

# TEST REPORT

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Report No.: SRTC2022-9003(F)-0061  
Product Name: LTE/WCDMA/GSM(GPRS)  
Multi-mode Digital Mobile Phone  
Model Name: ZTE 8046  
Applicant: ZTE Corporation  
Manufacturer: ZTE Corporation  
Specification: FCC Part15B (Certification)  
(2022 edition)  
ANSI C63.4-2014  
FCC ID: SRQ-ZTE8046

The State Radio\_monitoring\_center Testing Center (SRTC)  
15th Building, No.30 Shixing Street, Shijingshan District,  
Beijing, China

Tel: 86-10-57996183 Fax: 86-10-57996388

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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  
Testing location: No.80, Zhaojiachang, BeizangCun, Daxing District, Beijing, China.  
City: Beijing  
Country or Region: China  
Contacted person: Liu Jia  
Tel: +86 10 57996183  
Fax: +86 10 57996388  
Email: liujiaf@srtc.org.cn

### 1.3 Applicant's details

Company: ZTE Corporation  
Address: ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China  
City: Shenzhen  
Country or Region: China  
Contacted person: ---  
Tel: ---  
Email: ---

### 1.4 Manufacturer's details

Company: ZTE Corporation  
Address: ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China  
City: Shenzhen  
Country or Region: China  
Contacted person: ---  
Tel: ---  
Email: ---

### 1.5 Application details

Date of reception of test sample: 10<sup>th</sup> October 2022

Date of test: 15<sup>th</sup> October 2022 to 21<sup>th</sup> October 2022

## 1.6 Reference specification

FCC Part 15B, 2020 (Certification)

## 1.7 Information of EUT

### 1.7.1 General information

Product Name of EUT	LTE/WCDMA/GSM(GPRS) Multi-mode Digital Mobile Phone
Model Name of EUT	ZTE 8046
Marketing Name	ZTE Blade V41 Vita
FCC ID	SRQ-ZTE8046
Frequency Range	GSM: GSM850 / DCS1900 WCDMA: FDD II/ FDD IV / FDD V LTE: FDD 2/ FDD 4/ FDD 5/FDD 7/ FDD 12/ FDD 13/ FDD 17/ FDD 26/ FDD 28 / FDD 66/TDD 38/TDD 40 Bluetooth: 2.4~2.4835GHz WiFi: 2.4~2.4835GHz 5.15-5.25GHz 5.725GHz-5.85GHz
Power Supply	DC 3.8V
HW Version	ZTE 8046HW1.0
SW Version	MyOS12.0.0_8046_TEL

## 1.7.2 EUT details

No.	Product Name	Model Name	IMEI
EUT1	LTE/WCDMA/GSM(GPRS) Multi-mode Digital Mobile Phone	ZTE 8046	866426060001047

## 1.7.3 Auxiliary equipment details

### AE (Auxiliary Equipment) 1#: Charger1

Manufacturer	Jiangsu Chenyang Electronics Co.,Ltd.
Model Number	STC-A51030A2-Z
Input Voltage	100V-240V AC
Output Voltage	5V DC

### AE (Auxiliary Equipment) 2#: Charger2

Manufacturer	Shenzhen RUIJING Industrial Co., Ltd.
Model Number	STC-A51030A2-Z
Input Voltage	100V-240V AC
Output Voltage	5V DC

### AE (Auxiliary Equipment) 3#: Battery1

Manufacturer	VEKEN TECHNOLOGY Co., Ltd.
Model Number	Li3844T45P8h896546

### AE (Auxiliary Equipment) 4#: Battery2

Manufacturer	Zhuhai CosMX Battery Co., Ltd.
Model Number	Li3844T45P8h896546

### AE (Auxiliary Equipment) 5#: USB cable1

Manufacturer	Shenzhen Luxshare Precision Industry Co.,Ltd
Model Number	USB-TC20-W-100-M-L-HF

### AE (Auxiliary Equipment) 6#: USB cable2

Manufacturer	King Power Electronic Co.,Ltd
Model Number	USB-TC20-W-100-M-L-HF

### AE (Auxiliary Equipment) 7#: Headset1

Manufacturer	JUWEI Electronic Co.,Ltd
Model Number	JWEP1036-Z01R

### AE (Auxiliary Equipment) 8#: Headset2

Manufacturer	Shenzhen FDC Electronic Co.,Ltd
Model Number	DEM-66

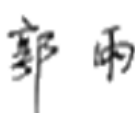
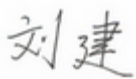

Note1:The EUT has passed EMC test, and the original test report number is BWTR-2248-NA15B.

Note2: ZTE Corporation declares that this application add LTE band 12/17/40.In this report, the result exercised by the EUT1, charger1 AE1, the Battery AE3 , the USB cable AE5 and Headset1 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. Guo Yu Vice director of the test department 	Checked By: Mr. Liu Jian 
Tested by: Mr. Lv Youyou Test engineer 	Issued date:  2022.10.20

## 2.2 Test result

### 2.2.1 Conducted Emissions-FCC Part15.107

Ambient condition:

Temperature	Relative humidity	Pressure
23.4°C	38.8%	100.8kPa

Test Setup with charger:

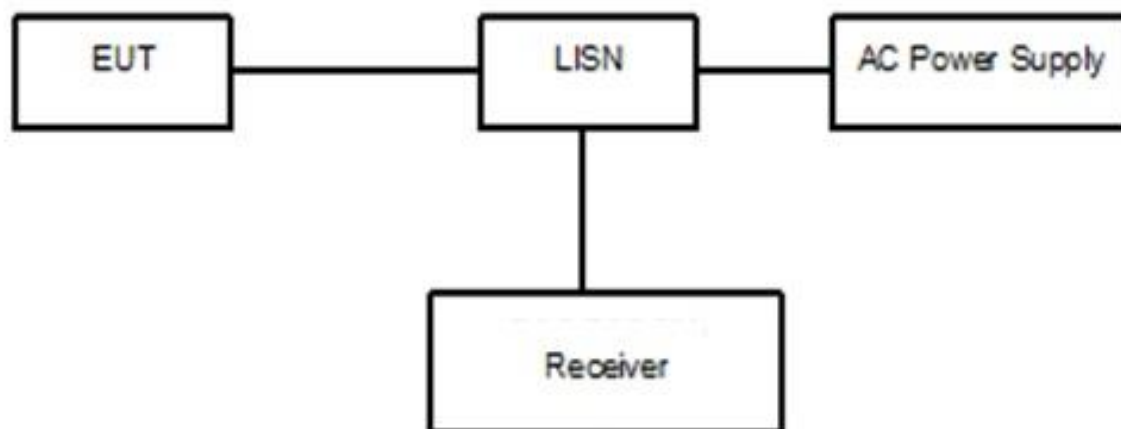


Figure 1

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 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 with RBW 9kHz, VBW 30kHz. 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 laptop:

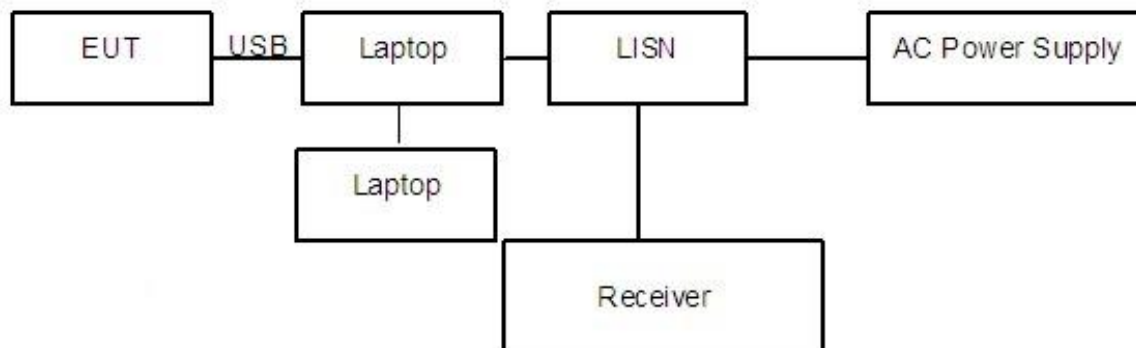


Figure 2

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.

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.



A “reference path loss” Corr.(dB) is established and the  $L_{cable}+ATT+VDF$  is the attenuation of “reference path loss”, and including the cable loss, the attenuation of the attenuator, the voltage division factor of AMN.

The measurement results are obtained as described below:

$$P_{result}=P_{mea}+Corr.(dB)$$

Sample calculation:  $(54.15dB\mu V) = (24.45 dB\mu V) + (29.7 dB)$ , the corresponding frequency is 0.162793MHz.

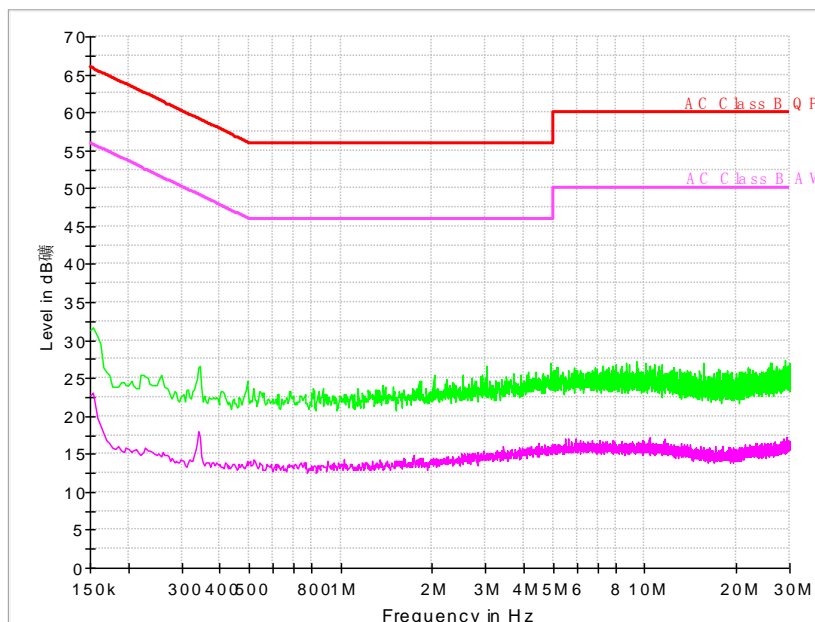
Limit:

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

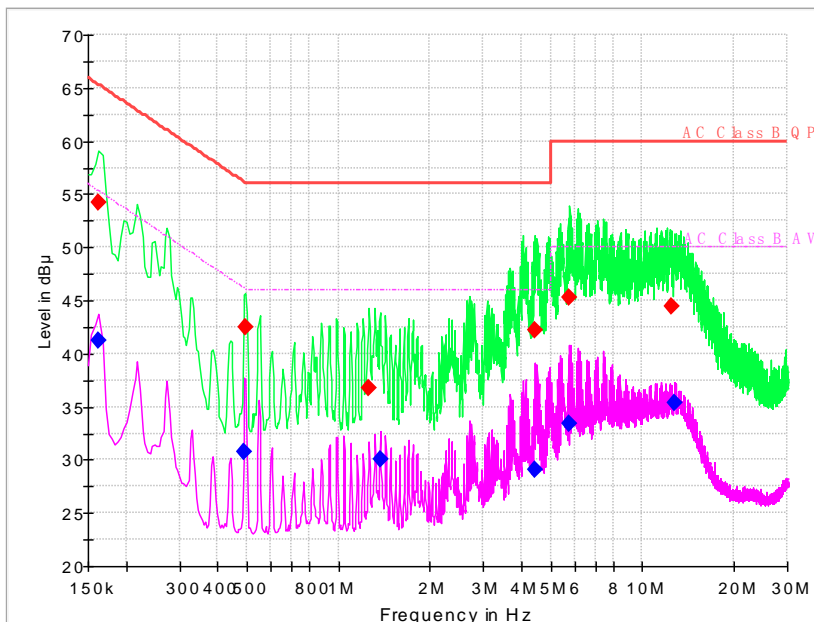
Test result:

Noise Level of the Measuring Instrument



Pic1.Conducted emission L and N Line

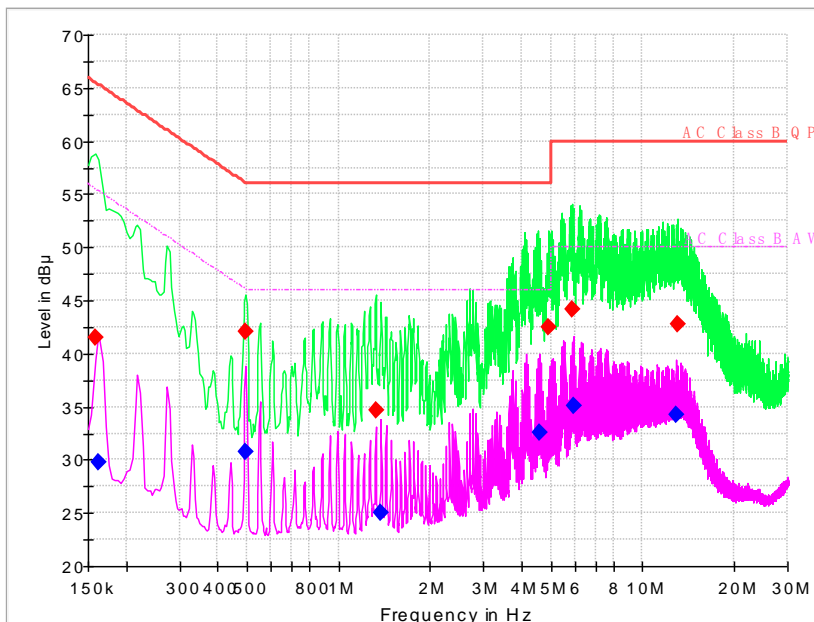
EUT1+charger1:



Pic2. Conducted emission L&N Line Voltage: 120VAC

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P <sub>mea</sub> QuasiPeak (dBµV)	P <sub>mea</sub> Average (dBµV)
0.162793	54.15	---	65.32	11.17	N	29.7	24.45	---
0.495407	42.50	---	56.08	13.58	N	29.7	12.8	---
1.262979	36.74	---	56.00	19.26	N	29.8	6.94	---
4.448400	42.21	---	56.00	13.79	N	29.8	12.41	---
5.770329	45.24	---	60.00	14.76	N	29.8	15.44	---
12.414086	44.40	---	60.00	15.60	L1	29.9	14.5	---
0.162793	---	41.25	55.32	14.07	N	29.7	---	11.55
0.491143	---	30.81	46.15	15.34	N	29.7	---	1.11
1.373850	---	30.05	46.00	15.95	N	29.8	---	0.25
4.448400	---	29.13	46.00	16.87	N	29.8	---	-0.67
5.766064	---	33.39	50.00	16.61	N	29.8	---	3.59
12.802136	---	35.39	50.00	14.61	N	29.9	---	5.49

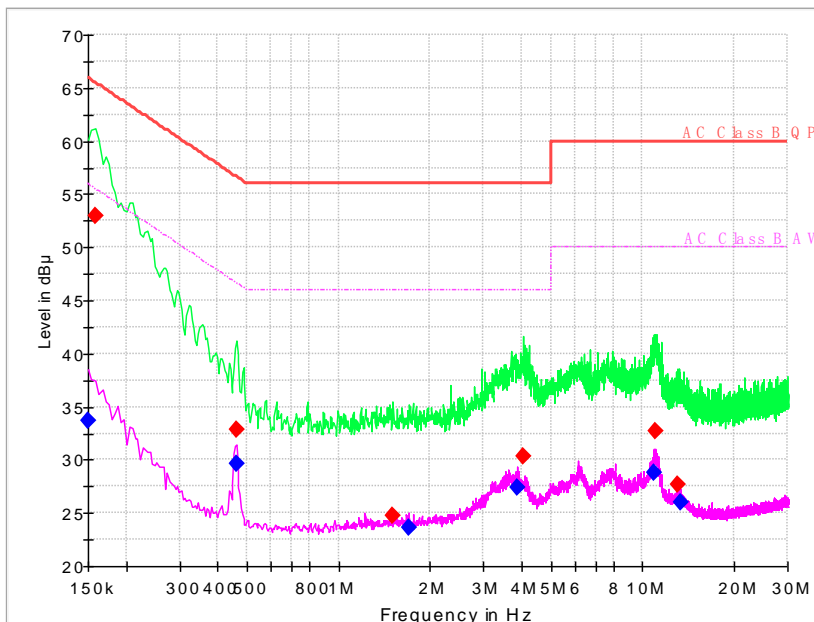
EUT1+charger1:



Pic3. Conducted emission L&N Line Voltage: 240VAC

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	P <sub>mea</sub> QuasiPeak (dBµV)	P <sub>mea</sub> Average (dBµV)
0.158529	41.56	---	65.54	23.98	N	29.7	11.86	---
0.495407	42.00	---	56.08	14.08	L1	29.7	12.3	---
1.322679	34.68	---	56.00	21.32	N	29.8	4.88	---
4.913207	42.54	---	56.00	13.46	L1	29.9	12.64	---
5.847086	44.10	---	60.00	15.90	N	29.8	14.3	---
13.028143	42.82	---	60.00	17.18	N	29.9	12.92	---
0.162793	---	29.79	55.32	25.53	L1	29.7	---	0.09
0.495407	---	30.77	46.08	15.31	L1	29.7	---	1.07
1.378114	---	25.09	46.00	20.91	N	29.8	---	-4.71
4.580593	---	32.61	46.00	13.39	N	29.8	---	2.81
5.906786	---	35.10	50.00	14.90	N	29.8	---	5.3
12.968443	---	34.30	50.00	15.70	N	29.9	---	4.4

EUT1+Laptop:



Pic4. Conducted emission L&N Line

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)	Pme a Quas	Pme a Aver
0.158529	53.02	---	65.54	12.52	L1	29.7	23.3	---
0.461293	32.84	---	56.67	23.83	L1	29.7	3.14	---
1.510307	24.78	---	56.00	31.22	L1	29.8	-5.02	---
4.047557	30.35	---	56.00	25.65	N	29.8	0.55	---
11.079364	32.67	---	60.00	27.33	L1	29.9	2.77	---
13.104900	27.64	---	60.00	32.36	N	29.9	-2.26	---
0.150000	---	33.74	56.00	22.26	N	29.7	---	4.04
0.461293	---	29.62	46.67	17.05	L1	29.7	---	-0.08
1.706464	---	23.66	46.00	22.34	L1	29.8	---	-6.14
3.859929	---	27.36	46.00	18.64	N	29.8	---	-2.44
10.904529	---	28.85	50.00	21.15	L1	29.9	---	-1.05
13.322379	---	25.94	50.00	24.06	L1	29.9	---	-3.96

## 2.2.2 Radiated Emissions-FCC Part15.109

Ambient condition:

Temperature	Relative humidity	Pressure
24.2°C	38.1%	100.8kPa

Test Setup:

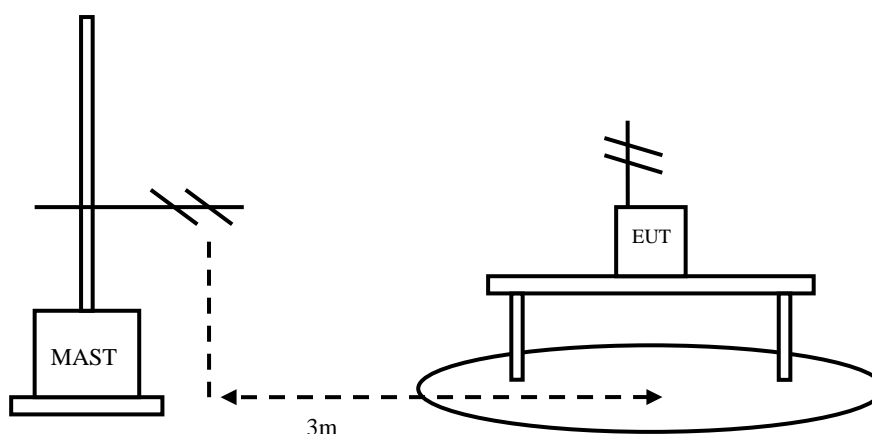


Figure 3

Test Procedure:

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. Open the following functions of EUT: Camera, flash lamp, GPS and video. 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 30MHz to 1GHz, using receive log period antenna VULB 9163.

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. All test results are performed with max hold at the horizontal and vertical polarity.

RBW=120kHz, VBW=300kHz, when the test frequency: 30MHz<f<1GHz

RBW=1MHz, VBW=3MHz, when the test frequency:  $f > 1\text{GHz}$

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 transferred the data by copying large files from laptop to the EUT. 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 30MHz to 1GHz, using receive log period antenna VULB 9163.

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:

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

Sample calculation:  $(32.14\text{dB}\mu\text{V/m}) = (50.14\text{dB}\mu\text{V}) + (-18.0\text{dB/m})$ , the corresponding frequency is 44.287083MHz.

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

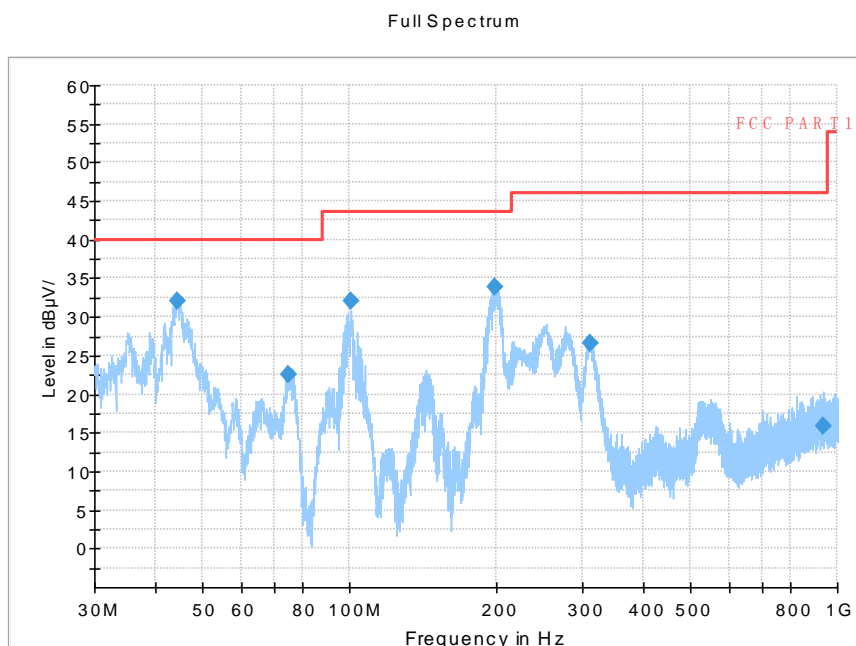
Test result:  
EUT1+charger1:

Frequency(MHz)	Result(dBuV/m)	Limit (dB $\mu$ V/m)	Margin (dB)	ARpl (dB/m)	P <sub>mea</sub> (dBuV)	Polarity
44.287083	32.14	40.00	7.86	-18.0	50.14	V
75.003333	22.59	40.00	17.41	-23.3	45.89	V
100.709167	32.08	43.50	11.42	-19.1	51.18	V
198.720833	33.89	43.50	9.61	-19.2	53.09	V
311.158750	26.61	46.00	19.39	-15.7	42.31	V
933.088333	15.92	46.00	30.08	-2.9	18.82	V

EUT1+Laptop:

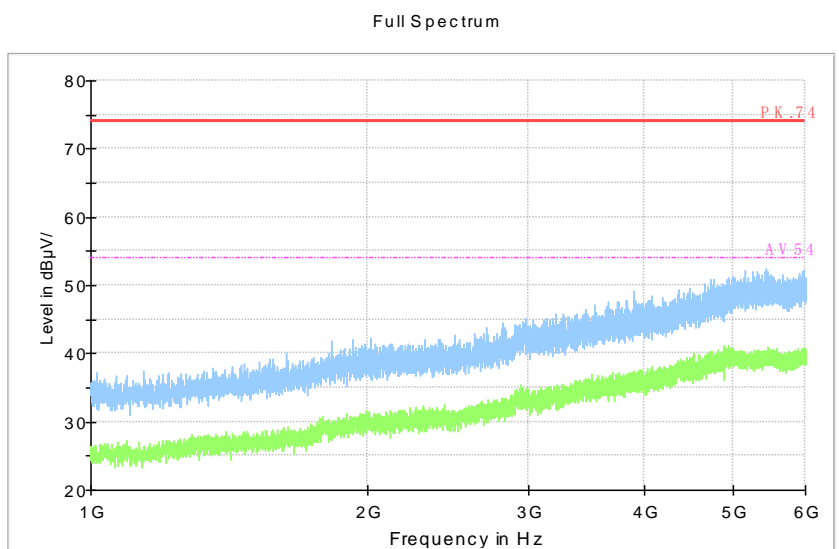
Frequency(MHz)	Result(dBuV/m)	Limit (dB $\mu$ V/m)	Margin (dB)	ARpl (dB/m)	P <sub>mea</sub> (dBuV)	Polarity
59.973000	15.15	40.00	24.85	-18.8	33.95	V
298.399000	26.43	46.00	19.57	-16.2	42.63	H
402.237500	22.76	46.00	23.24	-13.0	35.76	V
424.693000	19.22	46.00	26.78	-12.6	31.82	V
736.742000	15.48	46.00	30.52	-5.9	21.38	H
796.494000	28.10	46.00	17.90	-5.3	33.40	H

EUT1+charger1: refer to Pic5 to Pic8



Pic5. Radiated emission (30MHz – 1GHz)

Note: The test data in the graph includes two polarizations: horizontal and vertical



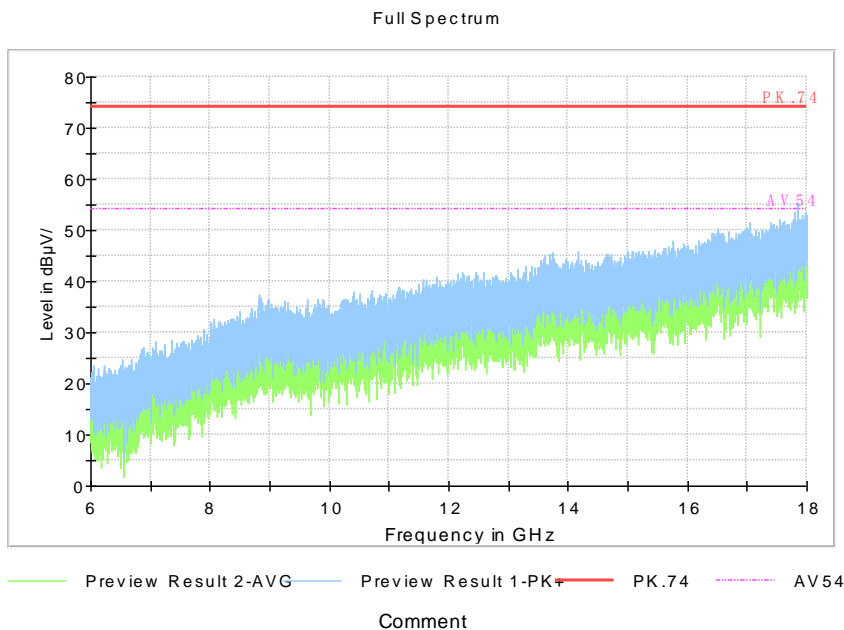
Preview Result 2-AVG Preview Result 1-PK+ PK.74 AV.54

Comment

Pic6. Radiated emission (1GHz –6GHz)

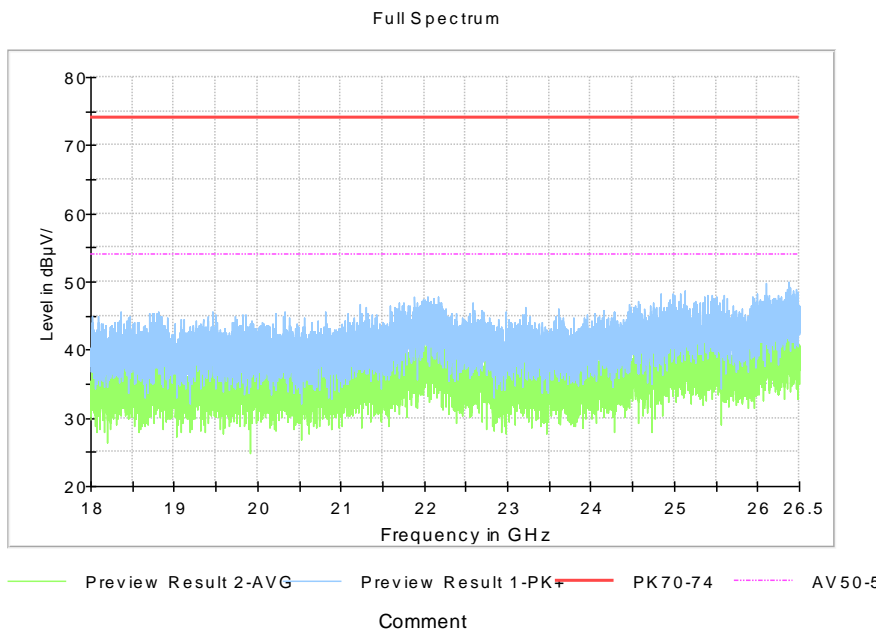
Note: The test data in the graph includes two polarizations: horizontal and vertical





Pic7. Radiated emission (6GHz –18GHz)

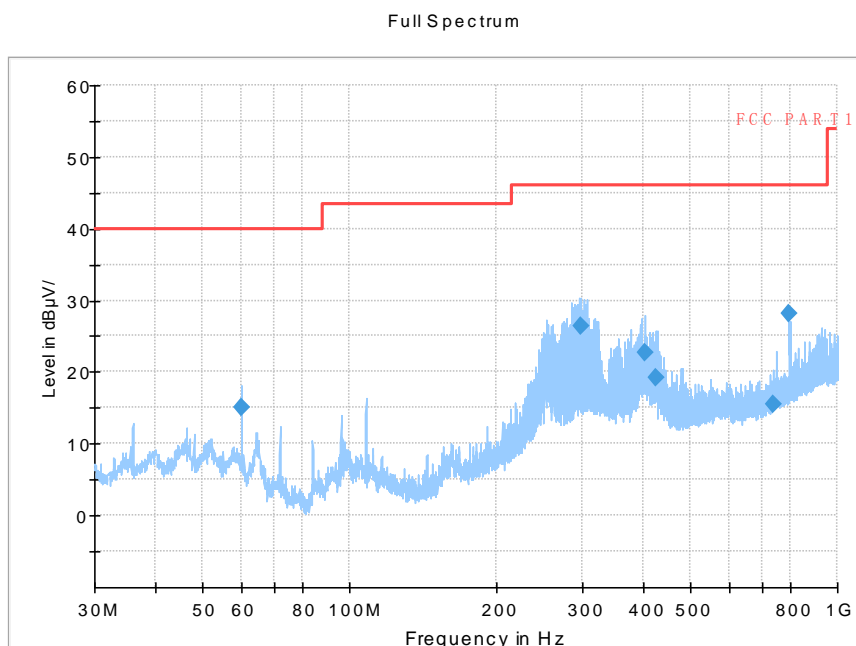
Note: The test data in the graph includes two polarizations: horizontal and vertical



Pic8. Radiated emission (18GHz –26GHz)

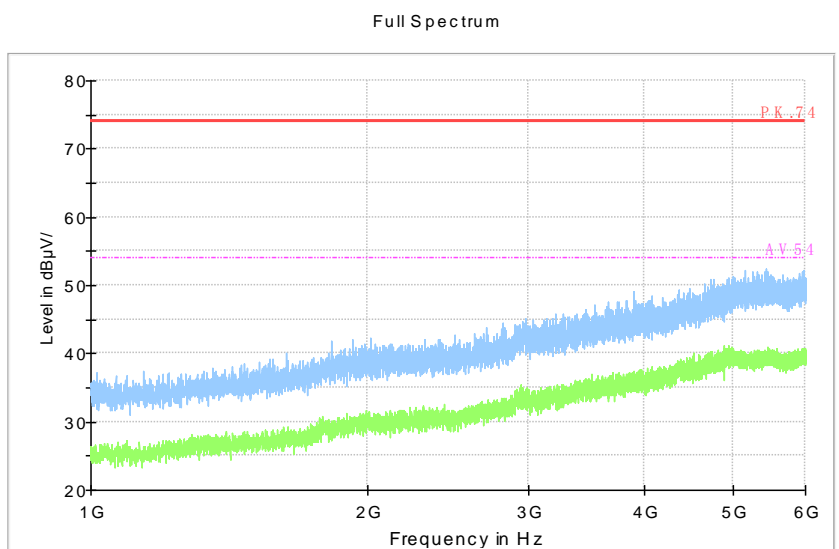
Note: The test data in the graph includes two polarizations: horizontal and vertical

EUT1+ Laptop: refer to Pic9 to Pic12



Pic9. Radiated emission (30MHz – 1GHz)

Note: The test data in the graph includes two polarizations: horizontal and vertical

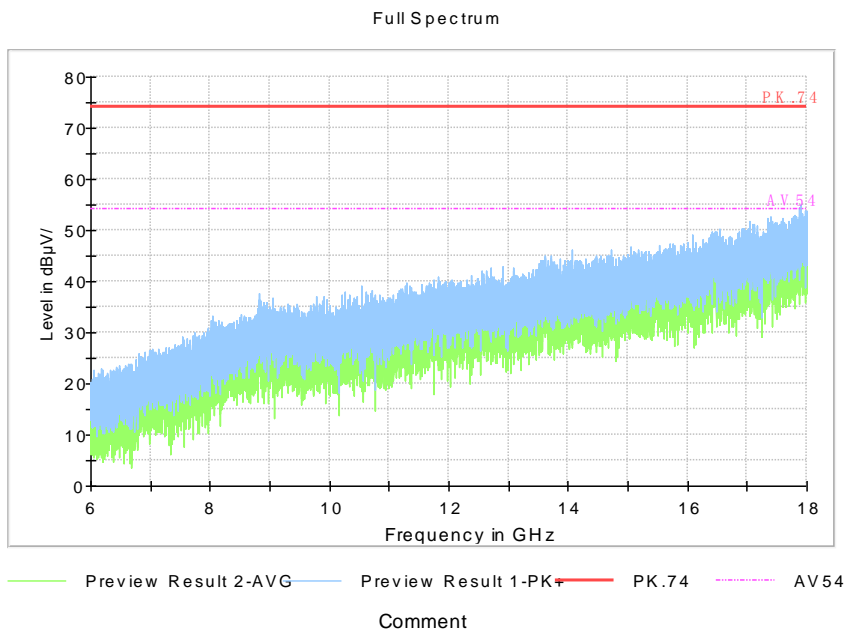


Preview Result 2-AVG    Preview Result 1-PK    PK.74    AV.54

Comment

Pic10. Radiated emission (1GHz –6GHz)

Note: The test data in the graph includes two polarizations: horizontal and vertical



Pic11. Radiated emission (6GHz –18GHz)

Note: The test data in the graph includes two polarizations: horizontal and vertical



Pic12. Radiated emission (18GHz –26GHz)

Note: The test data in the graph includes two polarizations: horizontal and vertical

### 2.3. List of test equipments

No.	Name/Model	Manufacturer	S/N	Calibration Due Date	Calibration Date
1	23.18m×16.88m×9.60m Semi-Anechoic Chamber	FRANKONIA	-----	2023.11.15	2018.11.16
2	ESW EMI test receiver	R&S	101574	2023.06.19	2022.06.20
3	ESR3 EMI test receiver	R&S	102361	2023.04.11	2022.04.12
4	9.080m×5.255m×3.525m Shielding room	FRANKONIA	-----	2023.09.05	2018.09.06
5	VULB 9163 Ultra log test antenna	schwarzbeck	867	2023.05.28	2021.05.29
6	HF 907 Double-Ridged Waveguide Horn Antenna	R&S	100512	2023.05.12	2021.05.13
7	SAS-574 Horn Antenna	schwarzbeck	535	2023.06.19	2021.06.20
8	ENV216 AMN	R&S	3560.6550. 12	2023.06.19	2022.06.20
9	EMC32EMI test software	R&S	-----	-----	-----

-----The end-----