TEST REPORT

No. 2008TAR055

for

ZTE Corporation

WCDMA/ GSM /GPRS Mobile Handset

Type: F165

with

Hardware Version: wk6B

Software Version: F165 T01

Issued Date: Oct 30th, 2008

Deutscher Akkreditierungs Rat DAR

No. **DAT-P-114/01-01**

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:

TMC Beijing, Telecommunication Metrology Center of Ministry of Information Industry
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CONTENTS

1. Test Laboratory

1.1. Testing Location

Company Name:	TMC Beijing, Telecommunication Metrology Center of MII
Address:	No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code:	100083
Telephone:	00861062303288
Fax:	00861062304793

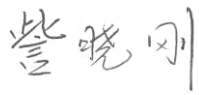
1.2. Testing Environment

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

1.3. Project data

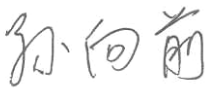
Testing Start Date:	Sep 11th, 2008
Testing End Date:	Oct 30th, 2008

1.4. Signature



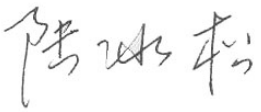
Zi Xiaogang

(Prepared this test report)



Sun Xiangqian

(Reviewed this test report)



Lu Bingsong

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	ZTE Corporation
Address /Post:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park,Nanshan District,Shenzhen, Guangdong, 518057, P.R.China
City:	Shenzhen
Postal Code:	518057
Country:	China
Telephone:	+86-21-68895196
Fax:	+86-21-50801070

2.2. Manufacturer Information

Company Name:	ZTE Corporation
Address /Post:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park,Nanshan District,Shenzhen, Guangdong, 518057, P.R.China
City:	Shenzhen
Postal Code:	518057
Country:	China
Telephone:	+86-21-68895196
Fax:	+86-21-50801070

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

3.1. About EUT

Description	WCDMA/ GSM /GPRS Mobile Handset
Marketing name	F165
Product Name	P622D1
FCC ID	Q78-ZTEF165
IC	5200A-ZTEF165
Power supply	Battery or Charger (AC Adaptor)

Note: Photographs of EUT are shown in ANNEX A of this test report. 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
N02	357407010004121	wk6B	F165 T01

3.3. Internal Identification of AE used during the test

AE ID*	Description	SN
AE1	Battery	60120802290047663
AE2	Travel Adapter	/

AE1

Model	Li3713T42P3h614057
Manufacturer	SCUD(FUJIAN)ElectronicsCo.LTD
Capacitance	1300mAh
Nominal Voltage	3.7V

AE2

Model	STC-A22O50U8-C
Manufacturer	Shenzhen Dokocom Emergy Technology Co., Ltd
Length of DC line	180cm

*EUT 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	V 10.1.07
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

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

6. SUMMARY OF TEST RESULTS

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

Clause	List	Clause in FCC rules	Clause in IC rules	Verdict
1	Radiated Emission	15.109(a)	5.3	P
2	Conducted Emission	15.107(a)	5.5	P

7. Test Equipments Utilized

NO.	Description	TYPE	SERIES NUMBER	MANUFACTURE	CAL DUE DATE
1	Test Receiver	ESS	847151/015	R&S	2008-10-30
2	Test Receiver	ESI40	831564/002	R&S	2009-2-11
3	BiLog Antenna	3142B	9908-1403	EMCO	2009-1-16
4	BiLog Antenna	VUL9163	9163 175	Schwarzbeck	2009-9-19
5	Signal Generator	SMT06	831285/005	R&S	2008-12-26
6	Signal Generator	SMP04	100070	R&S	2009-4-20
7	LISN	ESH2-Z5	829991/012	R&S	2009-9-13
8	Spectrum Analyzer	FSU26	200030	R&S	2009-6-18
9	Universal Radio Communication Tester	CMU200	100680	R&S	2009-8-23
10	Dual-Ridge Waveguide Horn Antenna	3115	9906-5827	EMCO	2009-3
11	Dual-Ridge Waveguide Horn Antenna	3116	2663	EMCO	2009-3
12	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2009-3
13	Climatic chamber	SH-241	92003546	ESPEC	2009-5-15

ANNEX A: EUT photograph

External Photo

Mobile Phone

Mobile Phone

Charger (AC/DC Adapter)

Label of Charger (AC/DC Adapter)

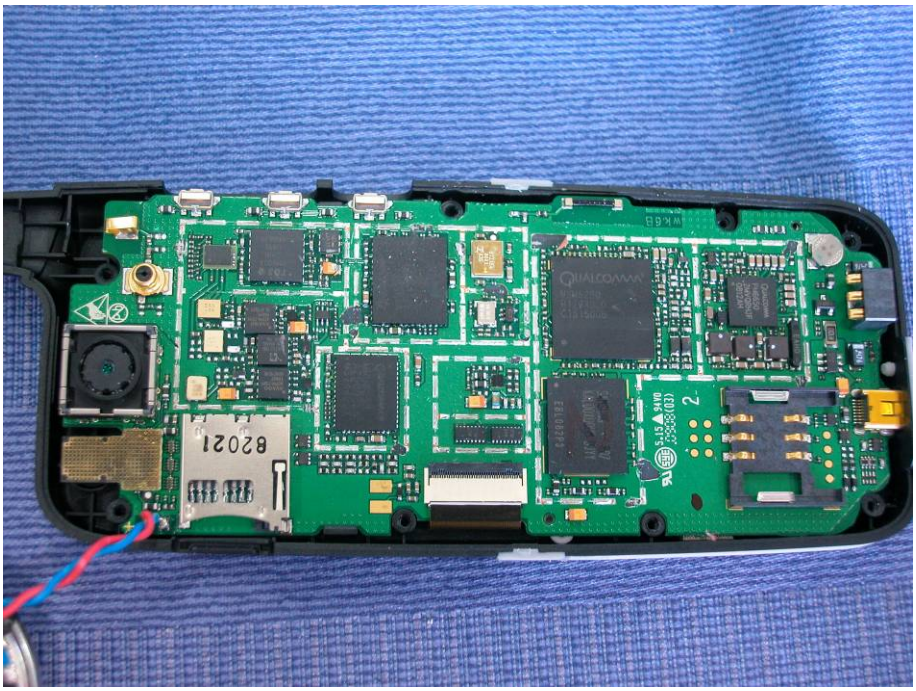
Battery

Battery

Internal Photo

Mobile phone Disassembly

Mobile phone Disassembly



Mobile phone Disassembly

Mobile phone Disassembly

ANNEX B: MEASUREMENT RESULTS

B.1 Radiated Emission (§15.109(a))

B.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. The test set-up please refers to Annex C.1.

B.1.2 EUT Operating Mode:

The MS is operating in the USB mode and charging mode. During the test MS is connected to a laptop 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 laptop is IBM T42 2373-M6C, and the serial number of the laptop is 99-FV6P2. The software is used to let the laptop keep on copying data to MS, reading and erasing the data after copy action was finished.

B.1.3 Measurement Limit

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

B.1.4 Measurement Results

Charging Mode

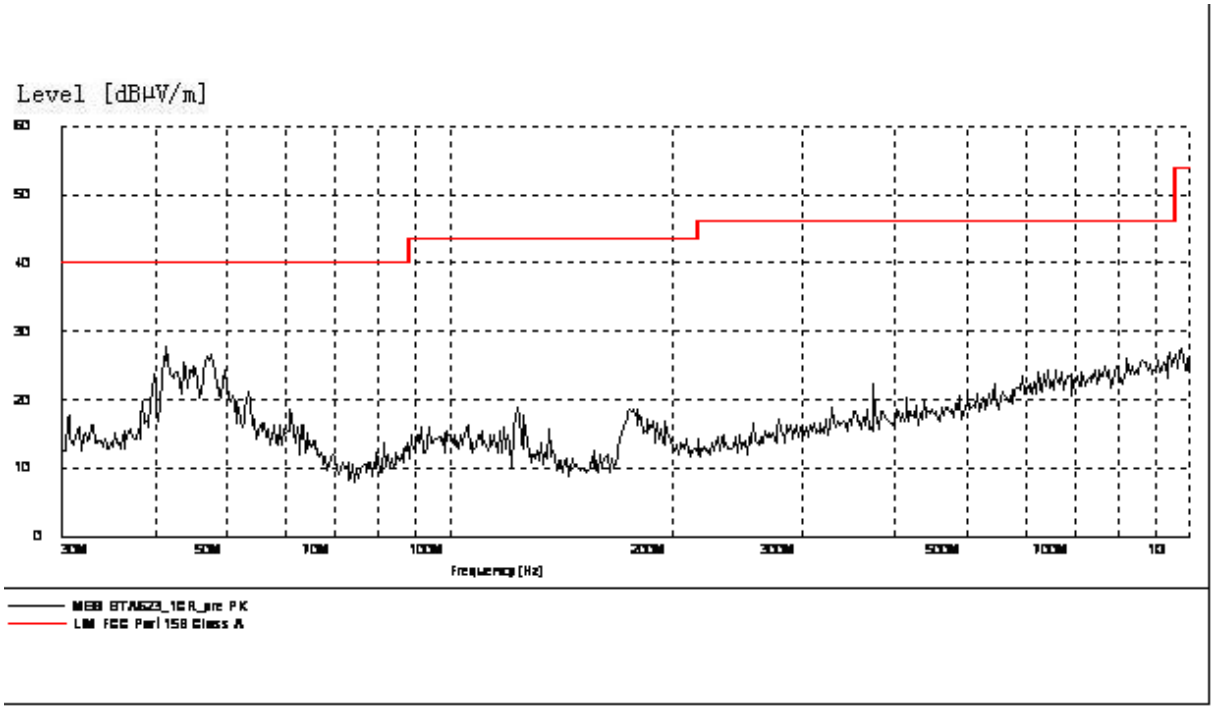


Figure B.1 Radiated Emission from 30MHz to 1GHz

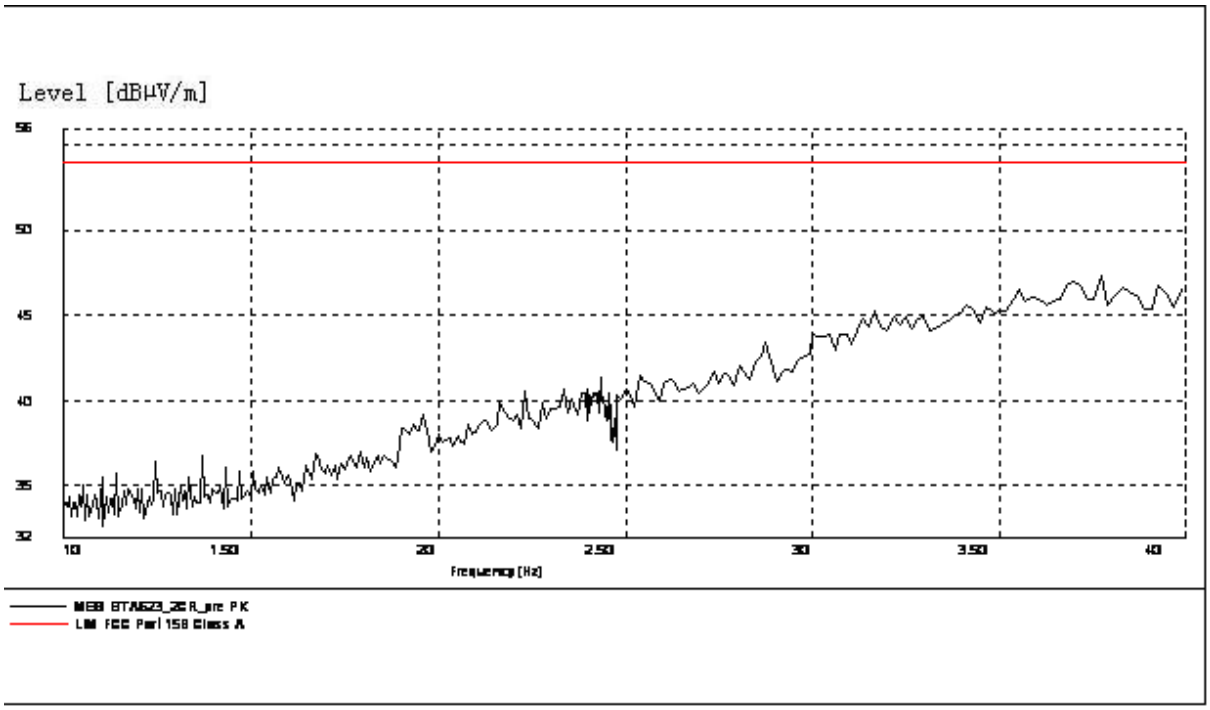


Figure B.2 Radiated Emission from 1GHz to 4GHz

USB Mode

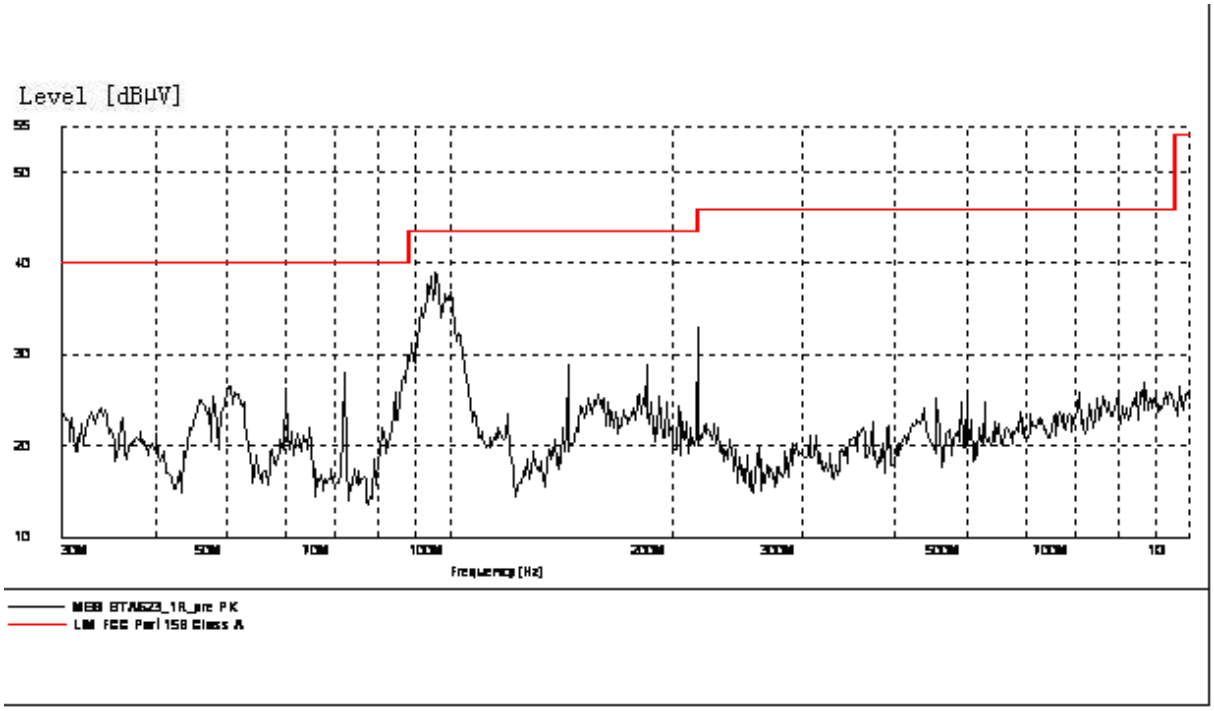


Figure B.3 Radiated Emission from 30MHz to 1GHz

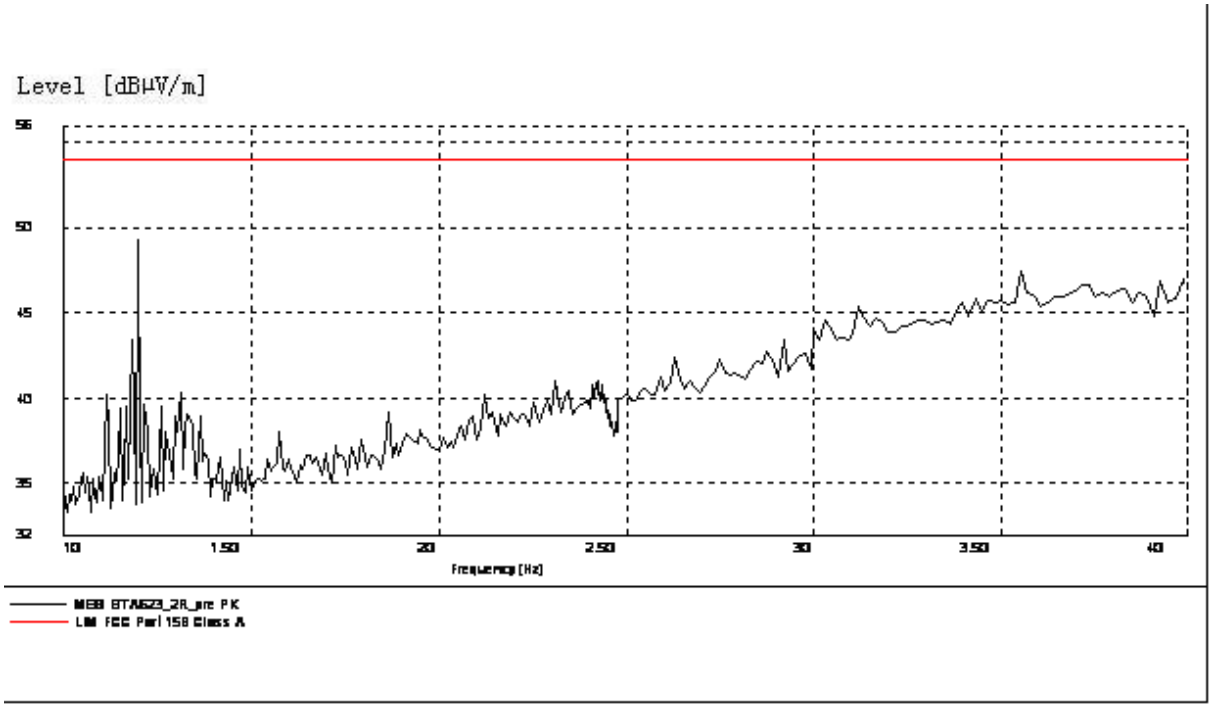


Figure B.4 Radiated Emission from 1GHz to 4GHz

B.2 Conducted Emission (§15.107(a))

B.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. The test set-up please refers to Annex C.2.

B.2.2 EUT Operating Mode:

The MS is operating in the USB mode and charging mode. During the test MS is connected to a laptop 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 laptop is IBM T42 2373-M6C, and the serial number of the laptop is 99-FV6P2. The software is used to let the laptop keep on copying data to MS, reading and erasing the data after copy action was finished.

B.2.3 Measurement Limit

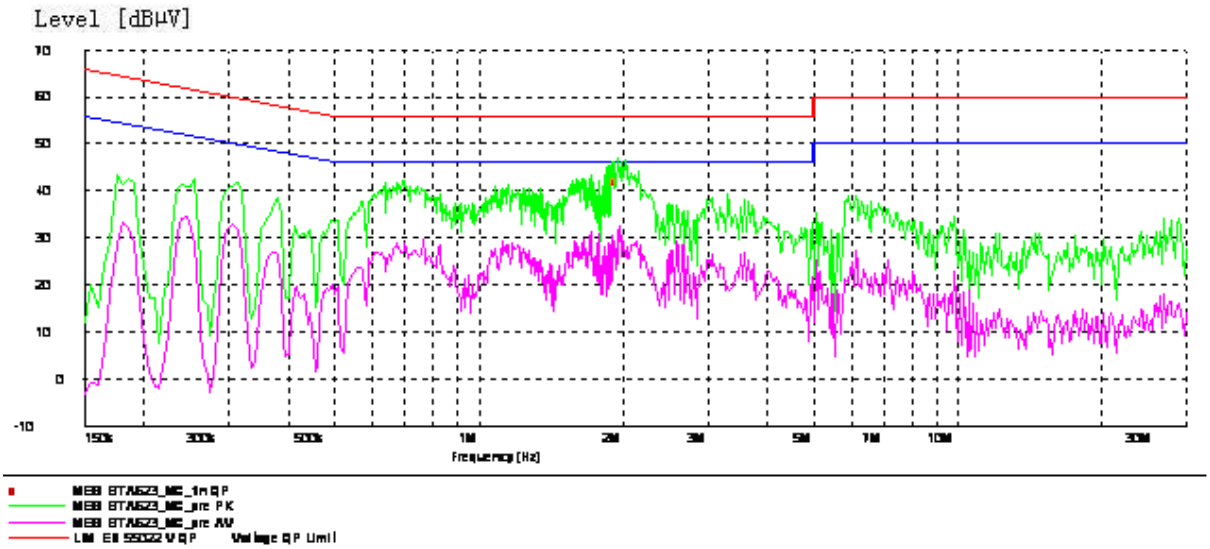
Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency		

B.2.4 Test Condition in charging mode

Voltage（V）	Frequency（Hz）
110	60

B.2.4 Measurement Results

Charging Mode



MEASUREMENT RESULT: "8TA623_MC_fin QP"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
1.940000	42.20	10.1	56	13.8	L1	FLO

USB Mode

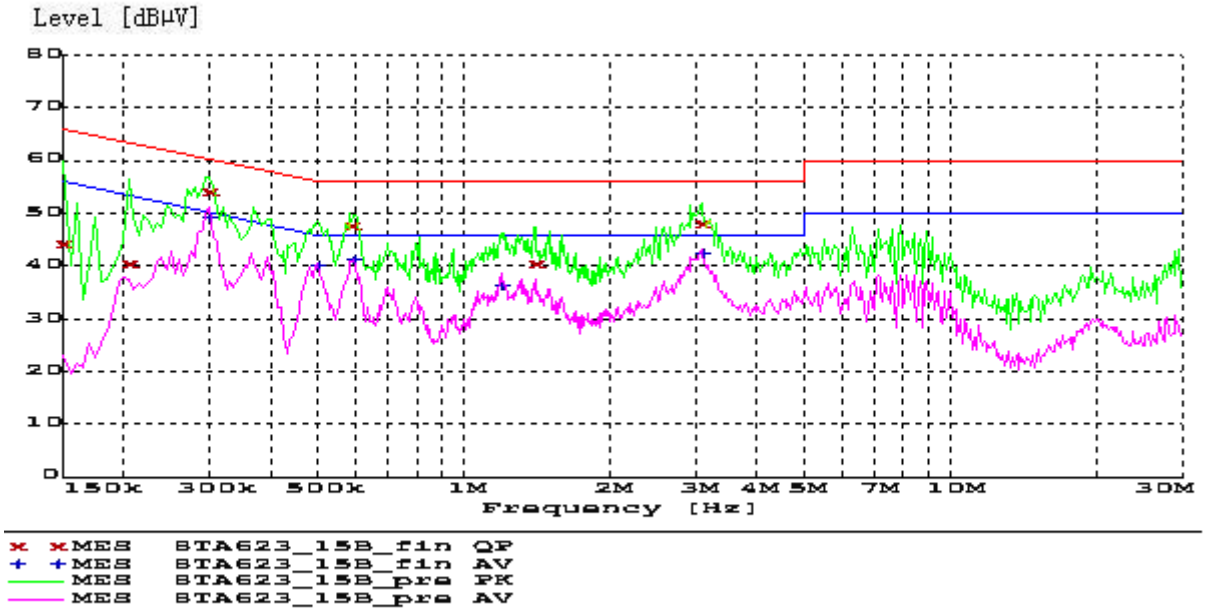


Figure B.3 Conducted Emission

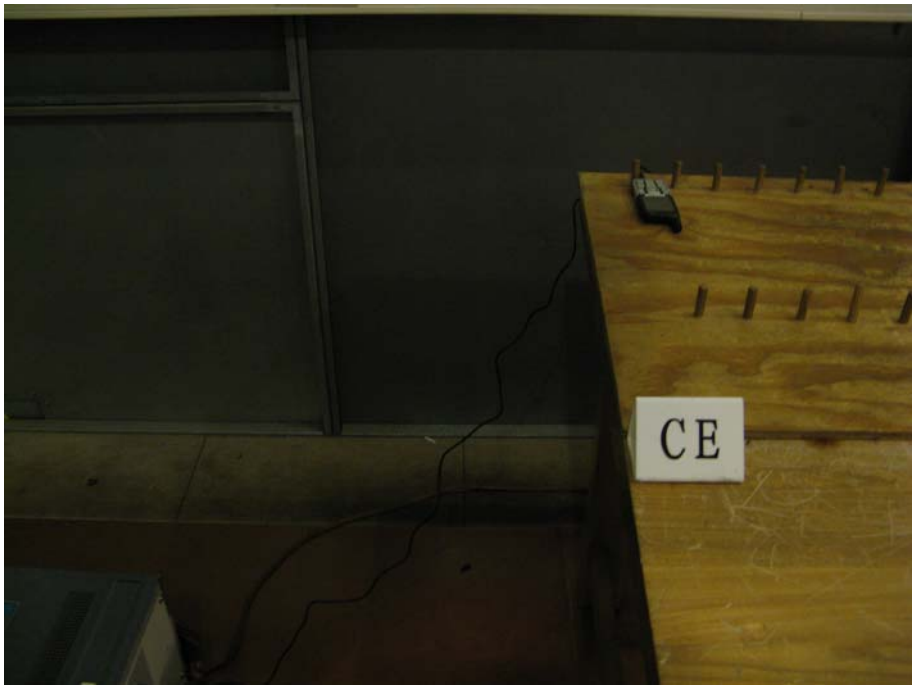
MEASUREMENT RESULT: "8TA623_15B_fin QP"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.150000	43.70	10.1	66	22.3	L1	FLO
0.205000	40.20	10.1	63	23.2	N	FLO
0.300000	53.80	10.1	60	6.5	N	FLO
0.585000	47.20	10.1	56	8.8	N	FLO
1.400000	40.10	10.1	56	15.9	L1	FLO
3.075380	47.60	10.1	56	8.4	N	FLO

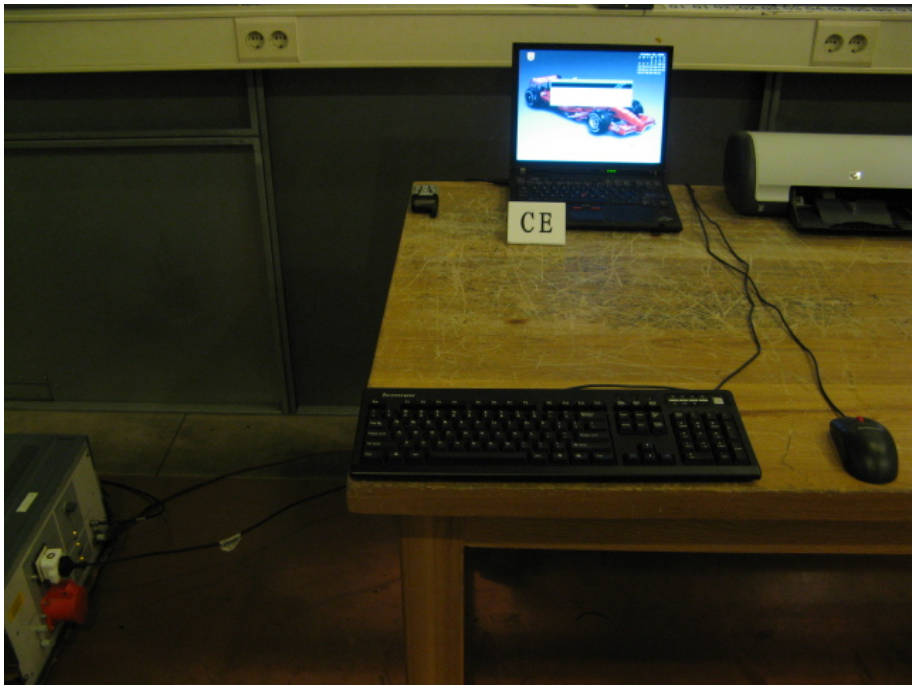
MEASUREMENT RESULT: "8TA623_15B_fin AV"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.300000	48.90	10.1	50	1.4	N	FLO
0.500000	39.70	10.1	46	6.3	L1	FLO
0.595000	41.00	10.1	46	5.0	N	FLO
1.195000	35.90	10.1	46	10.1	N	FLO
3.075380	42.10	10.1	46	3.9	N	FLO

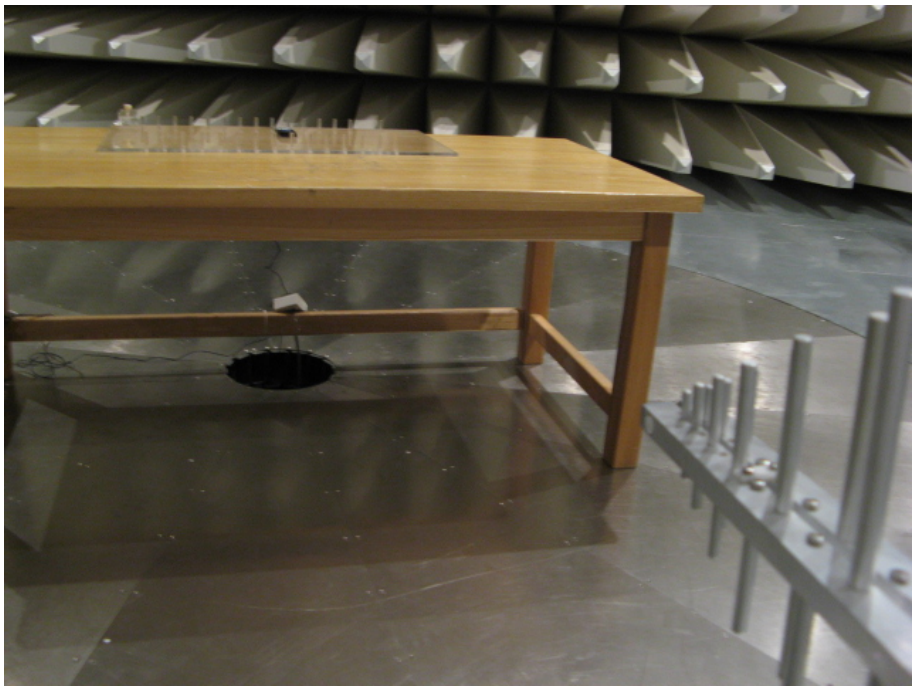
ANNEX C: TEST LAYOUT



Pic C-1 Conducted Emission (Charging Mode)



Pic C-2 Conducted Emission (USB Mode)



Pic C-3 Radiated Spurious Emission (Charging Mode)

Pic C-4 Radiated Spurious Emission (USB Mode)

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