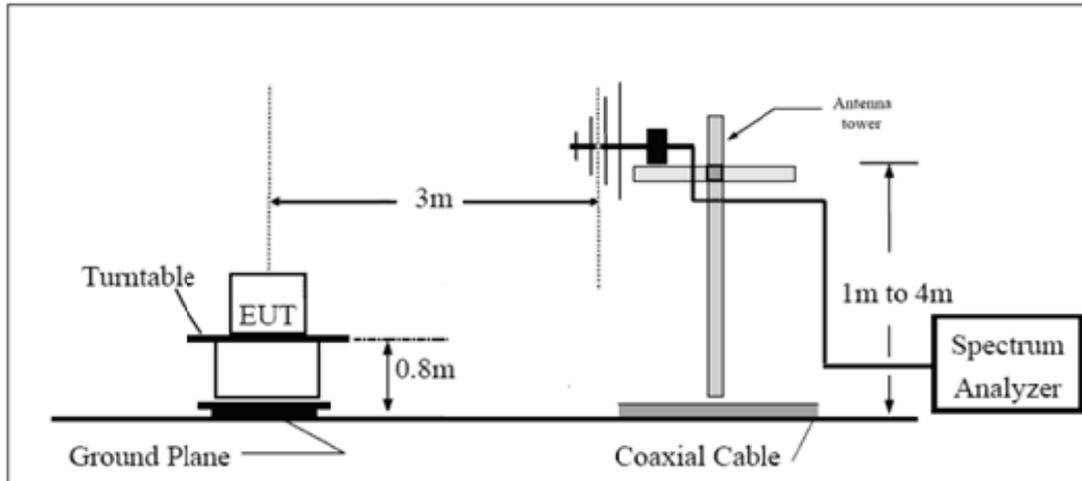
(b) AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

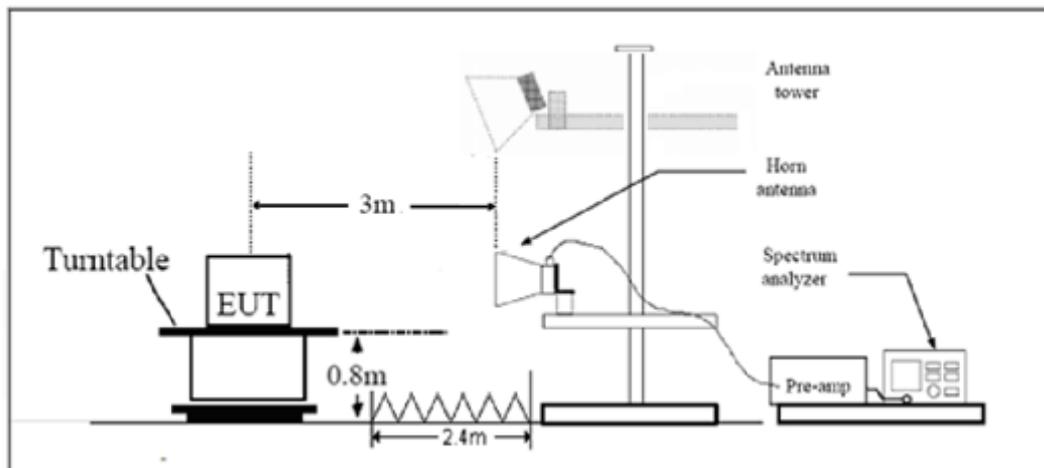
During the test, EUT is connected to a laptop via a USB cable in the case of Transfer Data mode. The EUT is used as the peripheral equipment of the PC. The data is transferred from EUT to PC; PC is connected to server via a long LAN cable.

## 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**

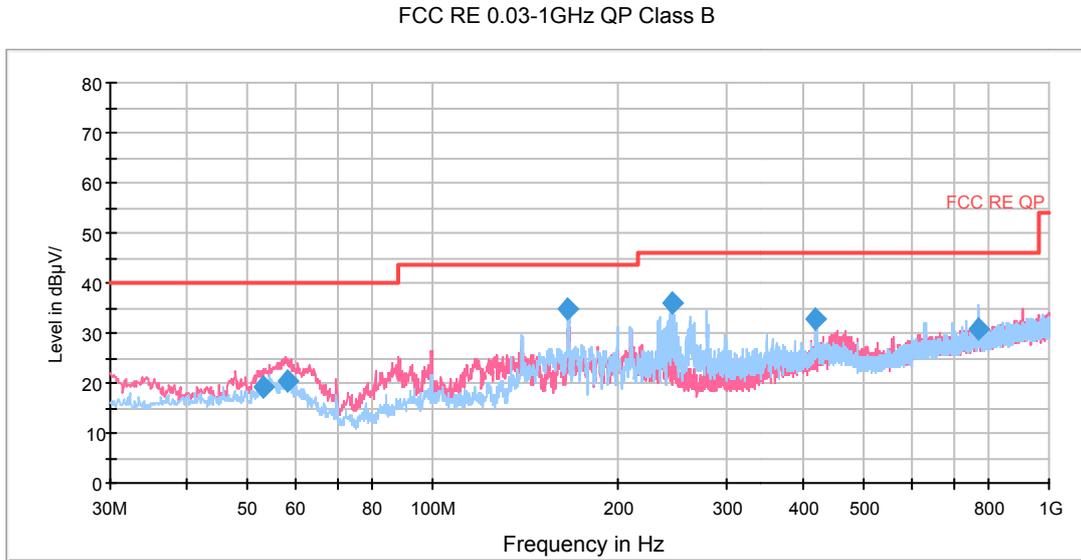
Frequency (MHz)	Field Strength (dB $\mu$ V/m)	Detector
30 -88	40.0	Quasi-peak
88-216	43.5	Quasi-peak
216 – 960	46.0	Quasi-peak
960-1000	54.0	Quasi-peak
1000-5 <sup>th</sup> harmonic of the highest frequency or 40GHz, which is lower	54 74	Average Peak

**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.

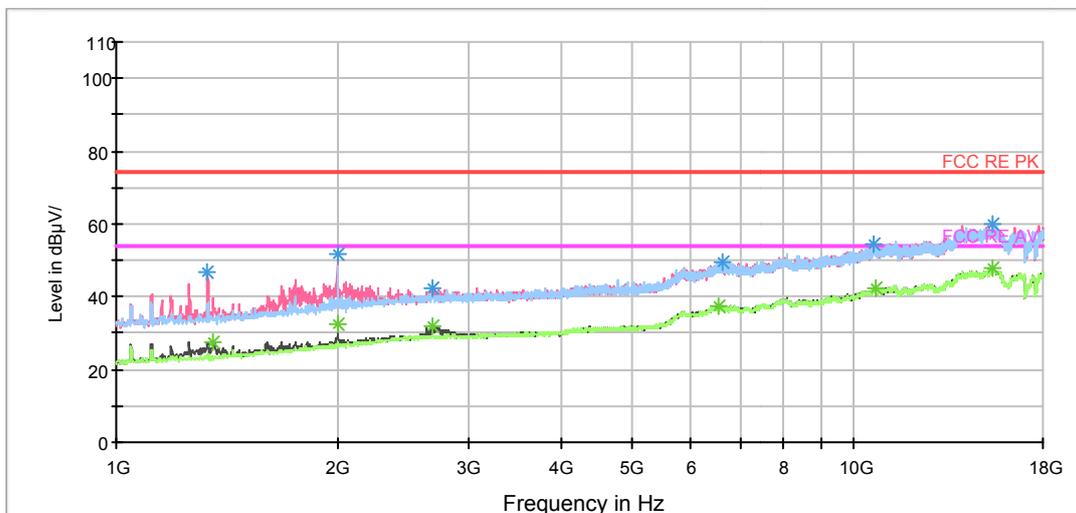


Radiated Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
53.240000	19.1	6.3	100.0	V	276.0	12.8	21.0	40.0
58.126250	20.5	7.8	100.0	V	276.0	12.7	19.5	40.0
166.007500	34.8	24.8	200.0	H	95.0	10.0	8.7	43.5
244.855000	35.9	21.7	125.0	H	84.0	14.2	10.1	46.0
418.245000	32.8	14.4	202.0	H	344.0	18.4	13.2	46.0
769.706250	31.0	6.4	114.0	H	339.0	24.6	15.0	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

FCC RE 1G-18GHz PK+AV Class B



Radiated Emission from 1GHz to 18GHz

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1327.250000	46.9	54.4	100.0	V	173.0	-7.5	27.1	74
1996.625000	51.4	55.0	100.0	V	358.0	-3.6	22.6	74
2689.375000	42.3	43.0	100.0	V	161.0	-0.7	31.7	74
6610.000000	49.6	42.3	100.0	H	220.0	7.3	24.4	74
10628.375000	54.7	41.8	100.0	H	108.0	12.9	19.3	74
15396.875000	59.8	41.3	100.0	V	358.0	18.5	14.2	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1352.750000	27.6	34.9	100.0	V	161.0	-7.3	26.4	54
1996.625000	32.2	35.8	100.0	V	358.0	-3.6	21.8	54
2689.375000	31.9	32.6	100.0	V	161.0	-0.7	22.1	54
6565.375000	37.4	30.1	100.0	V	0.0	7.3	16.6	54
10687.875000	42.5	29.6	100.0	V	346.0	12.9	11.5	54
15384.125000	47.7	29.1	100.0	H	108.0	18.6	6.3	54

### 3.2 Conducted Emission

#### Ambient condition

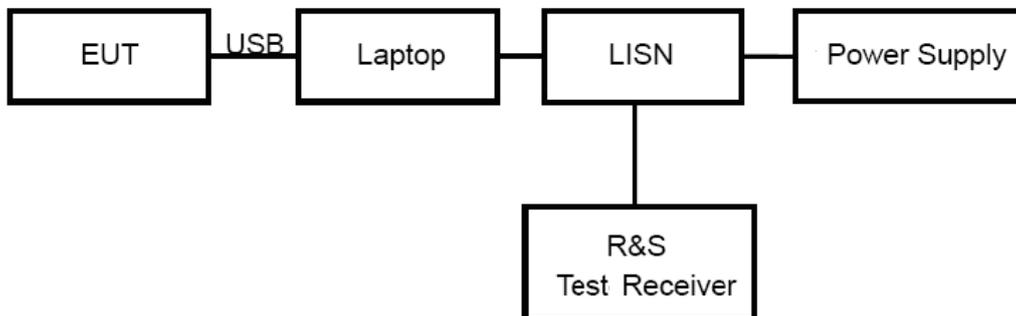
Temperature	Relative humidity	Pressure
24°C ~26°C	50%~55%	102.5kPa

#### 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

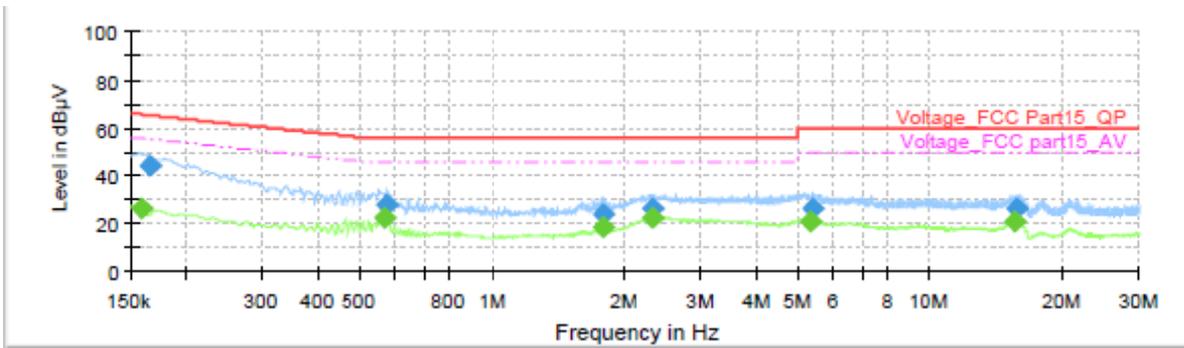
\*: Decreases with the logarithm of the frequency.

#### 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.

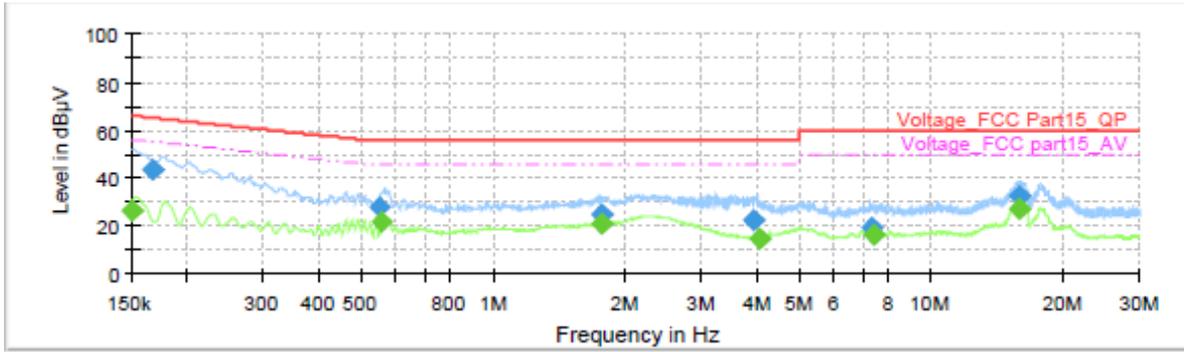


### Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.159000	---	26.15	55.52	29.36	1000.0	9.000	L1	ON	19.1
0.165750	44.03	---	65.17	21.14	1000.0	9.000	L1	ON	19.1
0.568500	---	22.75	46.00	23.25	1000.0	9.000	L1	ON	19.3
0.573000	28.28	---	56.00	27.72	1000.0	9.000	L1	ON	19.3
1.799250	---	18.63	46.00	27.37	1000.0	9.000	L1	ON	19.2
1.799250	23.83	---	56.00	32.17	1000.0	9.000	L1	ON	19.2
2.332500	26.34	---	56.00	29.66	1000.0	9.000	L1	ON	19.0
2.339250	---	22.40	46.00	23.60	1000.0	9.000	L1	ON	19.0
5.322750	---	21.17	50.00	28.83	1000.0	9.000	L1	ON	19.1
5.390250	26.11	---	60.00	33.89	1000.0	9.000	L1	ON	19.1
15.625500	---	21.10	50.00	28.90	1000.0	9.000	L1	ON	19.4
15.724500	26.37	---	60.00	33.63	1000.0	9.000	L1	ON	19.4

L line

Conducted Emission from 150 KHz to 30 MHz



### Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.150000	---	26.25	56.00	29.75	1000.0	9.000	N	ON	19.1
0.168000	43.64	---	65.06	21.41	1000.0	9.000	N	ON	19.2
0.552750	28.06	---	56.00	27.94	1000.0	9.000	N	ON	19.3
0.555000	---	21.56	46.00	24.44	1000.0	9.000	N	ON	19.3
1.770000	---	20.64	46.00	25.36	1000.0	9.000	N	ON	19.2
1.779000	24.52	---	56.00	31.48	1000.0	9.000	N	ON	19.2
3.918750	22.77	---	56.00	33.23	1000.0	9.000	N	ON	19.0
4.069500	---	14.96	46.00	31.04	1000.0	9.000	N	ON	19.1
7.323000	19.47	---	60.00	40.53	1000.0	9.000	N	ON	19.2
7.406250	---	16.12	50.00	33.88	1000.0	9.000	N	ON	19.2
15.965250	---	26.89	50.00	23.11	1000.0	9.000	N	ON	19.4
15.985500	32.40	---	60.00	27.60	1000.0	9.000	N	ON	19.4

N line

Conducted Emission from 150 KHz to 30 MHz

## 4 Main Test Instrument

Name	Manufacturer	Type	Serial Number	Last Cal.	Cal. Due Date
Signal Analyzer	R&S	FSV30	100815	2016-12-16	2017-12-15
EMI Test Receiver	R&S	ESCI	100948	2017-05-20	2018-05-19
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-02-18	2019-02-17
Trilog Antenna	SCHWARZBECK	VULB 9163	9163-201	2014-12-06	2017-12-05
Horn Antenna	R&S	HF907	100126	2014-12-06	2017-12-05
Horn Antenna	ETS-Lindgren	3160-09	00102643	2015-01-30	2018-01-29
EMI Test Receiver	R&S	ESCS30	100138	2016-12-16	2017-12-15
LISN	R&S	ENV216	101171	2016-12-16	2019-12-15
Bore Sight Antenna mast	ETS	2171B	00058752	NA	NA

## ANNEX A: The EUT Appearance and Test Configuration

### A.1 EUT Appearance



Front Side



Back Side

a: EUT



b: Adapter

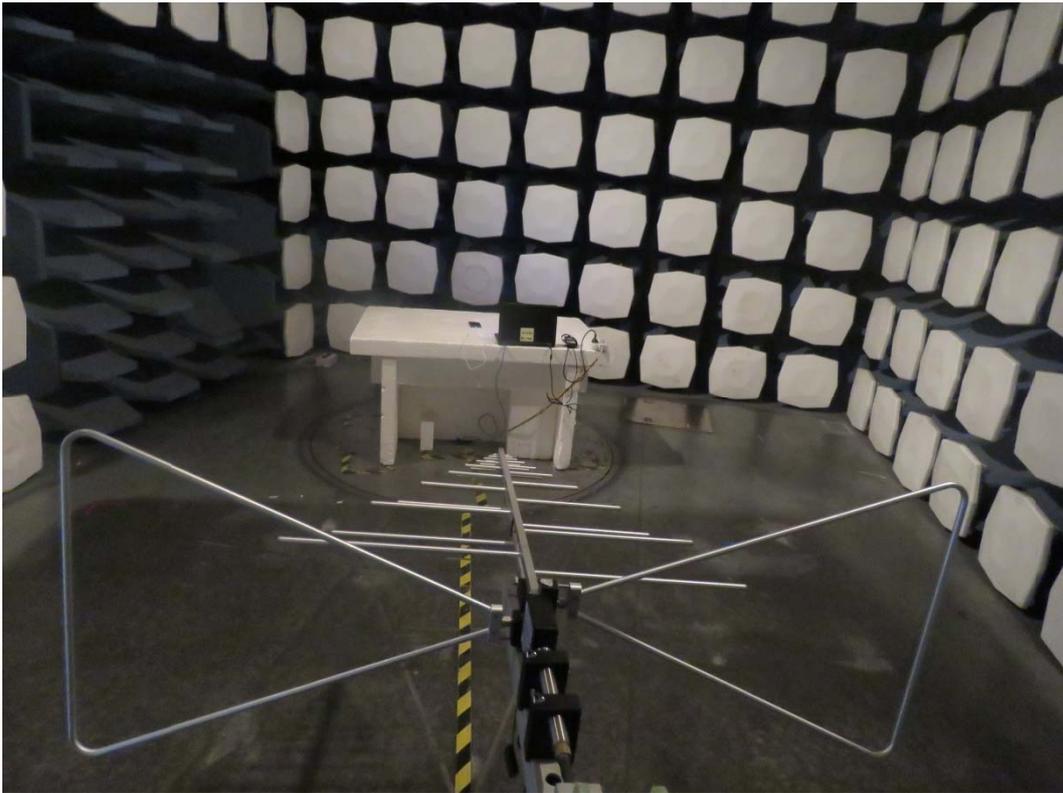


c: USB Cable

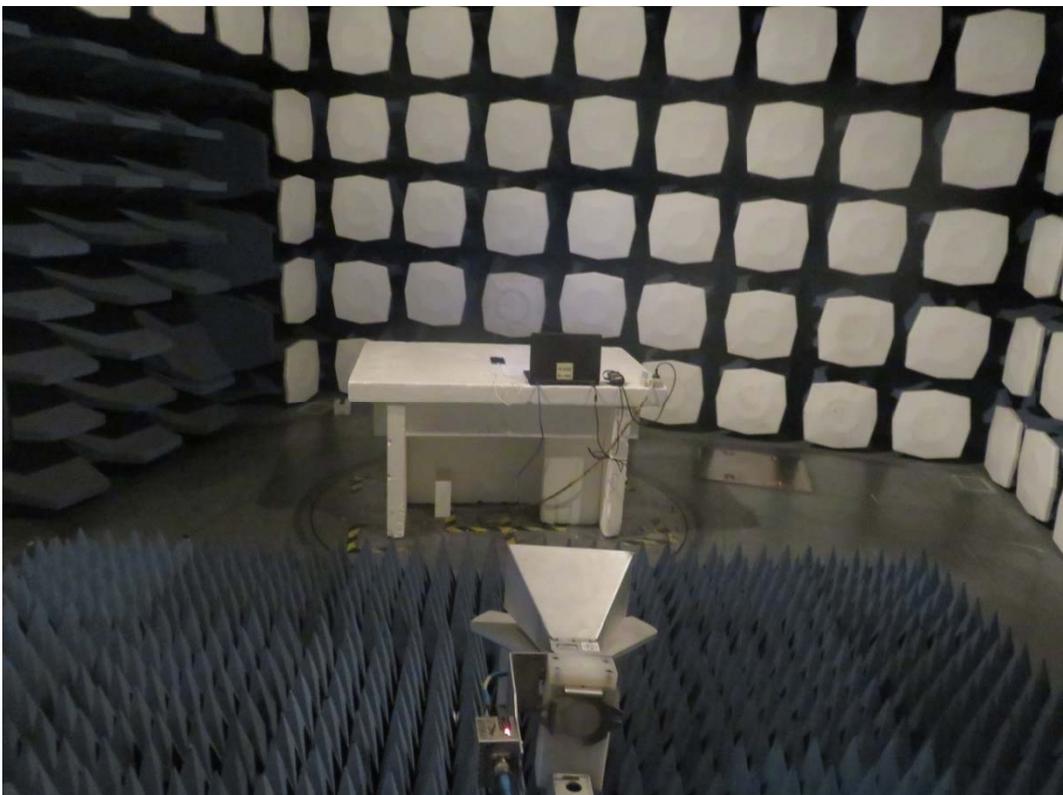


d: Earphone  
Picture 1 EUT

## A.2 Test Setup



a: Below 1GHz



b: Above 1GHz

**Picture 2 Radiated Emission Test Setup**



**Picture 3 Conducted Emission Test Setup**

### A.3 Host Product

