TEST REPORT

No. 2010TAR244

for

TCT Mobile Limited

GSM/GPRS dual bands mobile phone

Model Name: MINI Q A

Marketing Name: OT-606A

With

FCC ID: RAD136

Hardware Version: PIO

Software Version: V122

Issued Date: 2010-07-02

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

Test Laboratory:

DAR accreditation (DIN EN ISO/IEC 17025): No. DGA-PL-114/01-02

FCC 2.948 Listed: No.733176

IC O.A.T.S listed: No.6629A-1

TMC Beijing, Telecommunication Metrology Center of Ministry of Industry and Information Technology
No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China 100191
Tel:+86(0)10-62304633 , Fax:+86(0)10-62304633 Email:welcome@emcite.com. www.emcite.com

©Copyright. All rights reserved by TMC Beijing.

CONTENTS

1. TEST LABORATORY 3
1.1. TESTING LOCATION 3
1.2. TESTING ENVIRONMENT 3
1.3. PROJECT DATA 3
1.4. SIGNATURE 3
2. CLIENT INFORMATION 4
2.1. APPLICANT INFORMATION 4
2.2. MANUFACTURER INFORMATION 4
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) 5
3.1. ABOUT EUT 5
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST 5
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST 5
4. REFERENCE DOCUMENTS 6
4.1. REFERENCE DOCUMENTS FOR TESTING 6
5. LABORATORY ENVIRONMENT 7
6. SUMMARY OF TEST RESULTS 8
7. TEST EQUIPMENTS UTILIZED 9
ANNEX A: MEASUREMENT RESULTS 10

©Copyright. All rights reserved by TMC Beijing.

1. Test Laboratory

1.1. Testing Location

Company Name:	TMC Beijing, Telecommunication Metrology Center of MIIT
Address:	No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code:	100191
Telephone:	00861062304633
Fax:	00861062304793

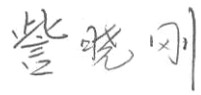
1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	20-75%

1.3. Project data

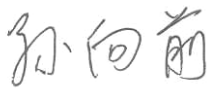
Testing Start Date:	Jun 11,2010
Testing End Date:	Jun 12,2010

1.4. Signature



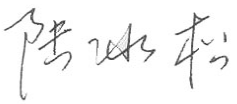
Zi Xiaogang

(Prepared this test report)



Sun Xiangqian

(Reviewed this test report)



Lu Bingsong

Deputy Director of the laboratory

(Approved this test report)

©Copyright. All rights reserved by TMC Beijing.

2. Client Information

2.1. Applicant Information

Company Name:	TCT Mobile Limited
Address /Post:	4/F, South Building,No.2966, Jinke Road, Zhangjiang High-Tech Park, Pudong,Shanghai, 201203, P.R.China
Contact	Gong Zhizhou
Email	zhizhou.gong@jrdcom.com
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

2.2. Manufacturer Information

Company Name:	TCT Mobile Limited
Address /Post:	4/F, South Building,No.2966, Jinke Road, Zhangjiang High-Tech Park, Pudong,Shanghai, 201203, P.R.China
Contact	Gong Zhizhou
Email	zhizhou.gong@jrdcom.com
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

©Copyright. All rights reserved by TMC Beijing.

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	GSM/GPRS dual bands mobile phone
Model Name	MINI Q A
Marketing Name	OT-606A
FCC ID	RAD136

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MII of People's Republic of China.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
N09	012298000000816	PIO	V122

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	SN
AE1	Battery	/
AE2	Travel Adapter	/
AE3	Travel Adapter	/
AE4	Travel Adapter	/
AE5	Travel Adapter	/
AE6	Data Cable	/
AE7	Headset	/
AE8	Headset	/
AE9	Bluetooth Headset	/

AE1

Model	CAB31C0000C1
Manufacturer	BYD
Capacitance	670mAh
Nominal Voltage	3.7V

AE2

Model	CBA3120AG0C1
Manufacturer	BYD
Length of DC line	120cm

AE3

Model	CBA3120AG0C2
Manufacturer	TENPAO
Length of DC line	120cm

©Copyright. All rights reserved by TMC Beijing.

AE4	
Model	CBA3170AG0C1
Manufacturer	BYD
Length of DC line	150cm
AE5	
Model	CBA3170AG0C2
Manufacturer	TENPAO
Length of DC line	150cm
AE6	
Model	CDA3122000C0 Micro usb cable
Manufacturer	Juwei/Shenhua
AE7	
Model	CCB3160A10C0
Manufacturer	Juwei
AE8	
Model	CCB3160A10C2
Manufacturer	Shunda
AE9	
Model	OT-BM82
Manufacturer	TCT

*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices	July 10, 2008 Edition
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2003

©Copyright. All rights reserved by TMC Beijing.

5. LABORATORY ENVIRONMENT

Semi-anechoic chamber (23 meters×17meters×10meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ±3.2 dB, 10 m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 2000 MHz

Control room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. =30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Conducted chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber (6.8 meters×3.08 meters×3.53 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 30 ℃
Relative humidity	Min. = 30 %, Max. = 60 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
Uniformity of field strength	Between 0 and 6 dB, from 80 to 2000 MHz

©Copyright. All rights reserved by TMC Beijing.

6. SUMMARY OF TEST RESULTS

Abbreviations used in this clause:	
P	Pass
NA	Not applicable
F	Fail

Clause	List	Clause in FCC rules	Verdict
1	Radiated Emission	15.109(a)	P
2	Conducted Emission	15.107(a)	P

©Copyright. All rights reserved by TMC Beijing.

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE
1	Test Receiver	ESS	847151/015	R&S	2010-10-30
2	Test Receiver	ESI40	831564/002	R&S	2011-2-10
3	BiLog Antenna	3142B	9908-1403	EMCO	2011-1-15
4	BiLog Antenna	VUL9163	9163 175	Schwarzbeck	2010-9-19
5	Signal Generator	SMT06	831285/005	R&S	2010-12-26
6	Signal Generator	SMP04	100070	R&S	2011-4-19
7	LISN	ESH2-Z5	829991/012	R&S	2010-9-13
8	Spectrum Analyzer	FSU26	200030	R&S	2011-6-16
9	Universal Radio Communication Tester	CMU200	100680	R&S	2010-8-22
10	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2011-3
11	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO	2011-3
12	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2011-3
13	Climatic chamber	SH-241	92003546	ESPEC	2011-5-14
14	PC	OPTIPLEX 755	3908243625	DELL	N/A
15	Monitor	E178FPc	CN-OWR979-64180-7AJ-D2MS	DELL	N/A
16	Printer	DeskJet D2368	TH72E12G7Q	HP	N/A
17	Keyboard	L100	CN0RH659658907ATOI40	DELL	N/A
18	Mouse	VR-301	6927225500198	XINGYU	N/A

©Copyright. All rights reserved by TMC Beijing.

ANNEX A: MEASUREMENT RESULTS

A.1 Radiated Emission (§15.109(a))

A.1.1 Method of measurement

The field strength of radiated emissions from the unintentional radiator (USB mode of MS and charging mode of MS) at a distance of 3 meters is tested. Tested in accordance with the procedures of ANSI C63.4 – 2003, section 8.3.

A.1.2 EUT Operating Mode:

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.
The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC via a USB cable in the case of USB mode and is connected to a charger in the case of charging mode. The model of the PC is DELL OPTIPLEX 755, and the serial number of the PC is 3908243625. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

A.1.3 Measurement Limit

Frequency of emission (MHz)	Field strength (microvolts/meter)
30-88	100
88-216	150
216-960	200
Above 960	500

A.1.4 Test Condition

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15

©Copyright. All rights reserved by TMC Beijing.

A.1.4 Measurement Results

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 los.
The measurement results are obtained as described below:
Result=P_{Mea}+A_{Rpl}

Charging Mode(AE2)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
3680.695	47.97	13.9	34.07	VERTICAL
3699.098	47.49	13.9	33.59	HORIZONTAL
3449.618	47.38	11.6	35.78	HORIZONTAL
3644.162	47.28	13.7	33.58	VERTICAL
3811.467	47.25	13.9	33.35	VERTICAL
3888.27	47.13	13.7	33.43	VERTICAL

Charging Mode(AE3)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
3717.594	47.57	13.9	33.67	HORIZONTAL
3888.27	47.54	13.7	33.84	VERTICAL
3484.2	47.48	11.6	35.88	VERTICAL
3644.162	47.41	13.7	33.71	VERTICAL
3849.677	47.23	13.9	33.33	HORIZONTAL
3699.098	47.22	13.9	33.32	VERTICAL

Charging Mode(AE4)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
3590.042	48.14	13.8	34.34	VERTICAL
3811.467	47.67	13.9	33.77	VERTICAL
3484.2	47.48	11.6	35.88	VERTICAL
3466.866	47.38	11.6	35.78	VERTICAL
3699.098	47.35	13.9	33.45	HORIZONTAL
3449.618	47.24	11.6	35.64	HORIZONTAL

Charging Mode(AE5)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
3699.098	47.9	13.9	34	VERTICAL
3830.525	47.62	13.9	33.72	VERTICAL
3644.162	47.55	13.7	33.85	HORIZONTAL
3717.594	47.43	13.9	33.53	VERTICAL
3381.479	47.2	11.7	35.5	VERTICAL
3554.409	47.06	13.9	33.16	VERTICAL

©Copyright. All rights reserved by TMC Beijing.

USB Mode

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2995.581	50.97	9.7	41.27	VERTICAL
3484.2	48.71	11.6	37.11	HORIZONTAL
1497.79	48.54	2.9	45.64	HORIZONTAL
3680.695	47.7	13.9	33.8	VERTICAL
3449.618	47.65	11.6	36.05	HORIZONTAL
3536.725	47.53	14	33.53	HORIZONTAL

©Copyright. All rights reserved by TMC Beijing.

Charging Mode

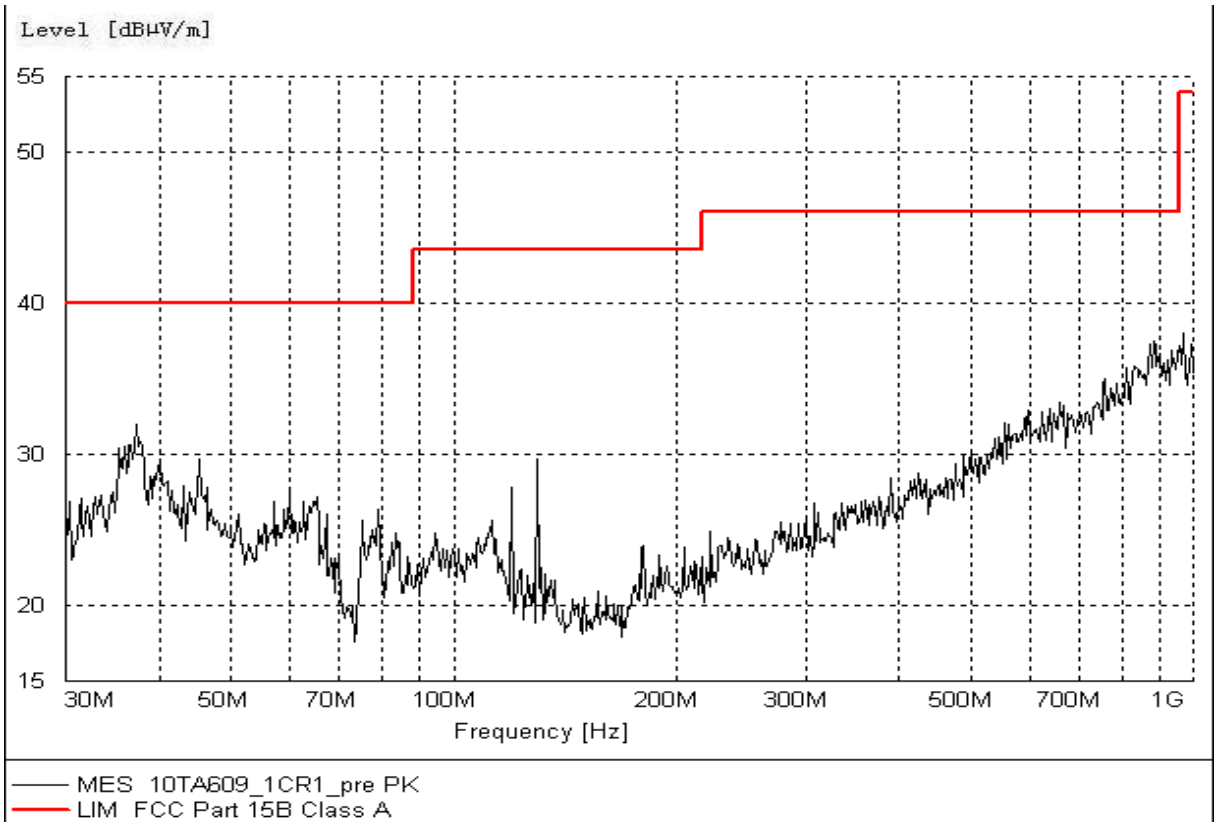


Figure A.1 Radiated Emission from 30MHz to 1GHz(AE2)

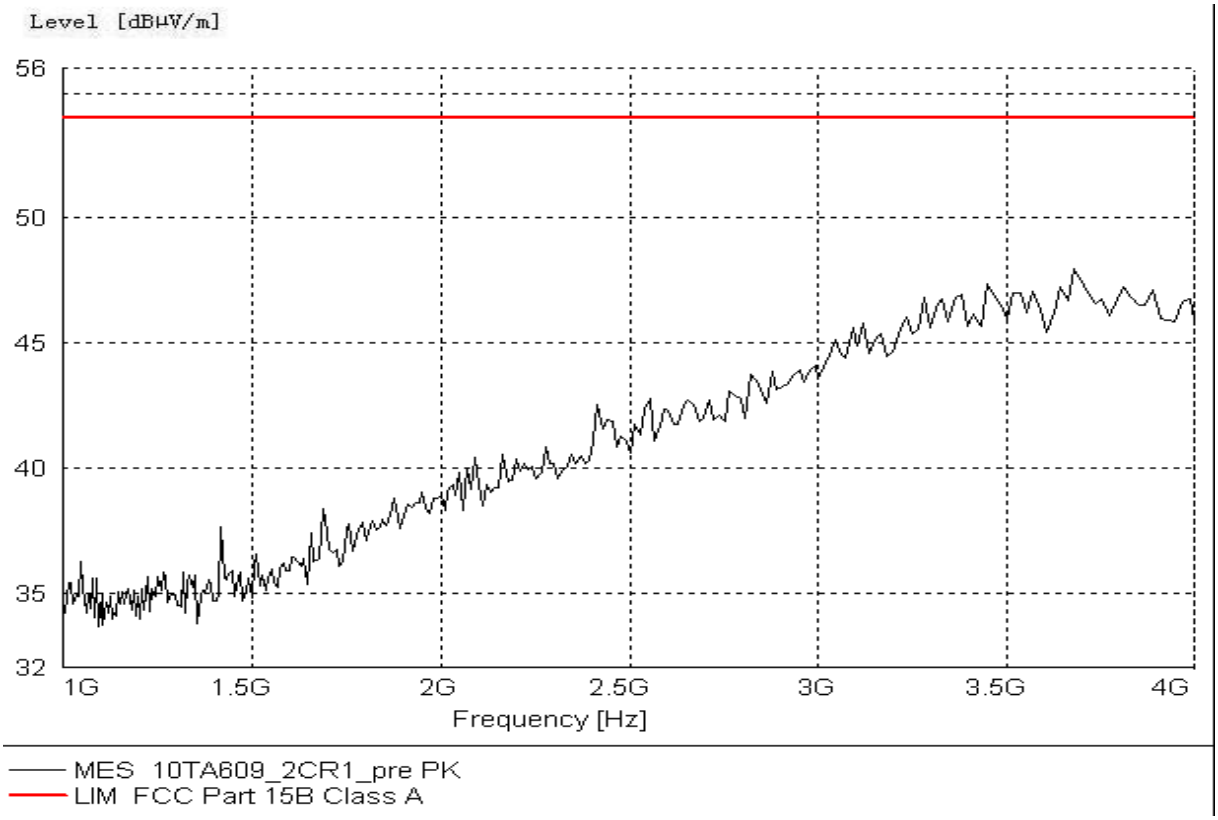


Figure A.2 Radiated Emission from 1GHz to 4GHz(AE2)

©Copyright. All rights reserved by TMC Beijing.

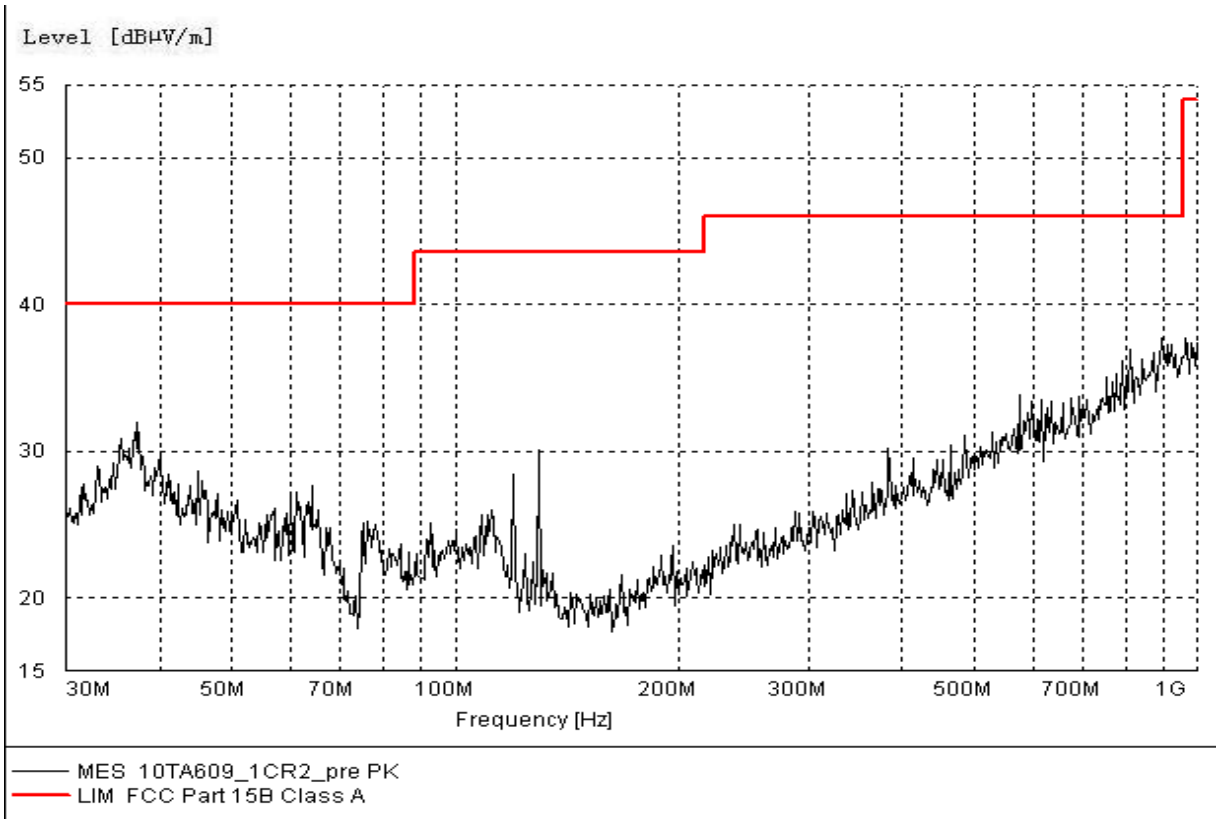


Figure A.3 Radiated Emission from 30MHz to 1GHz(AE3)

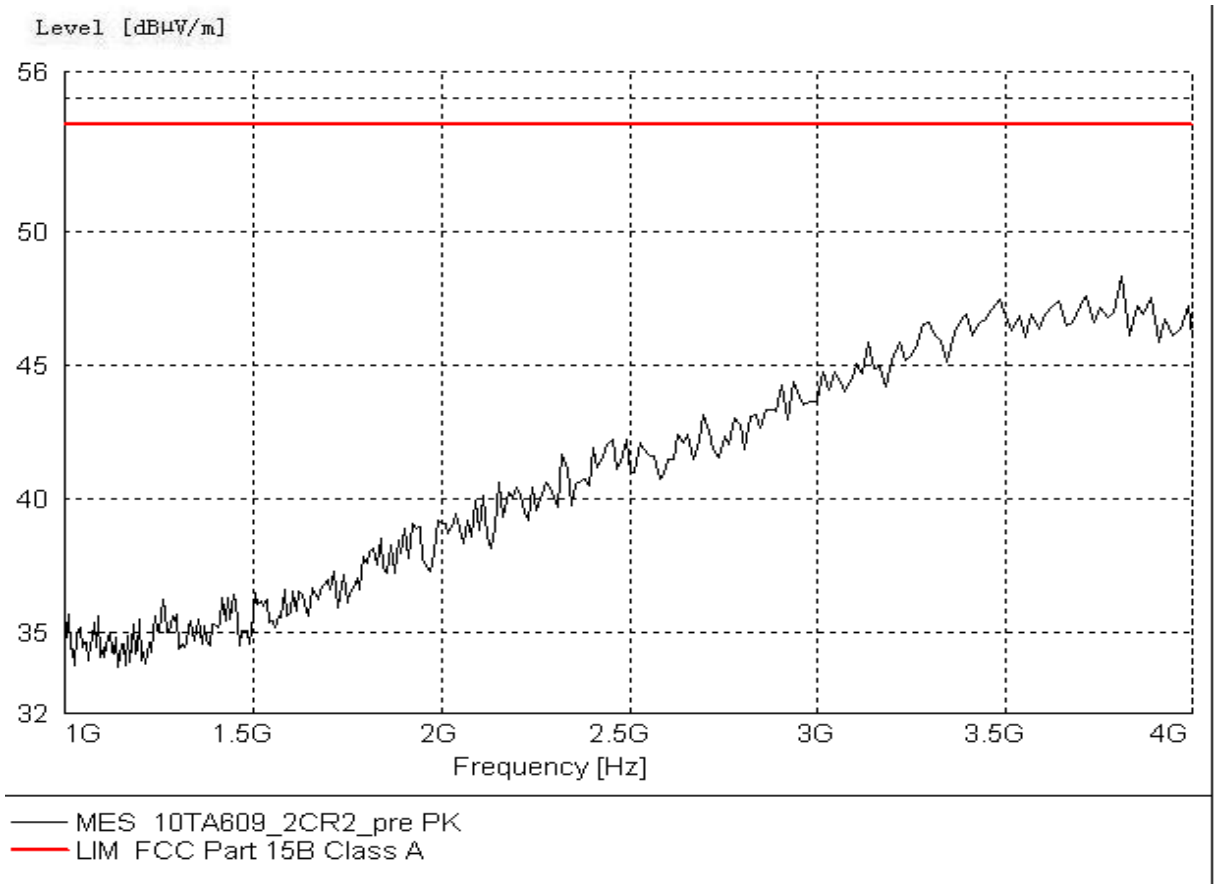


Figure A.4 Radiated Emission from 1GHz to 4GHz(AE3)

©Copyright. All rights reserved by TMC Beijing.

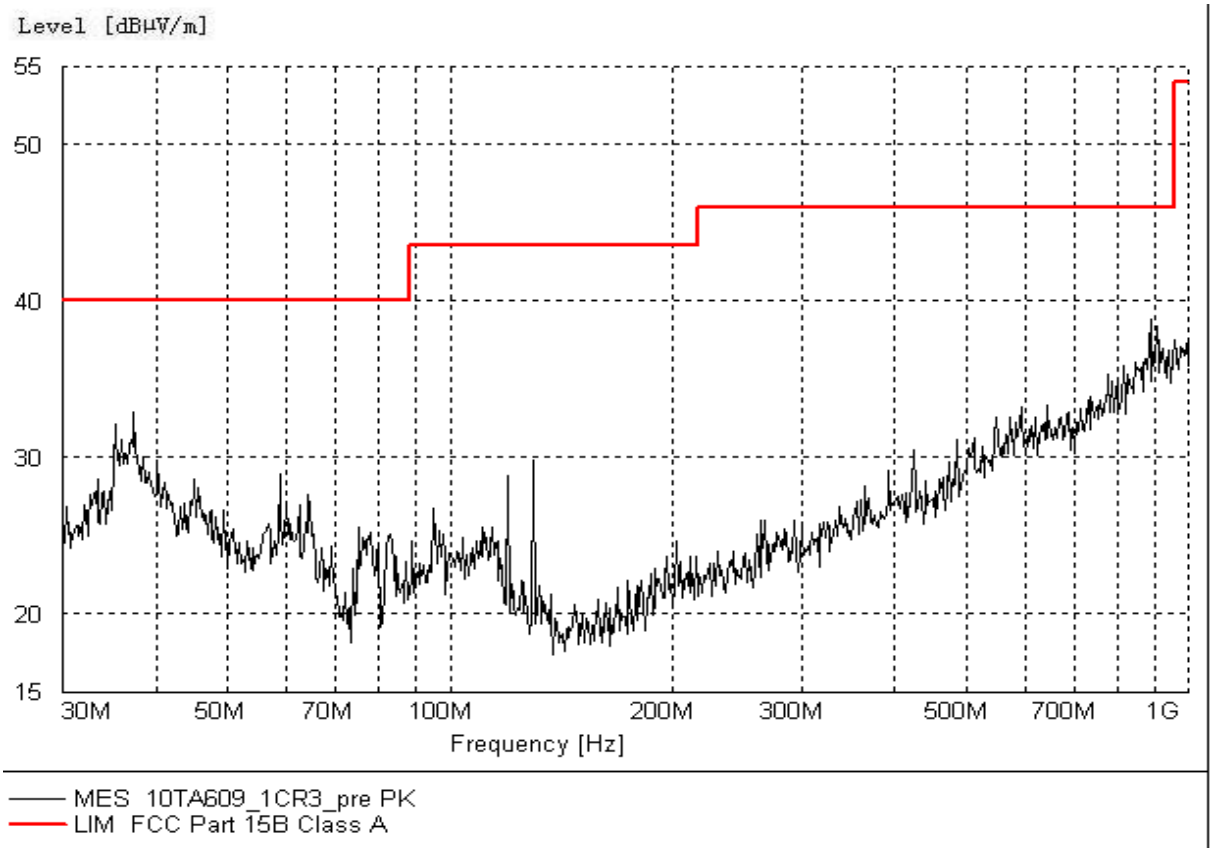


Figure A.5 Radiated Emission from 30MHz to 1GHz(AE4)

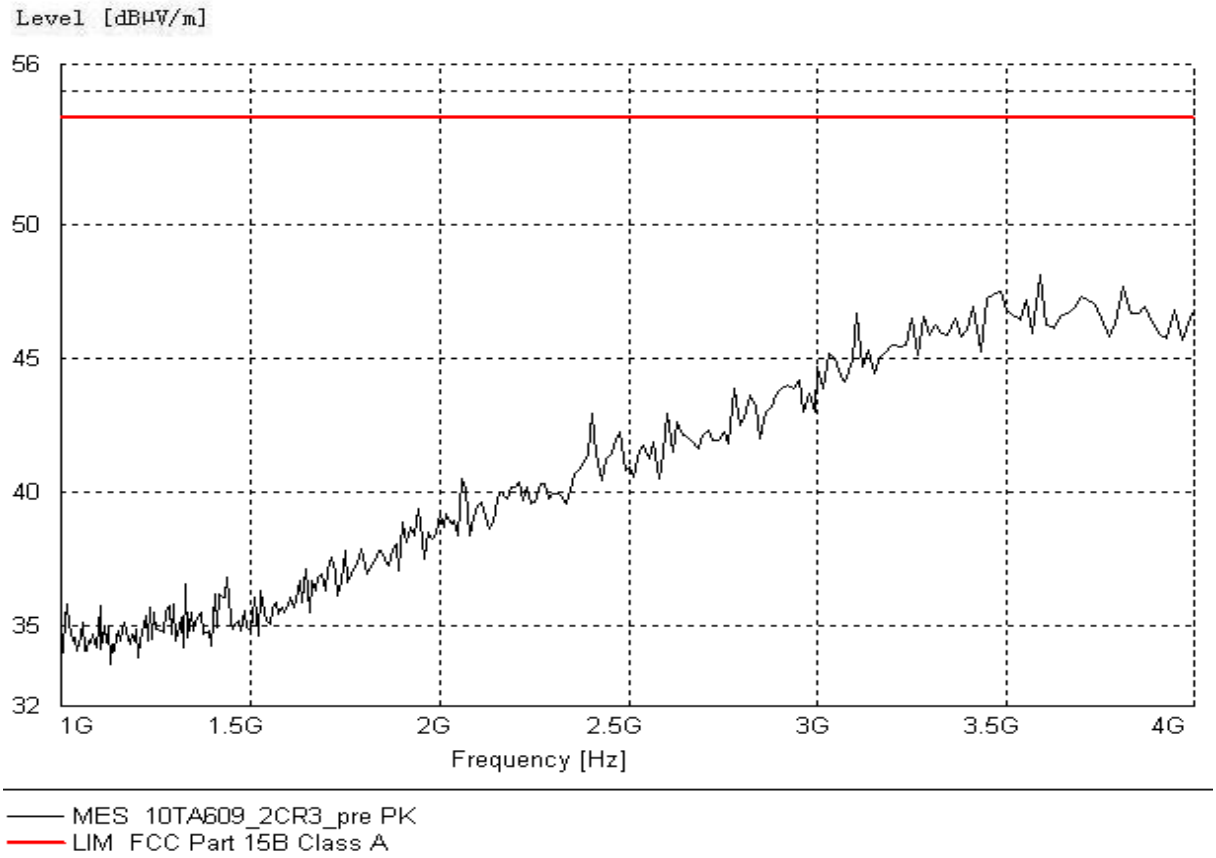


Figure A.6 Radiated Emission from 1GHz to 4GHz(AE4)

©Copyright. All rights reserved by TMC Beijing.

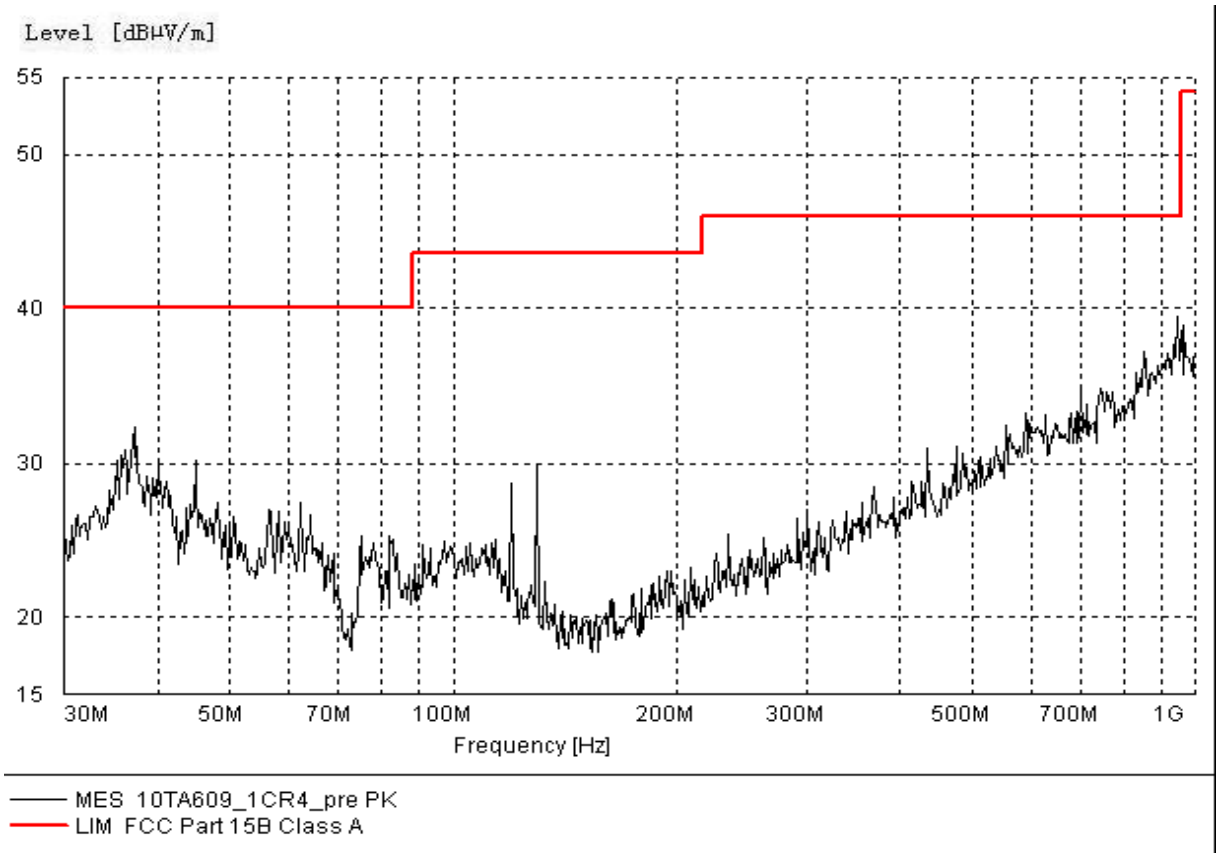


Figure A.7 Radiated Emission from 30MHz to 1GHz(AE5)

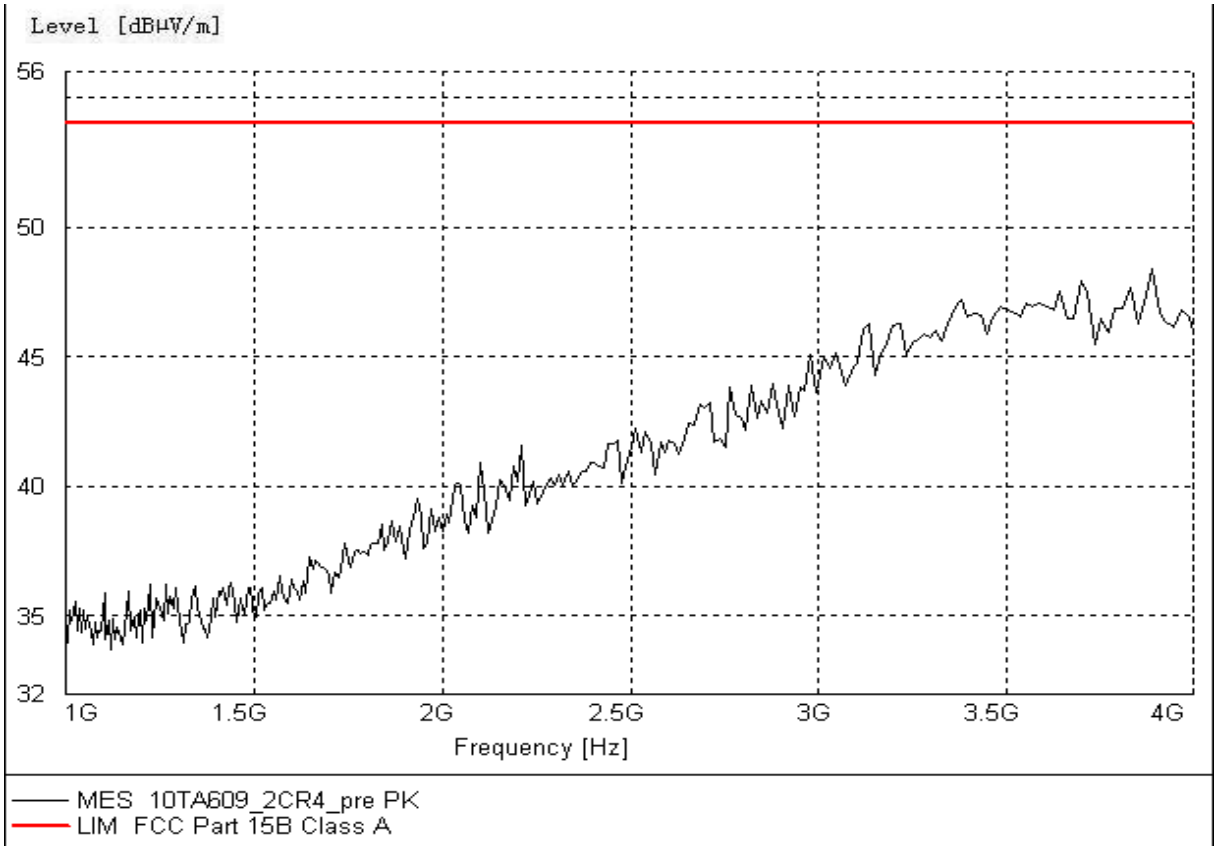


Figure A.8 Radiated Emission from 1GHz to 4GHz(AE5)

©Copyright. All rights reserved by TMC Beijing.

USB Mode

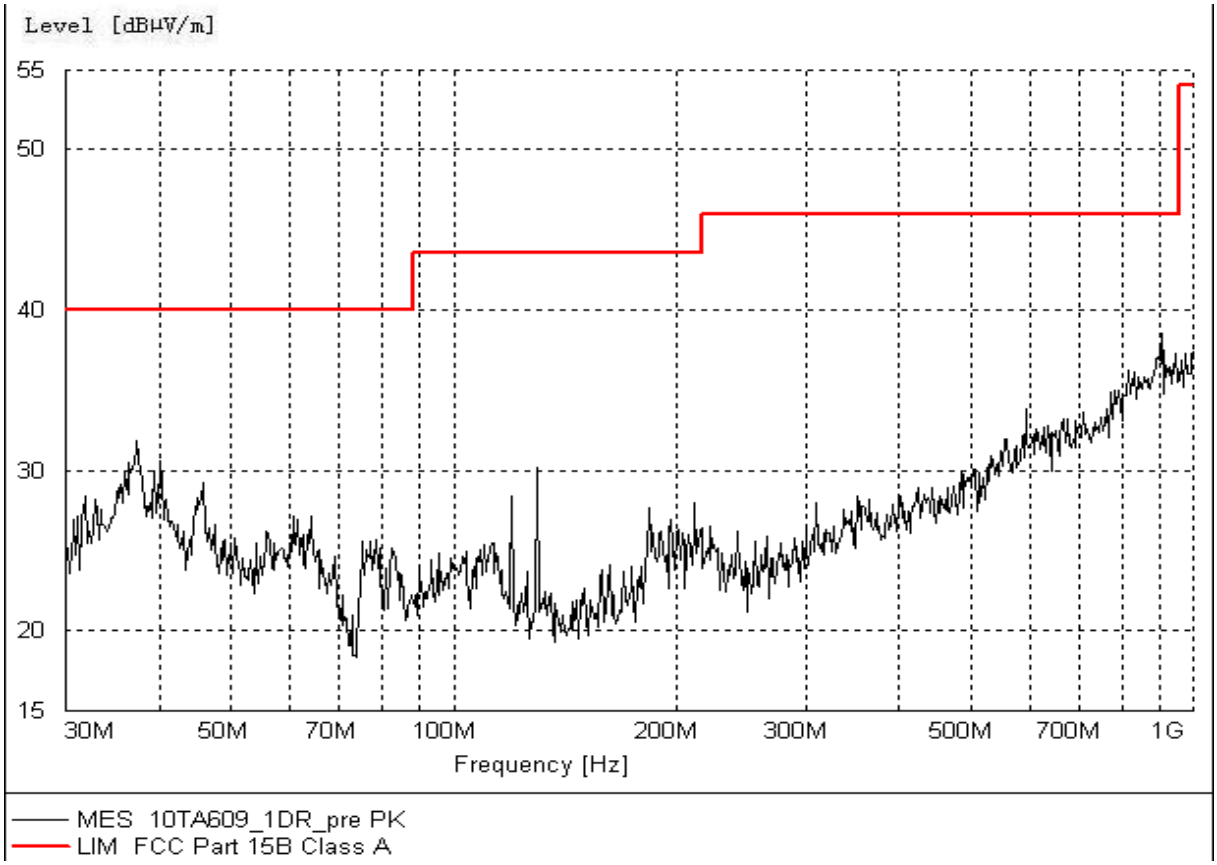


Figure A.9 Radiated Emission from 30MHz to 1GHz

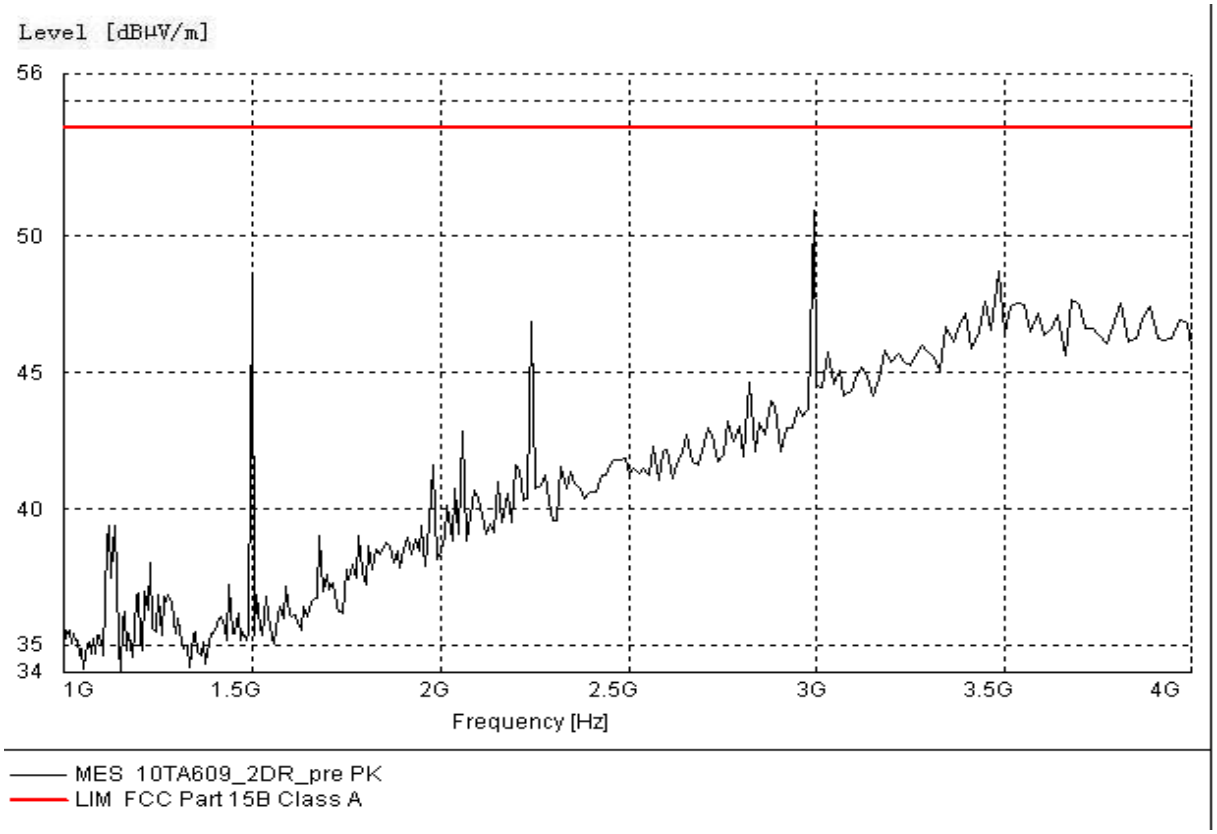


Figure A.10 Radiated Emission from 1GHz to 4GHz

©Copyright. All rights reserved by TMC Beijing.

A.2 Conducted Emission (§15.107(a))

A.2.1 Method of measurement

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150kHz to 30MHz shall not exceed the limits. Tested in accordance with the procedures of ANSI C63.4 – 2003, section 7.2.

A.2.2 EUT Operating Mode:

The MS is operating in the USB mode and charging mode. During the test MS is connected to a PC via a USB cable in the case of USB mode and is connected to a charger in the case of charging mode. The model of the PC is DELL OPTIPLEX 755, and the serial number of the PC is 3908243625. The software is used to let the PC keep on copying data to MS, reading and erasing the data after copy action was finished.

A.2.3 Measurement Limit

Frequency of emission (MHz)	Conducted limit (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		

A.2.4 Test Condition in charging mode

Voltage（V）	Frequency（Hz）
120	60

RBW	Sweep Time(s)
9KHz	1

©Copyright. All rights reserved by TMC Beijing.

A.2.4 Measurement Results

Charging Mode

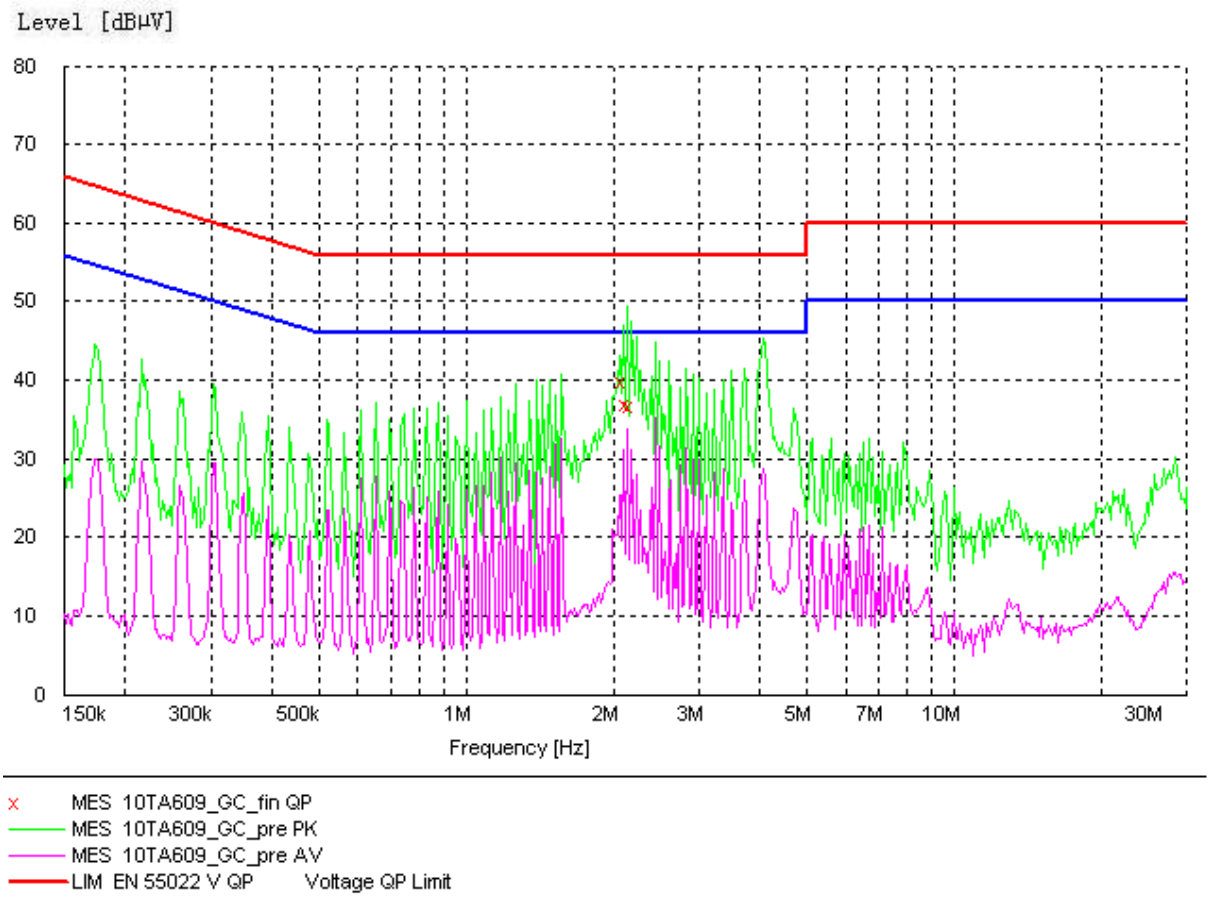


Figure A.11 Conducted Emission(AE2)

MEASUREMENT RESULT: "10TA609_GC_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
2.102020	39.80	10.1	56	16.2	L1	GND
2.144271	36.90	10.1	56	19.1	N	GND
2.187371	36.70	10.1	56	19.3	N	FLO
2.020000	41.30	10.1	46	4.7	L1	FLO

©Copyright. All rights reserved by TMC Beijing.

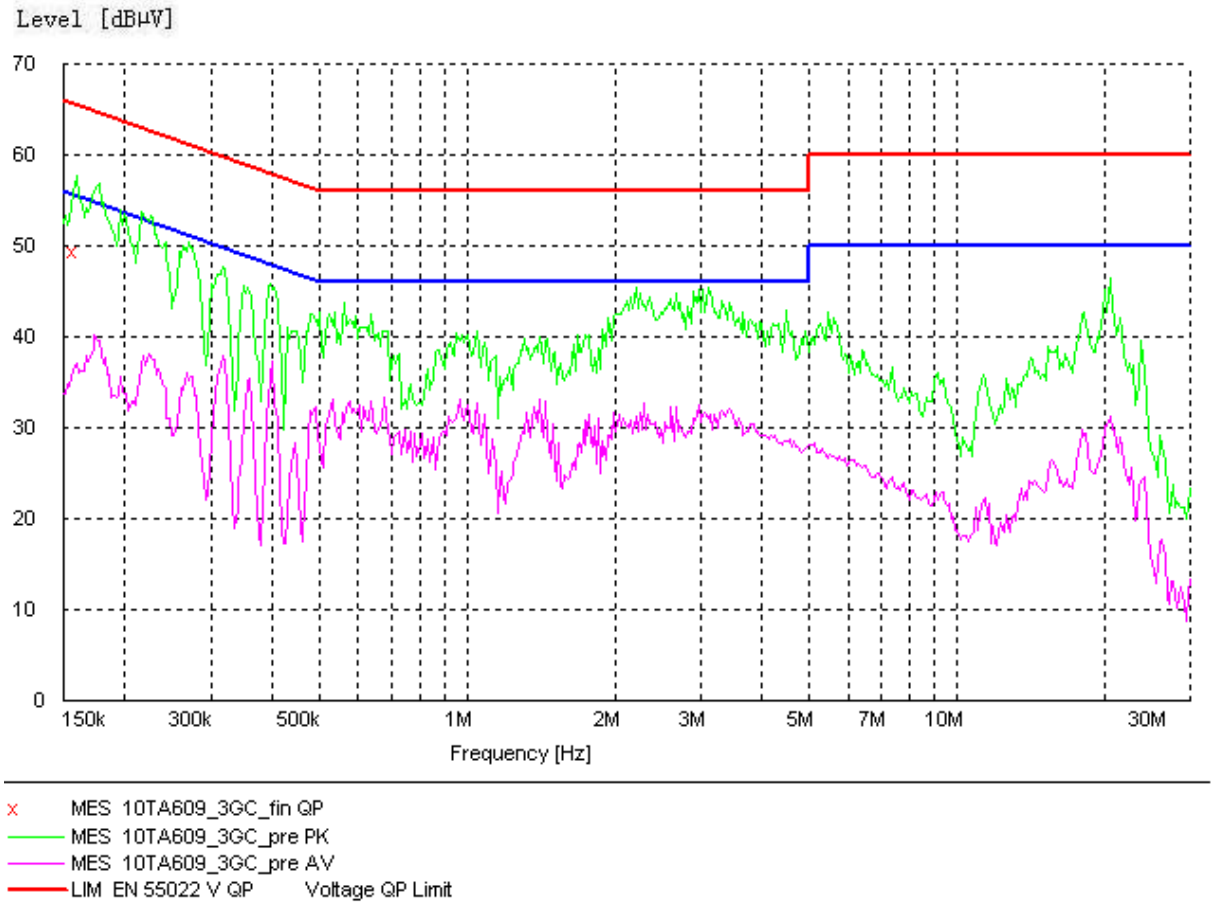


Figure A.12 Conducted Emission(AE3)

MEASUREMENT RESULT: "10TA609_3GC_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.159228	49.20	10.1	66	16.3	L1	GND

©Copyright. All rights reserved by TMC Beijing.

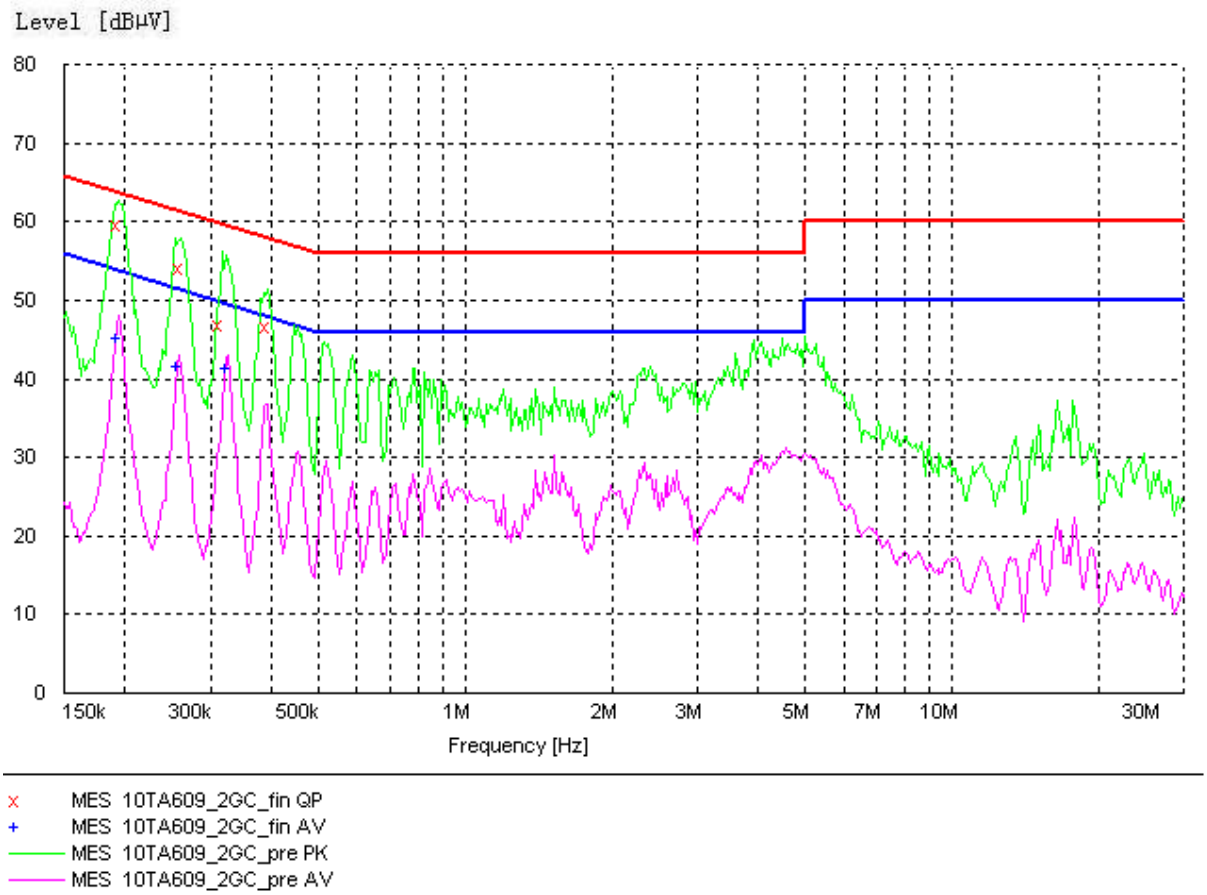


Figure A.13 Conducted Emission(AE4)

MEASUREMENT RESULT: "10TA609_2GC_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.194288	59.60	10.1	64	4.3	L1	GND
0.261871	54.20	10.1	61	7.2	L1	GND
0.316369	47.00	10.1	60	12.8	N	FLO
0.393790	46.70	10.1	58	11.3	N	GND

MEASUREMENT RESULT: "10TA609_2GC_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.194288	45.30	10.1	54	8.6	N	GND
0.259279	41.50	10.1	52	10.0	L1	FLO
0.325956	41.30	10.1	50	8.3	N	GND

©Copyright. All rights reserved by TMC Beijing.

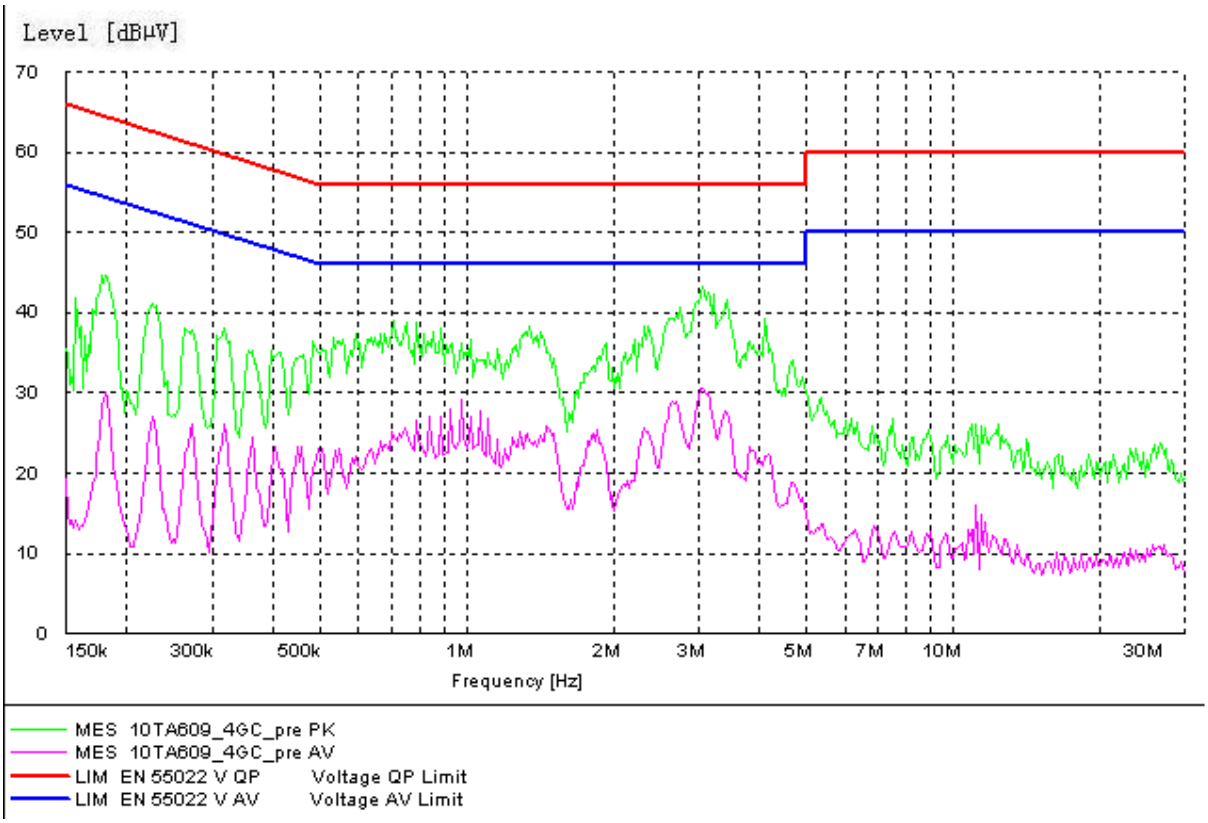


Figure A.14 Conducted Emission(AE5)

©Copyright. All rights reserved by TMC Beijing.

USB Mode

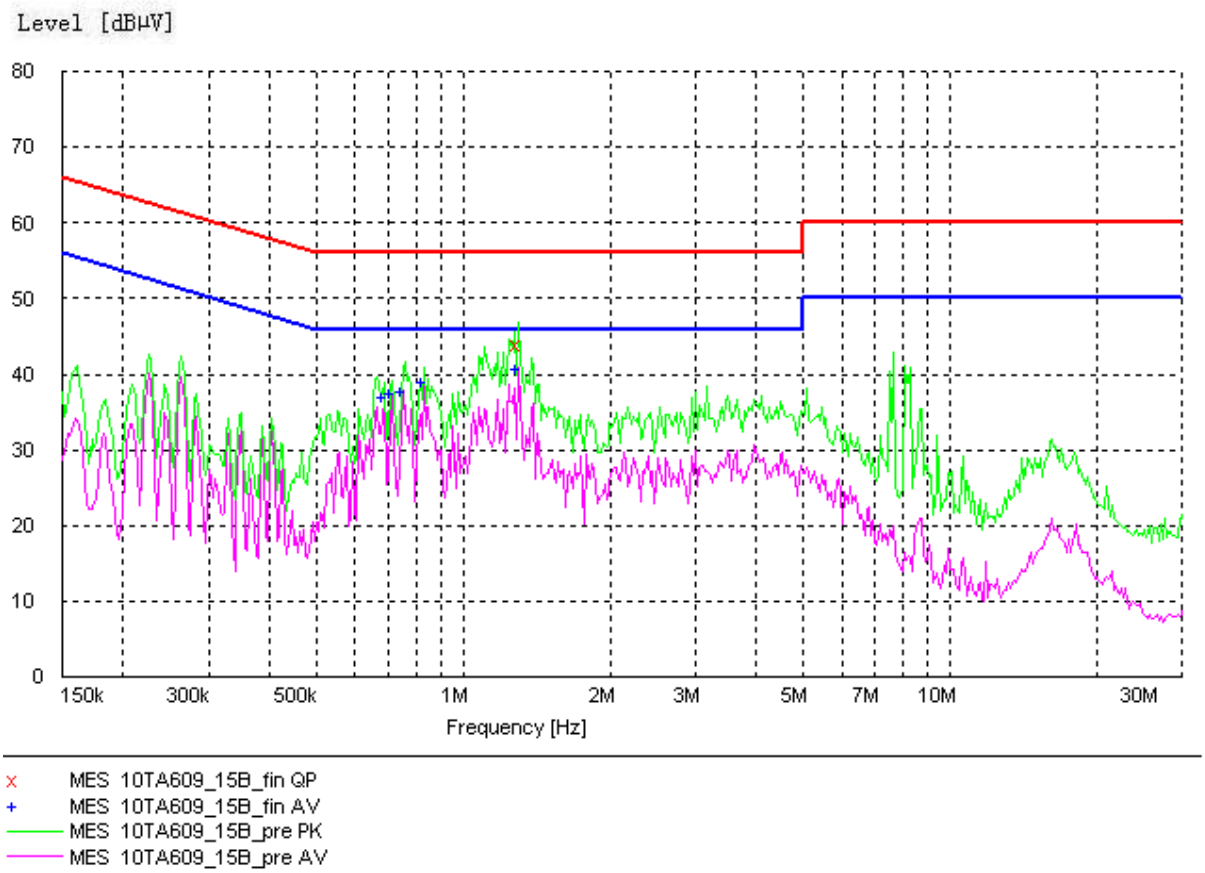


Figure A.15 Conducted Emission

MEASUREMENT RESULT: "10TA609_15B_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
1.299659	43.90	10.1	56	12.1	N	FLO

MEASUREMENT RESULT: "10TA609_15B_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.687482	36.90	10.1	46	9.1	L1	FLO
0.715397	37.50	10.1	46	8.5	L1	FLO
0.751889	37.80	10.1	46	8.2	L1	FLO
0.830553	38.90	10.1	46	7.1	L1	FLO
1.299659	40.70	10.1	46	5.3	L1	FLO

*****END OF REPORT*****

©Copyright. All rights reserved by TMC Beijing.