



Registration  
No.788871

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# TEST REPORT

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Report No.: SRTC2018-9003(F)-0023  
Product Name: LTE/WCDMA/GSM (GPRS) Multi-Mode Digital  
Mobile Phone  
Model Name: ZTE Blade V10 Vita  
Applicant: ZTE Corporation  
Manufacturer: ZTE Corporation  
Specification: FCC Part15B (Certification)  
(2019 edition)  
FCC ID: SRQ-ZTEV10VITA

The State Radio\_monitoring\_center Testing Center (SRTC)  
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## 1. General information

### 1.1 Notes of the test report

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The test results relate only to individual items of the samples which have been tested.

### 1.2 Information about the testing laboratory

Company: The State Radio\_monitoring\_center Testing Center (SRTC)  
Address: 15th Building, No.30 Shixing Street, Shijingshan District  
City: Beijing  
Country or Region: China  
Contacted person: Liu Jia  
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Email: liujiaf@srtc.org.cn

### 1.3 Applicant's details

Company: ZTE Corporation  
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City: Shenzhen  
Country or Region: P.R.China  
Contacted person: Gong Yu  
Tel: 86-21-6889539  
Fax: ---  
Email: gongyu@zte.com.cn

### 1.4 Manufacturer's details

Company: ZTE Corporation  
Address: ZTE Plaza, Keji Road South,Hi-Tech, Industrial Park, Nanshan District,Shenzhen, P.R.China,  
City: Shenzhen  
Country or Region: P.R.China  
Contacted person: Gong Yu  
Tel: 86-21-6889539  
Fax: ---  
Email: gongyu@zte.com.cn

## 1.5 Application details

Date of reception of test sample: 2<sup>nd</sup> Jan 2019

Date of test: 2<sup>nd</sup> Jan 2019 to 31<sup>th</sup> Jan 2019

## 1.6 Reference specification

FCC Part 15B, 2017 (Certification)

## 1.7 Information of EUT

### 1.7.1 General information

Name of EUT	LTE/WCDMA/GSM (GPRS) Multi-Mode Digital Mobile Phone
FCC ID	SRQ-ZTEV10VITA
Frequency Range	GSM850/WCDMA Band V/ LTE band V: Tx:824~849MHz Rx:869~894MHz PCS1900/WCDMA Band II/LTE band II: Tx:1850~1910MHz Rx:1930~1990MHz WCDMA BAND IV/LTE band IV: Tx: 1710 MHz – 1755 MHz Rx: 2110 MHz – 2155 MHz LTE band VII:Tx: 2500 MHz – 2570 MHz Rx: 2620 MHz – 2690 MHz
Equipment Class	Class B
Antenna Type	Fixed Internal Antenna
Power Supply	Battery or Charger
Rated Power Supply Voltage	3.85V
Extreme Temperature	Lowest: -10°C Highest: +55°C
Extreme Voltage	Minimum: 3.6V Maximum: 4.4V
HW Version	ujyA
SW Version	TEL_MX_ZTE_Blade_V10_VitaV1.0

### 1.7.2 EUT details

Product Name	Model Name	IMEI
LTE/WCDMA/GSM (GPRS) Multi-Mode Digital Mobile Phone	ZTE Blade V10 Vita	868486040002281/868486040002810

### 1.7.3 Auxiliary equipment details

AE (Auxiliary Equipment) 1#: Computer

Manufacturer	Lenovo
Model Number	7000
S/N	MP199J70
Input Voltage	100V-240V AC
Frequency	50/60Hz

AE (Auxiliary Equipment) 2#: USB Cable

Manufacturer	King Power Electronics Co., Ltd.
Model Number	USB-MU5-W-70-L

AE (Auxiliary Equipment) 3#: USB Cable

Manufacturer	Shen Zhen Shi Yi HUA XING Electron Co.,Ltd
Model Number	USB-MU5-W-70-L

AE (Auxiliary Equipment) 4#: Headset

Manufacturer	Shen zhen FDC Electronic Co.,Ltd
Model Number	JWEP1036-Z01R

AE (Auxiliary Equipment) 5#: Headset

Manufacturer	JUWEI ELECTRONICS CO.LTD
Model Number	DEM-66

AE (Auxiliary Equipment) 6#: Battery

Type	Li-Ion
Manufacturer	Zhongshan Tianmao Battery Co.,LTD
Model Number	Li3931T44P8h806139
Capacity	3100mAh
Nominal Voltage	3.85V

AE (Auxiliary Equipment) 7#: Charger

Manufacturer	SHENZHEN RUIJING INDUSTRIAL CO LTD
Model Number	STC-A515A-Z

AE (Auxiliary Equipment) 8#: Charger

Manufacturer	Jiangsu Chenyang Electron Co.,Ltd
Model Number	STC-A515A-Z

AE (Auxiliary Equipment) 8#: Charger

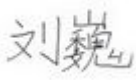
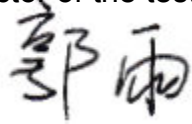

Manufacturer	Shenzhen Dokocom Energy Technology Co.,Ltd
Model Number	STC-A515A-Z

Note1: The relevant tests have been performed in order to verify in which Auxiliary Equipment would have the worst features. So all the tests shown in this test report we have used the AE2、AE4、AE6 and AE7.

## 2. Test information

### 2.1 Summary of the test results

No.	Test case	FCC reference	Verdict
1	Conducted emissions	15.107	Pass
2	Radiated emissions	15.109	Pass

Approved by Mr. LiuWei Director of the test department  	Checked by Mr. Guo Yu Vice director of the test department  
Tested by: Mr. Lv Youyou Test engineer  	Issued date:  2019.01.31

## 2.2 Test result

### 2.2.1 Conducted Emissions-FCC Part15.107

Ambient condition:

Temperature	Relative humidity	Pressure
24.6°C	40.5%	100.8kPa

Test Setup with laptop:

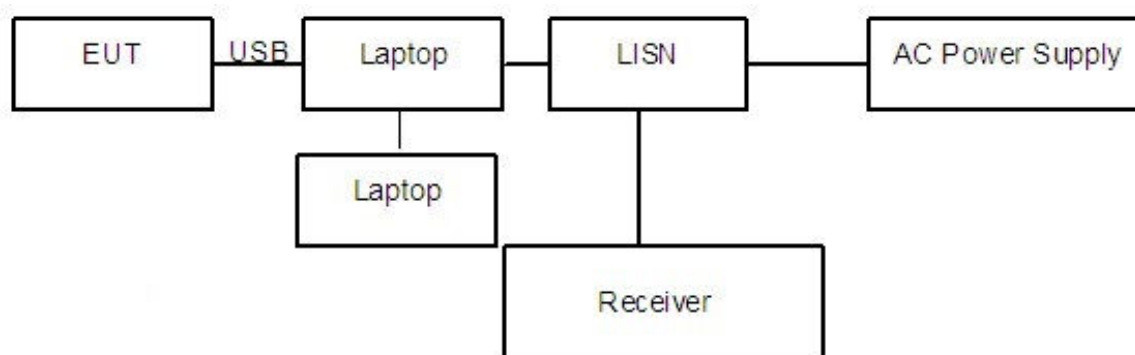


Figure 1

Test Procedure:

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The accessories of the EUT are connected with the EUT such as headset etc. The EUT was connected with a laptop via the USB cable and was charged. The laptop's LAN port is connected with another laptop via cable. And the data transferring between two laptops is maintained. When performing the test, open the function of EUT: FM Receiver, FM, Camera and GPS. The EUT copies large data (such as multiple movies) from the computer.

The AC main power supply of the laptop is connected to LISN and LISN is connected to the reference ground. The test set-up and the test methods are performed according to ANSI C63.4:2014.

Then start the test software EMC32. Sweep the whole frequency band through the range from 150 KHz to 30 MHz. The measurement should be done for both L line and N line. During pre-test, the receiver uses both peak detector and average detector. And the final test, the receiver uses both average detector and Quasi-peak detector.

The data of cable loss has been calibrated in full testing frequency range before the testing.



Test Setup with charger:

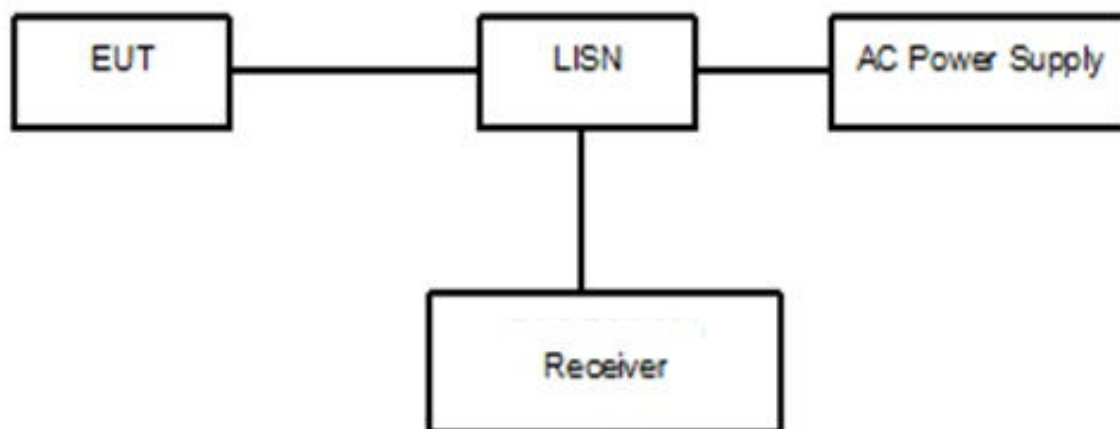


Figure 2

Test Procedure:

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The EUT is connected with LISN via the charger. The LISN is connected to the reference ground. The accessories of the EUT are connected with the EUT such as headset etc. When performing the test, open the function of EUT: FM Receiver, FM, Camera and GPS.

The test set-up and the test methods are performed according to ANSI C63.4.

Then start the test software EMC32. Sweep the whole frequency band through the range from 150 KHz to 30 MHz. The measurement should be done for both L line and N line. During pre-test, the receiver uses both peak detector and average detector. And the final test, the receiver uses both average detector and Quasi-peak detector.

The data of cable loss has been calibrated in full testing frequency range before the testing.

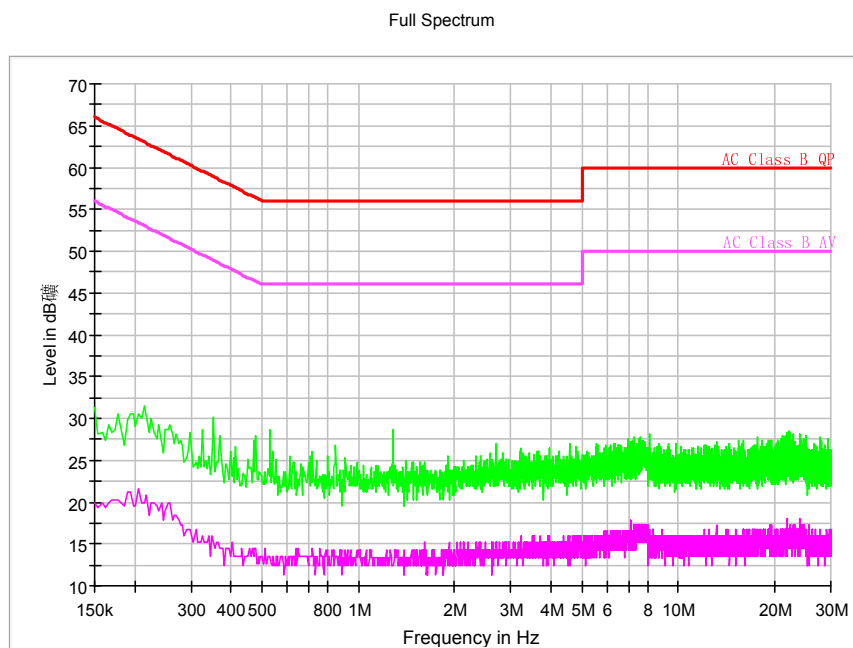
Limit:

Frequency of Emission(MHz)	Limits(dB $\mu$ V)	
	Quasi-peak	Average
0.15~0.5	66 to 56*	56 to 46*
0.5~5	56	46
5~30	60	50

Note: \* Decreases with the logarithm of the frequency

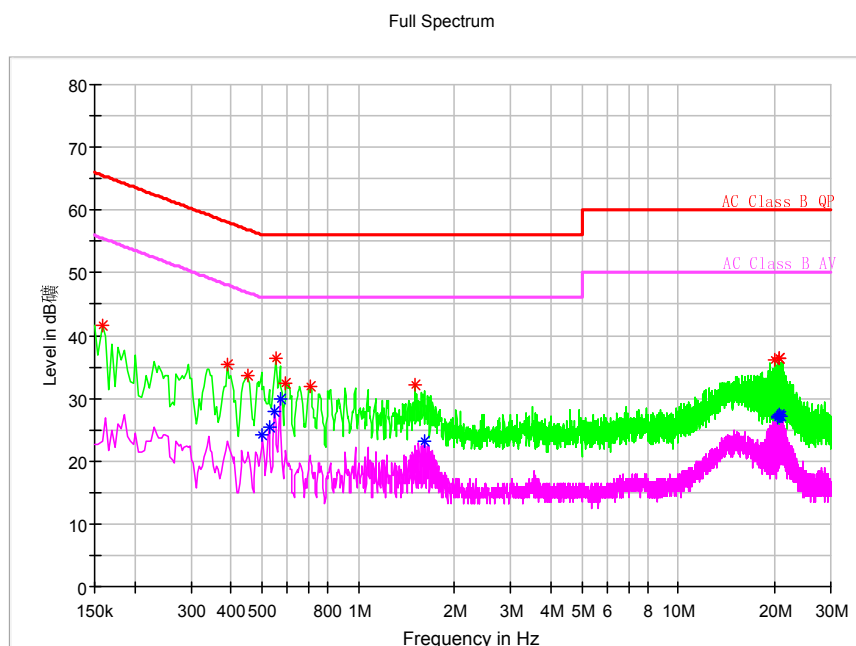
Test result:

Noise Level of the Measuring Instrument



Pic1. Conducted emission L and N Line

EUT+Laptop:



Pic2. Conducted emission L+N Line

**MEASUREMENT RESULT:**

Frequency (MHz)	MaxPeak (dB $\mu$ V)	Average (dB $\mu$ V)	Limit (dB $\mu$ V)	Line	Corr. (dB)
0.158000	41.55	---	65.57	L1	24.02
0.390000	35.46	---	58.06	N	22.61
0.450000	33.63	---	56.88	L1	23.24
0.502000	---	24.27	46.00	L1	21.73
0.526000	---	25.53	46.00	N	20.47
0.546000	---	27.97	46.00	L1	18.03
0.550000	36.38	---	56.00	N	19.62
0.570000	---	30.02	46.00	L1	15.98
0.594000	32.45	---	56.00	N	23.55
0.710000	31.90	---	56.00	L1	24.10
1.502000	32.03	---	56.00	L1	23.97
1.614000	---	23.14	46.00	N	22.86
20.046000	36.04	---	60.00	L1	23.96
20.438000	---	27.05	50.00	L1	22.95
20.558000	---	26.85	50.00	N	23.15
20.666000	36.32	---	60.00	L1	23.68
20.678000	---	27.25	50.00	N	22.75
20.770000	36.32	---	60.00	L1	23.68
20.770000	---	27.44	50.00	N	22.56
20.966000	---	27.05	50.00	L1	22.95

EUT+ charger



Pic3. Conducted emission L+N Line

**MEASUREMENT RESULT:**

Frequency (MHz)	MaxPeak (dB $\mu$ V)	Average (dB $\mu$ V)	Limit (dB $\mu$ V)	Line	Corr. (dB)
0.178000	55.53	---	64.58	L1	29.7
0.186000	54.64	---	64.21	N	29.7
0.186000	---	41.69	54.21	L1	29.7
0.194000	53.77	---	63.86	N	29.7
0.246000	52.60	---	61.89	N	29.7
0.258000	50.24	---	61.50	L1	29.7
0.302000	48.53	---	60.19	L1	29.7
0.622000	46.61	---	56.00	N	29.7
0.622000	---	36.90	46.00	L1	29.7
0.694000	48.31	---	56.00	L1	29.7
0.694000	---	36.25	46.00	L1	29.7
0.710000	---	33.90	46.00	N	29.7
1.174000	---	33.55	46.00	L1	29.7
1.254000	---	34.10	46.00	L1	29.7
1.646000	---	33.47	46.00	N	29.8
1.654000	---	33.75	46.00	L1	29.8
1.682000	44.59	---	56.00	N	29.8
1.690000	---	33.66	46.00	L1	29.8
1.770000	---	33.29	46.00	L1	29.8
2.106000	44.24	---	56.00	N	29.8

## 2.2.2 Radiated Emissions-FCC Part15.109

Ambient condition:

Temperature	Relative humidity	Pressure
24.6°C	40.5%	100.8kPa

Test Setup:

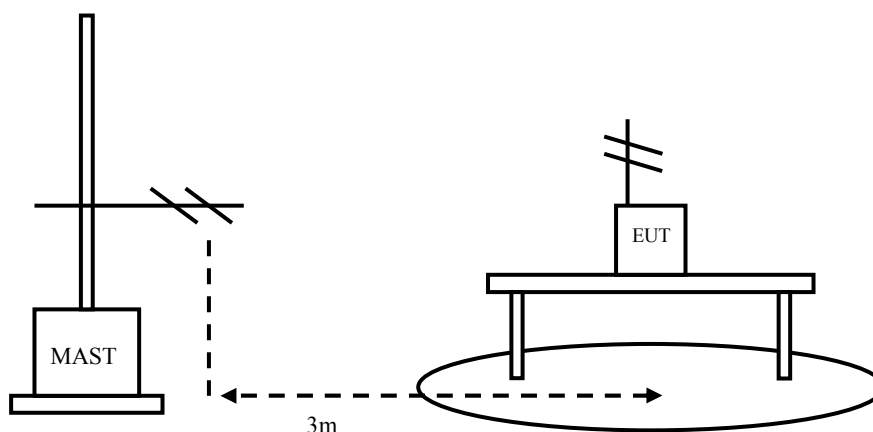


Figure 3

Test Procedure:

EUT+Laptop:

The EUT should be placed on a non-metallic table 80cm above the ground plane. The receive antennas shall be moved from 1 to 4 meters. The distance between EUT and receive antenna should be 3 meters.

The accessories of the EUT are connected with the EUT such as headset etc. The EUT was connected with a laptop via the USB cable and was charged. The laptop's LAN port is connected with another laptop via cable. And the data transferring between two laptops is maintained. The test set-up and the test methods are performed according to ANSI C63.4:2014. When performing the test, open the function of EUT: FM Receiver, FM, Camera and GPS. The EUT copies large data (such as multiple movies) from the computer.

Then start the test software EMC32. Sweep the whole frequency band through the range from 30MHz to 1GHz, using receive log period antenna HL562.

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 spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The EUT is laid in two modes as follow:  
1. put the EUT in horizontal direction; 2. put the EUT in vertical direction.

The data of cable loss and antenna factor have been calibrated in full testing frequency range before the testing.

#### EUT+Charger:

The EUT should be placed on a non-metallic table 80cm above the ground plane. The receive antennas shall be moved from 1 to 4 meters. The distance between EUT and receive antenna should be 3 meters.

The EUT should work in idle mode. The accessories of the EUT are connected with the EUT such as headset etc. The test set-up and the test methods are performed according to ANSI C63.4. When performing the test, open the function of EUT: FM Receiver, FM, Camera and GPS.

Then start the test software EMC 32. Sweep the whole frequency band through the range from 30MHz to 1GHz, using receive log period antenna HL562.

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 spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The EUT is laid in two modes as follow:  
1. put the EUT in horizontal direction; 2. put the EUT in vertical direction.

The data of cable loss and antenna factor have been calibrated in full testing frequency range before the testing.

A “reference path loss” is established and the  $A_{Rpl}$  is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{mea}} + A_{Rpl}$$

Limit:

Frequency of Emission(MHz)	Limits	
	Detector	Unit (dB $\mu$ V/m)
30~88	Quasi-peak	40
88~216	Quasi-peak	43.5
216~960	Quasi-peak	46
960~1000	Quasi-peak	54
1000~5th harmonic of the highest frequency or 40GHz, whichever is lower	Average	54
	Peak	74

Test result:

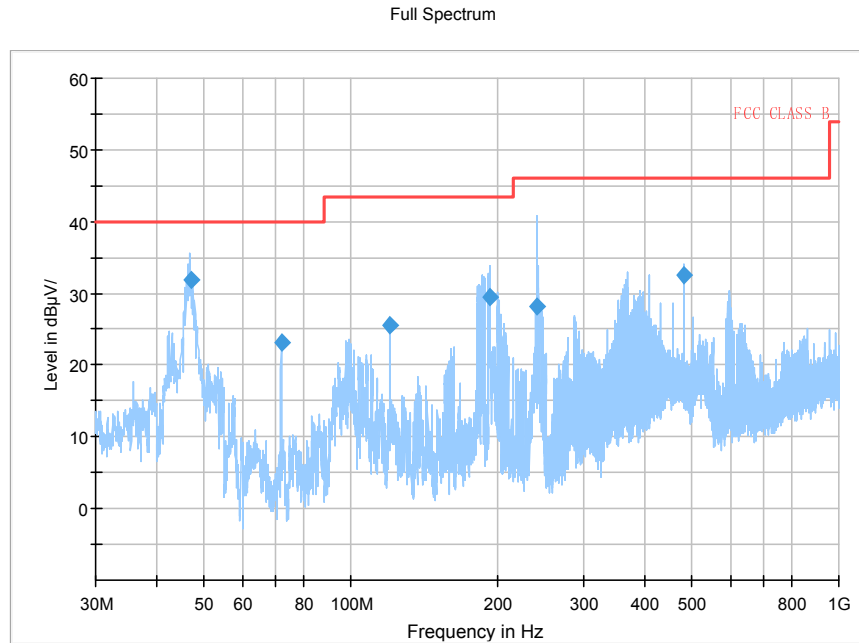
EUT+Laptop

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity
46.993333	31.88	-22.2	54.08	V
71.992917	23.18	-24.3	47.48	V
120.007917	25.49	-21.2	46.69	V
192.393750	29.41	-22.3	51.71	H
239.807083	28.11	-20.2	48.31	V
479.979167	32.60	-12.6	45.20	H

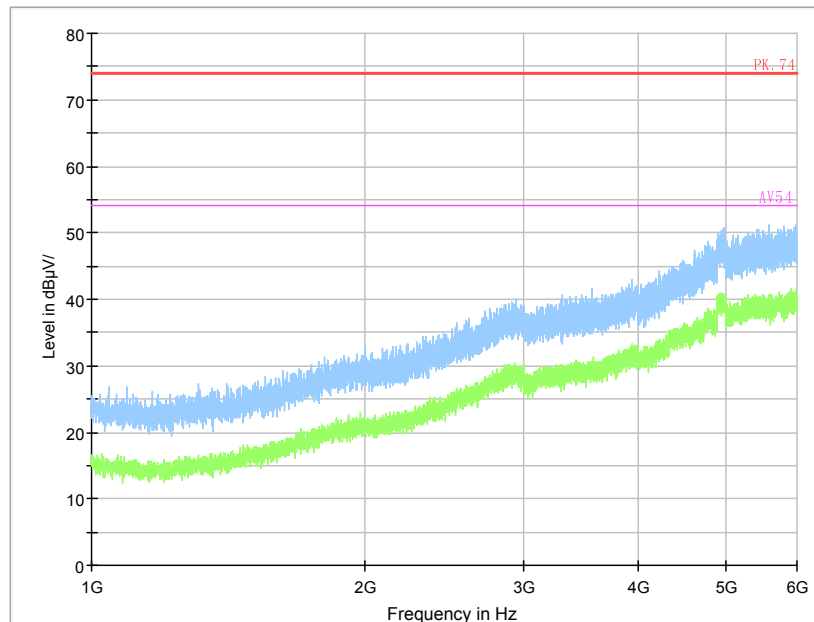
EUT+ charger

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	Pmea (dBuV/m)	Polarity
30.363750	24.53	-13.6	38.13	H
32.303750	26.86	-14.5	41.36	V
34.284167	26.36	-15.4	41.76	V
38.123750	25.59	-17.1	42.69	H
40.063750	25.20	-18.0	43.20	V
40.265833	21.07	-18.1	39.17	V
42.044167	21.92	-19.2	41.12	V
43.256667	20.68	-19.9	40.58	V
43.943750	20.82	-20.4	41.22	H
45.924167	21.71	-21.6	43.31	V

EUT+Laptop:



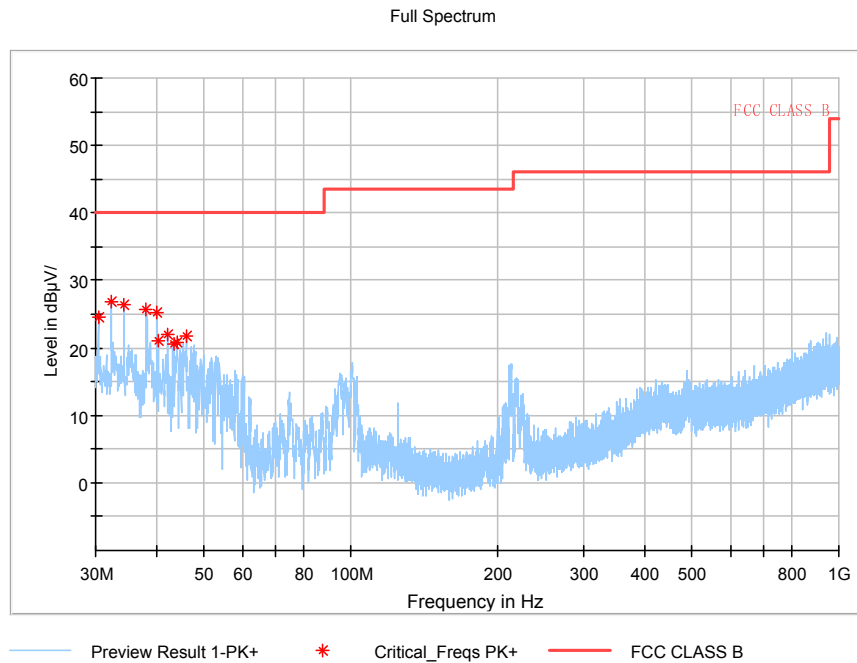
Pic4. Radiated emission(30MHz – 1GHz)



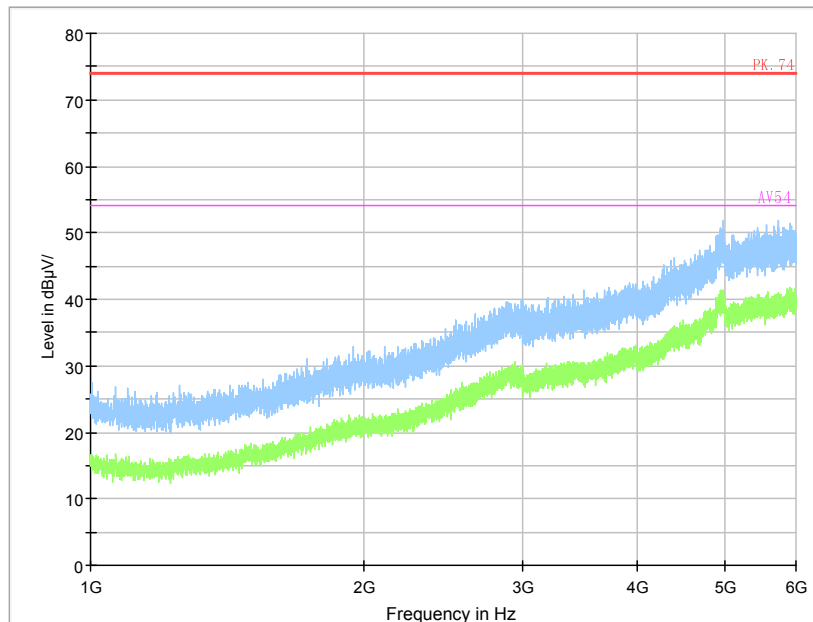
Pic5. Radiated emission (1GHz – 6Hz)



EUT+ charger:



Pic6. Radiated emission(30MHz – 1GHz)



Pic7. Radiated emission (1GHz – 6Hz)

## 2.3. List of test equipments

No.	Name/Model	Manufacturer	S/N	Calibration Due Date	Calibration Date
1	23.18m×16.88m×9.60mS emi-AnechoicChamber	FRANKONIA	-----	20th Aug. 2019	20th Aug. 2018
2	ESI 40EMI test receiver	R&S	100015	20th Aug. 2019	20th Aug. 2018
3	E5515C(8960) Mobile Station Tester	Agilent	GB4405090 4	20th Aug. 2019	20th Aug. 2018
4	9.080m×5.255m×3.525m Shielding room	FRANKONIA	-----	20th Aug. 2019	20th Aug. 2018
5	ESCS30EMI test receiver	R&S	100029	20th Aug. 2019	20th Aug. 2018
6	HL562Ultra log test antenna	R&S	100016	20th Aug. 2019	20th Aug. 2018
7	ENV216 AMN	R&S	3560.6550. 12	20th Aug. 2019	20th Aug. 2018
8	HF 907 Double-Ridged Waveguide Horn Antenna	R&S	100512	25 <sup>th</sup> May. 2018	25 <sup>th</sup> May. 2017
9	HF 907 Double-Ridged Waveguide Horn Antenna	R&S	100513	20th Aug. 2019	20th Aug. 2018
10	PS2000 Turn Table	FRANKONIA	-----	20th Aug. 2019	20th Aug. 2018
11	MA260 Antenna Master	FRANKONIA	-----	20th Aug. 2019	20th Aug. 2018
12	EMC32EMI test software	R&S	-----	20th Aug. 2019	20th Aug. 2018
13	HL562 Receive antenna	R&S	100167	20th Aug. 2019	20th Aug. 2018