



TEST REPORT

Report No.: SRTC2011-H024-E0018

Product Name: GSM/GPRS/EDGE/WCDMA

Digital Mobile Phone with Bluetooth

Marketing Name: one touch 900M

Product Model: yippee 3G_PTT

Applicant: TCT Mobile Limited

Manufacturer: TCT Mobile Limited

Specification: FCC Part15B (Certification)

(October 1, 2009 edition)

FCC ID: RAD186

The State Radio_monitoring_center Testing Center (SRTC)

No.80 Beilishi Road Xicheng District Beijing, China

Tel: 86-10-68009202 Fax: 86-10-68009205

CONTENTS

1. General information	3
1.1 Notes of the test report	3
1.2 Information about the testing laboratory	3
1.3 Applicant's details	3
1.4 Manufacturer's details	3
1.5 Application details	4
1.6 Reference specification	4
1.7 Information of EUT	4
1.7.1 General information	4
1.7.2 EUT details	5
1.7.3 Auxiliary equipment details	5
2. Test information	7
2.1 Summary of the test results	7
2.2 Test result	8
2.2.1 Conducted Emissions-FCC Part15.107	8
2.2.2 Radiated Emissions-FCC Part15.109	20
2.3. List of test equipments	31
Appendix	32

1. General information

1.1 Notes of the test report

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written permission of The State Radio_monitoring_center Testing Center (SRTC).

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: No.80 Beilishi Road, Xicheng District, Beijing China
City: Beijing
Country or Region: China
Contacted person: Wang Junfeng
Tel: +86 10 68009181 +86 10 68009202
Fax: +86 10 68009195 +86 10 68009205
Email: wangjf@srrc.org.cn / wangjunfeng@srtc.org.cn

1.3 Applicant's details

Company: TCT Mobile Limited
Address: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area
City: Shanghai
Country or Region: P.R.China
Grantee Code: RAD
Contacted Person: Gong Zhizhou
Tel: +86-21-61460890
Fax: +86-21-61460602
Email: zhizhou.gong@jrdcom.com

1.4 Manufacturer's details

Company: TCT Mobile Limited
Address: 5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area
City: Shanghai
Country or Region: P.R.China
Contacted Person: Gong Zhizhou
Tel: +86-21-61460890
Fax: +86-21-61460602
Email: zhizhou.gong@jrdcom.com

1.5 Application details

Date of reception of test sample: 16th Mar 2011

Date of test: 18th Mar 2011 to 31th Mar 2011

1.6 Reference specification

FCC Part 15B October 1, 2009 (Certification)

1.7 Information of EUT

1.7.1 General information

Name of EUT	GSM/GPRS/EDGE/WCDMA Digital Mobile Phone with Bluetooth
FCC ID	RAD186
Frequency range	GSM850/WCDMA Band V: Tx:824~849MHz Rx:869~894MHz PCS1900: Tx:1850~1910MHz Rx:1930~1990MHz
Rated output power	GSM850:33.0dBm PCS1900:30.0dBm WCDMA Band V:24.0dBm
E.R.P. & E.I.R.P.	E.R.P.: 31.7dBm E.I.R.P.: 27.2dBm
Modulation type	GSM/GPRS:GMSK EDGE: GMSK(Uplink direction) 8PSK(Downlink direction) WCDMA:QPSK
Emission Designator	GSM:300KGXW GPRS/EDGE:300KG7W WCDMA:4M50F9W
Duplex mode	FDD
Equipment Class	Class B
Duplex spacing	GSM850/WCDMA Band V:45MHz PCS1900:80MHz
Antenna type	Integral
Power Supply	Battery or charger
Rated Power Supply Voltage	3.8V
Extreme Temperature	Lowest: -30°C Highest: +50°C
Extreme Voltage	Minimum: 3.5V Maximum: 4.2V
HW Version	PIO3
SW Version	sw532

1.7.2 EUT details

Product Name	Marketing Name	Product Model	IMEI
GSM/GPRS/EDGE/WCDMA Digital Mobile Phone with Bluetooth	one touch 900M	yippee 3G_PTT	012722000000542

1.7.3 Auxiliary equipment details

AE (Auxiliary Equipment) 1#: Charger

Equipment	Charger
Manufacturer	Ten Pao International Ltd.
Model Number	CBA3120AA0C2
Input Voltage	100V-240V a.c.
Output Voltage	5.0V d.c.
Frequency	50/60Hz

AE (Auxiliary Equipment) 2#: Battery

Equipment	Battery
Manufacturer	BYD LITHIUM BATTERY CO., LTD.
Model Number	CAB31L0002C1
Capacity	1000mAh
Rated Voltage	3.7V d.c.

AE (Auxiliary Equipment) 3#: Data Cable

Equipment	Data Cable
Manufacturer	Shen Zhen Ju Wei Electronic Co.,LTD
Model Number	CDA3122001C1
Length	120 cm

AE (Auxiliary Equipment) 4#: Data Cable

Equipment	Data Cable
Manufacturer	Huizhou Shenghua Industry Co.,Ltd
Model Number	CDA3122001C2
Length	120 cm

AE (Auxiliary Equipment) 5#: Headset

Equipment	Headset
Manufacturer	HuiZhou Lianyun Electronic Technology Co.,Ltd
Model Number	CCB3160A10C2

AE (Auxiliary Equipment) 6#: Headset

Equipment	Headset
Manufacturer	Shen Zhen Ju Wei Electronic Co.,LTD
Model Number	CCB3160A10C0

Note:

All the auxiliary equipments have been labeled with number in order to identify the test sample.

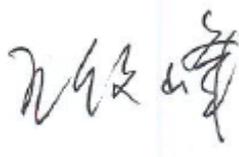
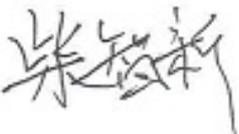
As the information described above, there are two different models of headset manufactured by two different companies.

The relevant tests have been performed in order to verify when connected with which headset the EUT would have the worst features. So all the tests shown in this test report are performed when the EUT connected with the headset CCB3160A10C2.

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

This Test Report Is Issued by: Mr. Song Qizhu Director of the test lab 	Checked by: Mr. Wang Junfeng Deputy director of the test lab 
Tested by: Mr. Chai Zhixin Test engineer 	Issued date: <p style="text-align: center;">2011.05.04</p>

2.2 Test result

2.2.1 Conducted Emissions-FCC Part15.107

Ambient condition:

Temperature	Relative humidity	Pressure
19.3°C	49%	99.8kPa

Test Setup:

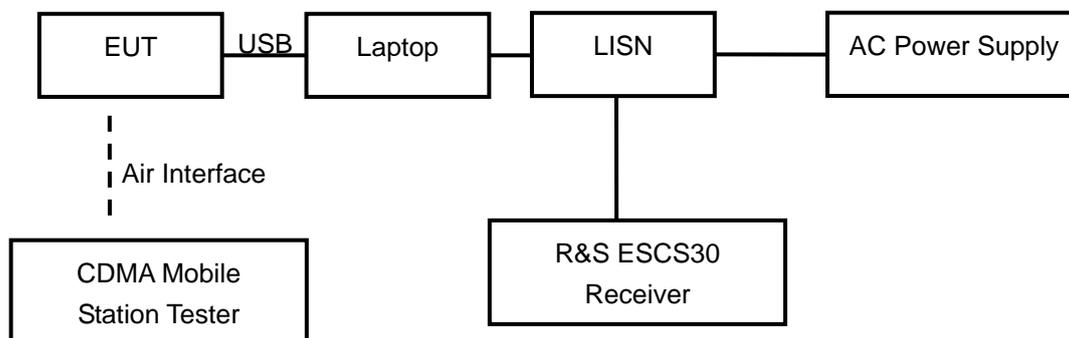


Figure 1

Test Procedure:

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The EUT connect with a laptop via the USB cable. The accessories of the EUT are connected with the EUT such as headset etc. During the test the data transferring via USB cable between EUT and laptop 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 C63.4:2009.

Then start the test software ES-K1. 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 reciever 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:

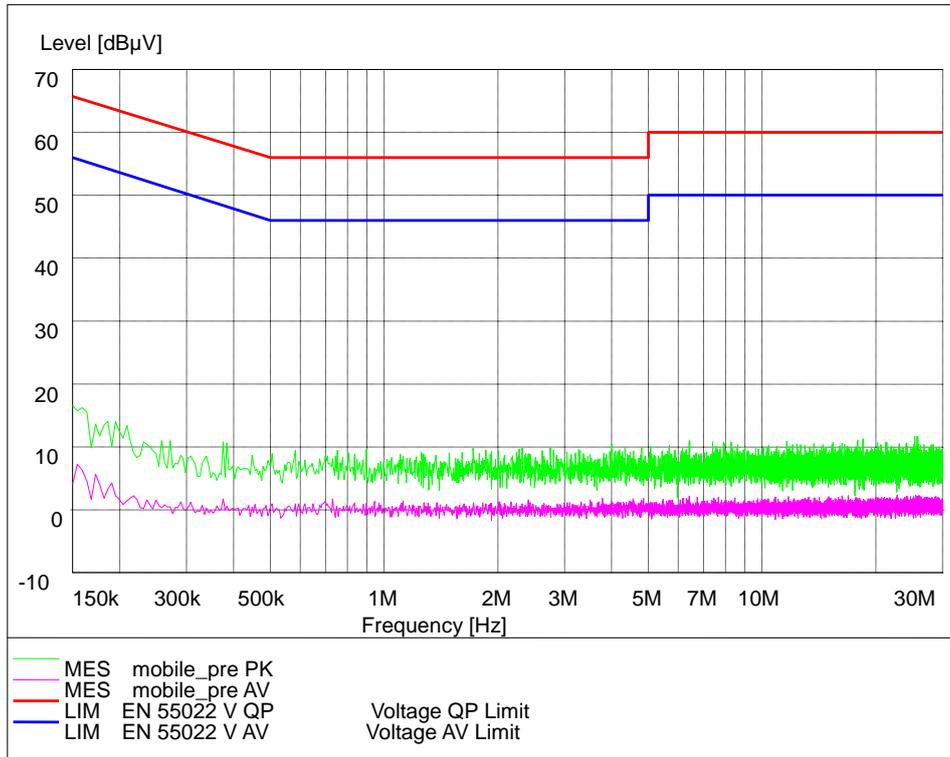
Frequency of Emission(MHz)	Limits(dB μ V)	
	Quasi-peak	Average
0.15~0.5	66 to 56*	56 to 46*
0.5~5	56	46
5~30	60	50

Note: * Decreases with the logarithm of the frequency

Test result:

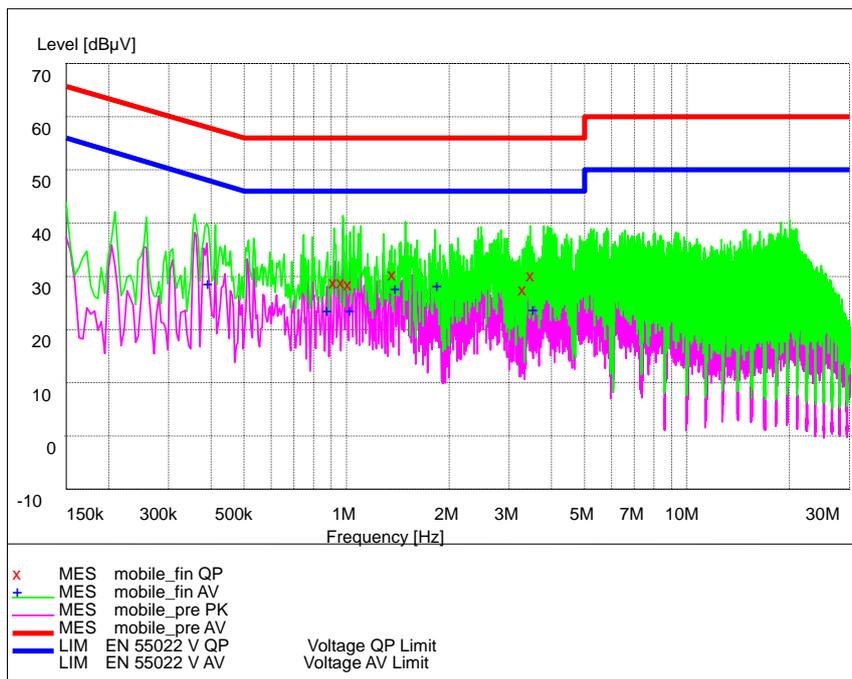
Refer to the following figures.

Noise Level of the Measuring Instrument



L and N Line

GSM 850 Laptop+AE2#+AE3#+AE5#



L and N Line

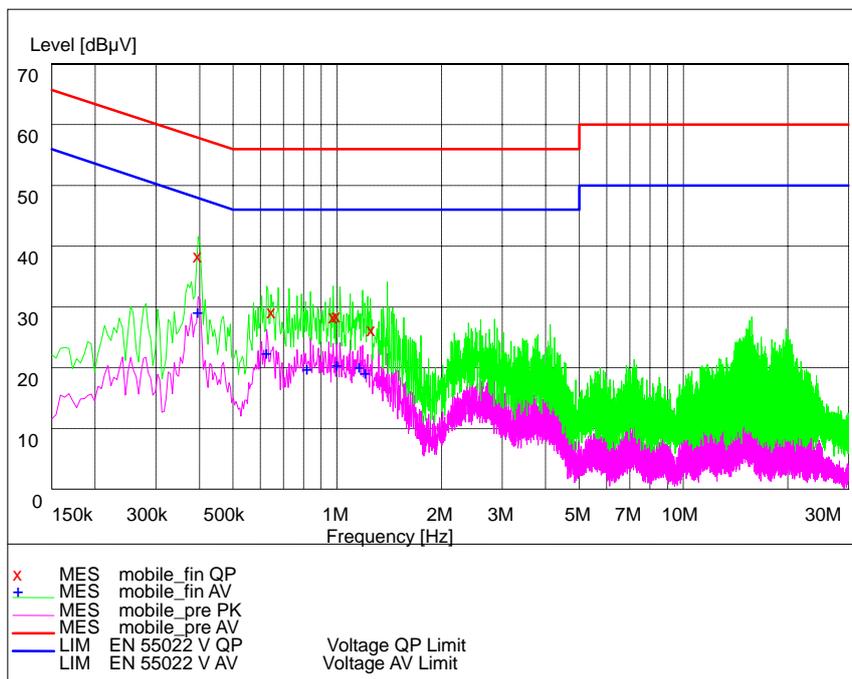
MEASUREMENT RESULT: "mobile_fin QP"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.916000	31.20	20.2	56	24.8	L1	GND
0.965000	31.20	20.2	56	24.8	L1	GND
1.013000	30.70	20.2	56	25.3	L1	GND
1.365500	32.50	20.2	56	23.5	L1	GND
3.302500	29.70	20.3	56	26.3	L1	GND
3.488500	32.40	20.3	56	23.6	L1	GND

MEASUREMENT RESULT: "mobile_fin AV"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.392000	31.00	20.2	48	17.0	L1	GND
0.877500	25.90	20.3	46	20.1	L1	GND
1.022500	25.80	20.2	46	20.2	L1	GND
1.390500	30.00	20.2	46	16.0	L1	GND
1.851000	30.50	20.2	46	15.5	L1	GND
3.539500	26.00	20.3	46	20.0	L1	GND

GSM 850 Laptop+AE2#+AE4#+AE5#



L and N Line

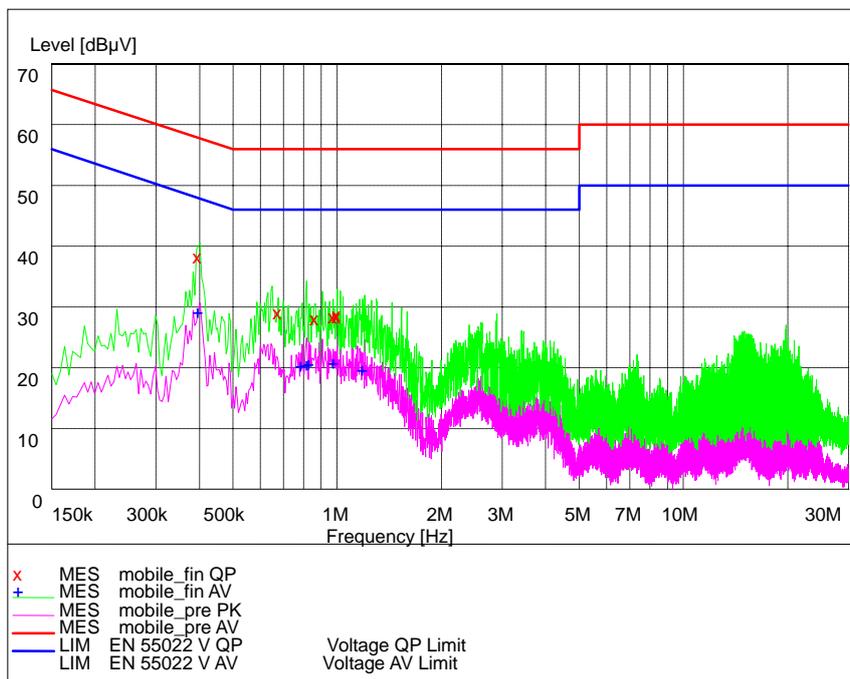
MEASUREMENT RESULT: "mobile_fin QP"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.397000	40.30	20.2	58	17.6	L1	GND
0.648500	31.20	20.3	56	24.8	L1	GND
0.975500	30.30	20.2	56	25.7	L1	GND
0.998500	30.50	20.2	56	25.5	L1	GND
1.257000	28.10	20.2	56	27.9	L1	GND

MEASUREMENT RESULT: "mobile_fin AV"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.396500	31.20	20.2	48	16.7	L1	GND
0.626000	24.40	20.3	46	21.6	L1	GND
0.819500	21.80	20.3	46	24.2	L1	GND
0.999500	22.40	20.2	46	23.6	L1	GND
1.160000	22.10	20.2	46	23.9	L1	GND
1.205500	21.20	20.2	46	24.8	L1	GND

GSM 1900 Laptop+AE2#+AE3#+AE5#



L and N Line

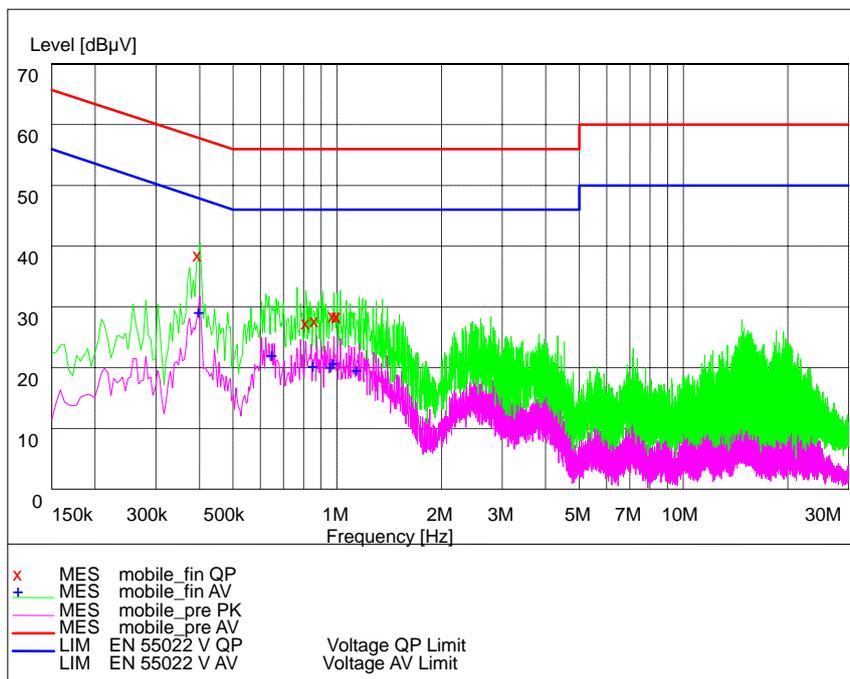
MEASUREMENT RESULT: "mobile_fin QP"

Frequency MHz	Level dBµV	Transd	Limit dB	Margin dBµV	Line	PE
0.396500	40.20	20.2	58	17.6	L1	GND
0.674000	30.90	20.4	56	25.1	L1	GND
0.860500	30.00	20.3	56	26.0	L1	GND
0.975000	30.40	20.2	56	25.6	L1	GND
0.998500	30.40	20.2	56	25.6	L1	GND
0.999000	30.60	20.2	56	25.4	L1	GND

MEASUREMENT RESULT: "mobile_fin AV"

Frequency MHz	Level dBµV	Transd	Limit dB	Margin dBµV	Line	PE
0.396000	31.20	20.2	48	16.7	L1	GND
0.784000	22.20	20.3	46	23.8	L1	GND
0.817000	22.50	20.3	46	23.5	L1	GND
0.829000	22.60	20.3	46	23.4	L1	GND
0.976000	22.70	20.2	46	23.3	L1	GND
1.183000	21.70	20.2	46	24.3	L1	GND

GSM 1900 Laptop+AE2#+AE4#+AE5#



L and N Line

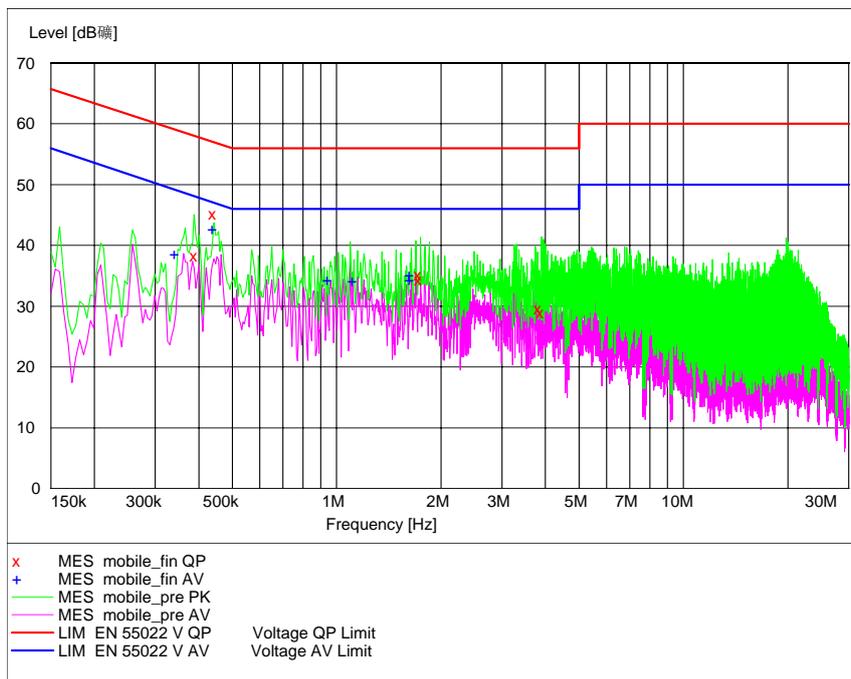
MEASUREMENT RESULT: "mobile_fin QP"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.396500	40.40	20.2	58	17.5	L1	GND
0.814500	29.30	20.3	56	26.7	L1	GND
0.861500	29.70	20.3	56	26.3	L1	GND
0.975000	30.50	20.2	56	25.5	L1	GND
0.998000	30.50	20.2	56	25.5	L1	GND
0.998500	30.40	20.2	56	25.6	L1	GND

MEASUREMENT RESULT: "mobile_fin AV"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.398500	31.20	20.2	48	16.7	L1	GND
0.648500	24.10	20.3	46	21.9	L1	GND
0.852500	22.30	20.3	46	23.7	L1	GND
0.956500	22.10	20.2	46	23.9	L1	GND
0.975500	22.80	20.2	46	23.2	L1	GND
1.137500	21.70	20.2	46	24.3	L1	GND

WCDMA BAND V Laptop+AE2#+AE3#+AE5#



L and N Line

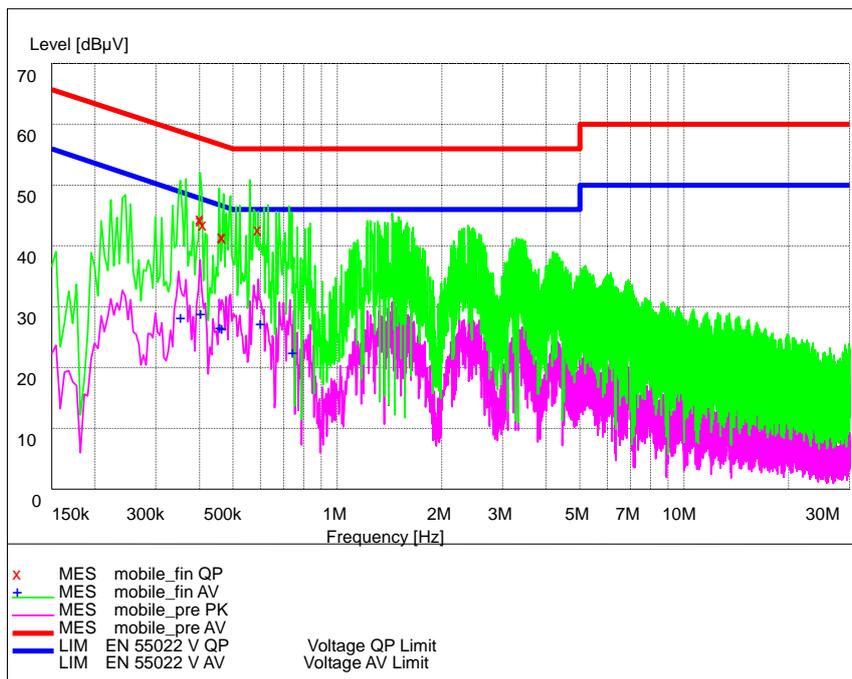
MEASUREMENT RESULT: "mobile_fin QP"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.389000	38.20	20.2	58	19.8	L1	GND
0.441000	45.10	20.3	57	11.9	L1	GND
1.728000	35.10	20.2	56	20.9	N	GND
1.729500	34.30	20.2	56	21.7	N	GND
3.830500	29.50	20.3	56	26.5	L1	GND
3.886000	29.00	20.3	56	27.0	L1	GND

MEASUREMENT RESULT: "mobile_fin AV"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.342000	38.60	20.2	49	10.5	L1	GND
0.440000	42.70	20.3	47	4.4	L1	GND
0.942500	34.40	20.3	46	11.6	L1	GND
1.113500	34.10	20.2	46	11.9	N	GND
1.626500	35.20	20.2	46	10.8	N	GND
1.627000	34.30	20.2	46	11.7	L1	GND

WCDMA BAND V Laptop+AE2#+AE4#+AE5#



L and N Line

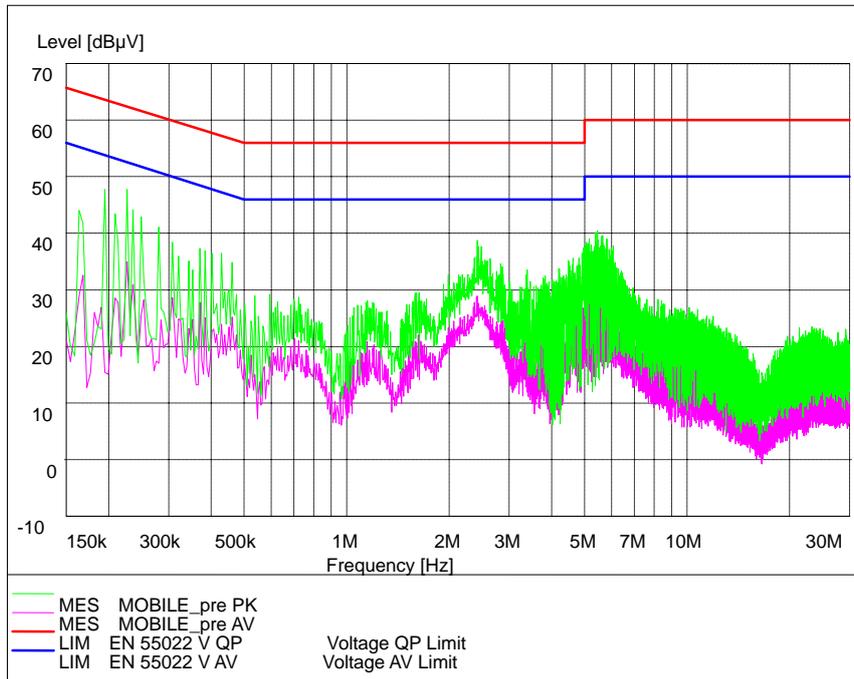
MEASUREMENT RESULT: "mobile_fin QP"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.402500	46.50	20.2	58	11.3	N	GND
0.404000	46.20	20.2	58	11.5	L1	GND
0.410500	45.50	20.3	58	12.1	L1	GND
0.466000	43.40	20.3	57	13.2	L1	GND
0.468500	43.30	20.3	57	13.2	N	GND
0.594000	44.70	20.3	56	11.3	N	GND

MEASUREMENT RESULT: "mobile_fin AV"

Frequency MHz	Level dBμV	Transd	Limit dB	Margin dBμV	Line	PE
0.354000	30.20	20.2	49	18.7	L1	GND
0.405000	30.90	20.2	48	16.9	L1	GND
0.459500	28.60	20.3	47	18.1	L1	GND
0.466000	28.40	20.3	47	18.1	L1	GND
0.602000	29.20	20.3	46	16.8	L1	GND
0.744500	24.40	20.3	46	21.6	N	GND

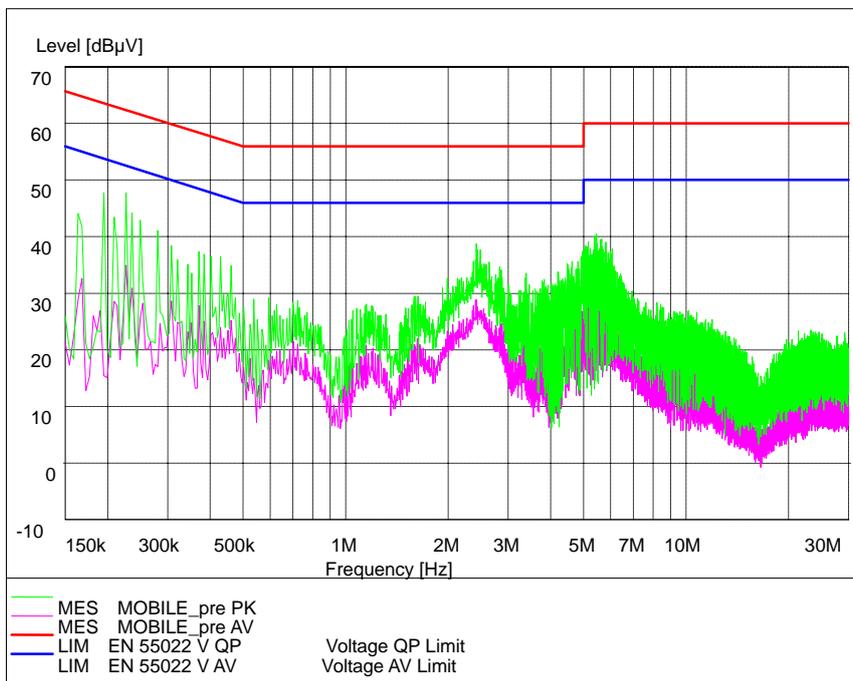
FM Radio Laptop+AE2#+AE3#+AE5#



L and N Line

Note: Measuring instruments' noise level refers to the figure of "Noise Level of the Measuring Instrument".

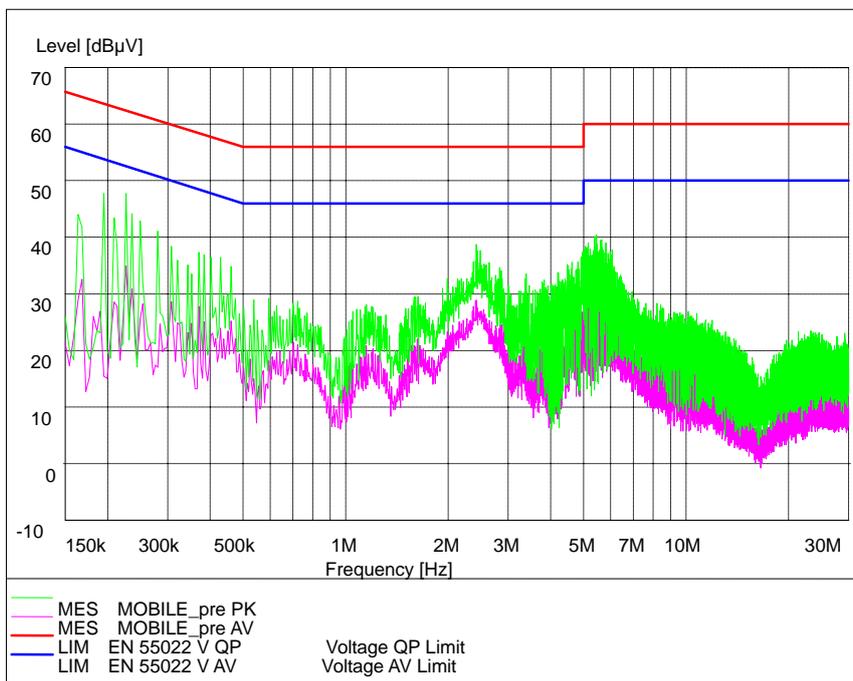
MP3/MP4 Laptop+AE2#+AE3#+AE5#



L and N Line

Note: Measuring instruments' noise level refers to the figure of "Noise Level of the Measuring Instrument".

Camera Laptop+AE2#+AE3#+AE5#



L and N Line

Note: Measuring instruments' noise level refers to the figure of "Noise Level of the Measuring Instrument".

2.2.2 Radiated Emissions-FCC Part15.109

Ambient condition:

Temperature	Relative humidity	Pressure
19.3°C	47.5%	101.1kPa

Test Setup:

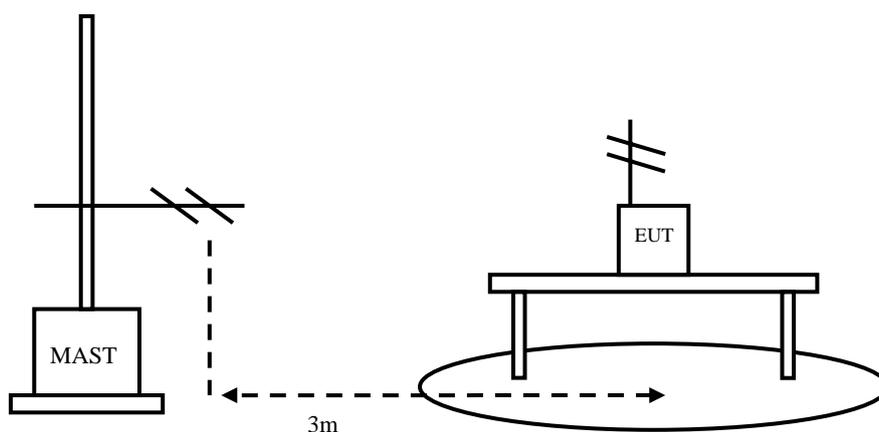


Figure 2

Test Procedure:

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. During the test the data transferring via USB cable between EUT and laptop is maintained. The test set-up and the test methods are performed according to ANSI C63.4:2009.

Then start the test software ES-K1. 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 μ 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:

GSM 850 Mode

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea} (dBuV/m)	Polarity
52.02	25.13	8.1	17.03	Vertical
55.53	23.71	6.8	16.91	Horizontal
96.63	21.00	8.8	12.2	Vertical
100.00	20.52	9.1	11.42	Horizontal
519.03	22.62	17.9	4.72	Vertical
959.91	31.29	24.3	6.99	Vertical

PCS1900 Mode

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea} (dBuV/m)	Polarity
52.16	26.31	8.0	18.31	Vertical
54.40	24.50	7.2	17.3	Vertical
97.19	21.60	8.9	12.7	Vertical
217.83	16.99	8.7	8.29	Horizontal
526.05	24.71	18.0	6.71	Vertical
959.91	34.80	24.3	10.5	Vertical

WCDMA Band V Mode

Frequency(MHz)	Result(dBuV/m)	A _{Rpl} (dB)	P _{mea} (dBuV/m)	Polarity
52.16	26.19	8.0	18.19	Vertical
61.42	24.66	5.6	19.06	Horizontal
97.47	21.15	8.9	12.25	Vertical
102.40	19.68	9.1	10.58	Horizontal
528.05	22.92	18.0	4.92	Vertical
959.91	34.23	24.3	9.93	Vertical

FM Radio Mode

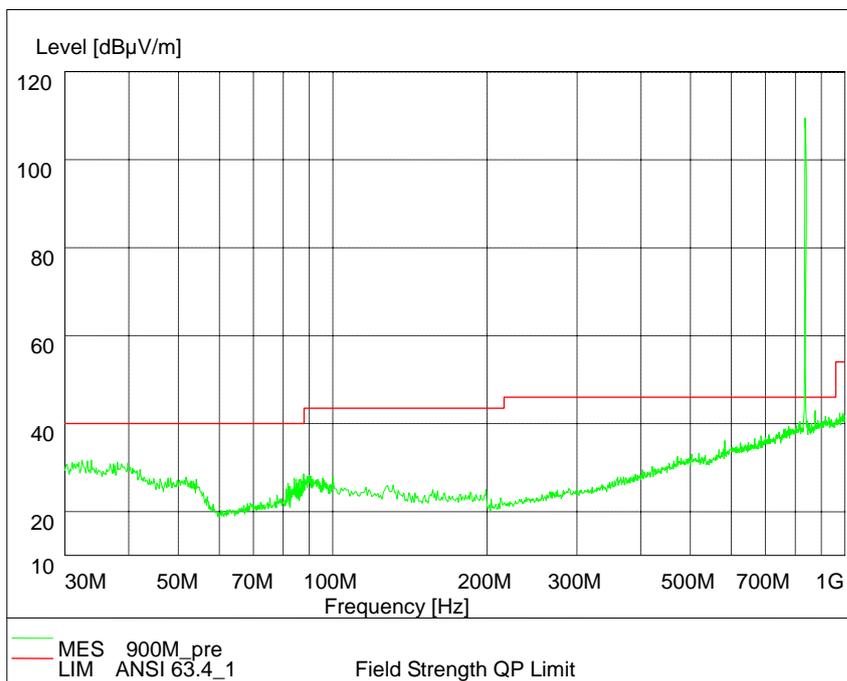
Frequency(MHz)	Result(dBuV/m)	A _{Rpl} (dB)	P _{mea} (dBuV/m)	Polarity
51.88	26.66	8.1	18.56	Vertical
54.40	25.14	7.2	17.94	Vertical
98.45	22.78	8.9	13.88	Horizontal
104.00	22.60	9.1	13.5	Vertical
557.11	23.02	18.5	4.52	Horizontal
959.91	33.97	24.3	9.67	Vertical

MP3/MP4 Mode

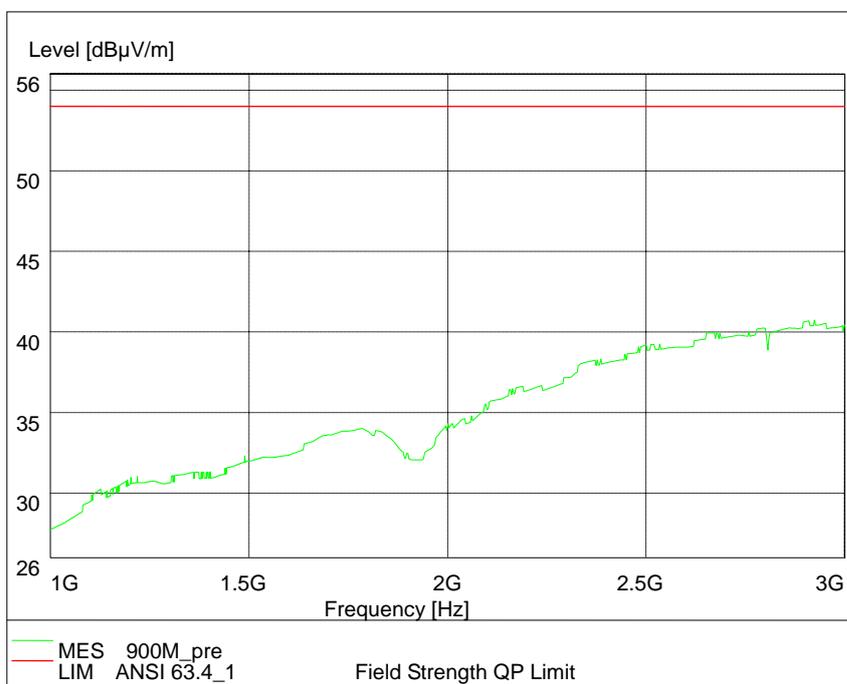
Frequency(MHz)	Result(dBuV/m)	A _{Rpl} (dB)	P _{mea} (dBuV/m)	Polarity
52.16	26.31	8.0	18.31	Vertical
54.40	24.50	7.2	17.3	Vertical
97.19	21.60	8.9	12.7	Vertical
217.83	16.99	8.7	8.29	Horizontal
526.05	24.71	18.0	6.71	Vertical
959.91	34.80	24.3	10.5	Vertical

Camera Mode

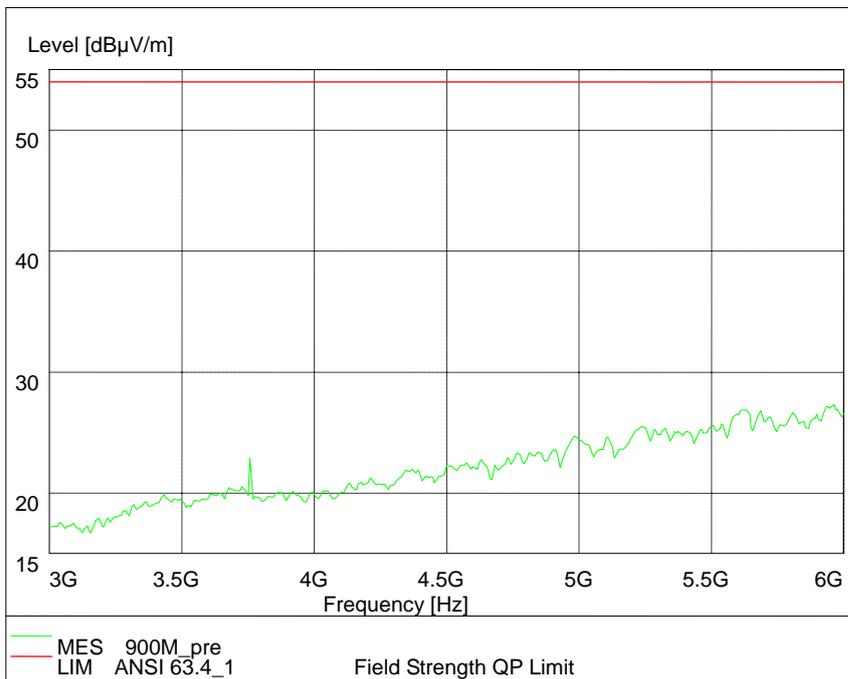
Frequency(MHz)	Result(dBuV/m)	A _{Rpl} (dB)	P _{mea} (dBuV/m)	Polarity
52.02	25.13	8.1	17.03	Vertical
55.53	23.71	6.8	16.91	Horizontal
96.63	21.00	8.8	12.2	Vertical
100.00	20.52	9.1	11.42	Horizontal
519.03	22.62	17.9	4.72	Vertical
959.91	31.29	24.3	6.99	Vertical



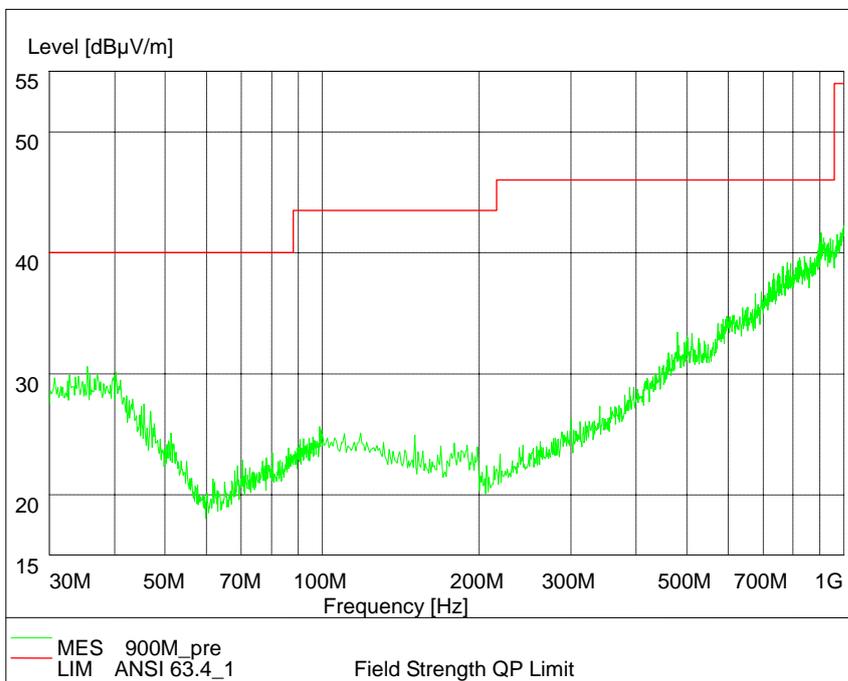
GSM 850 (30MHz - 1GHz)



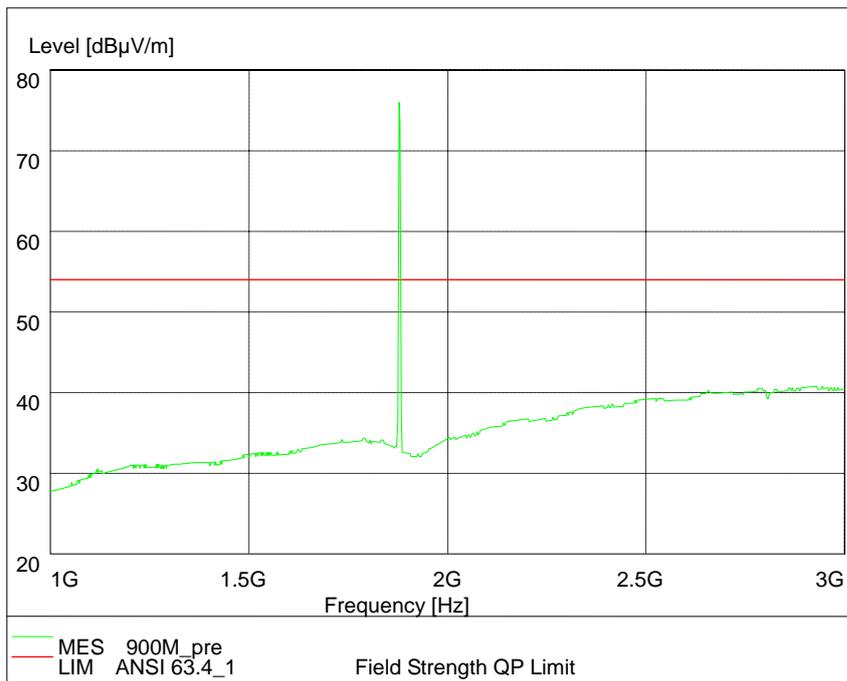
GSM 850(1GHz – 3GHz)



GSM 850(3GHz – 6GHz)

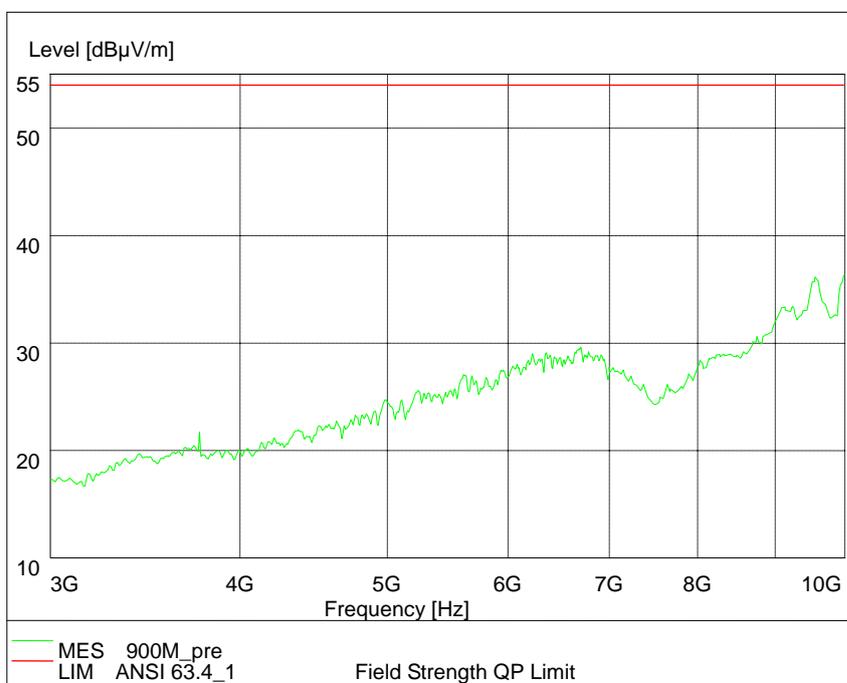


PCS 1900 (30MHz – 1GHz)

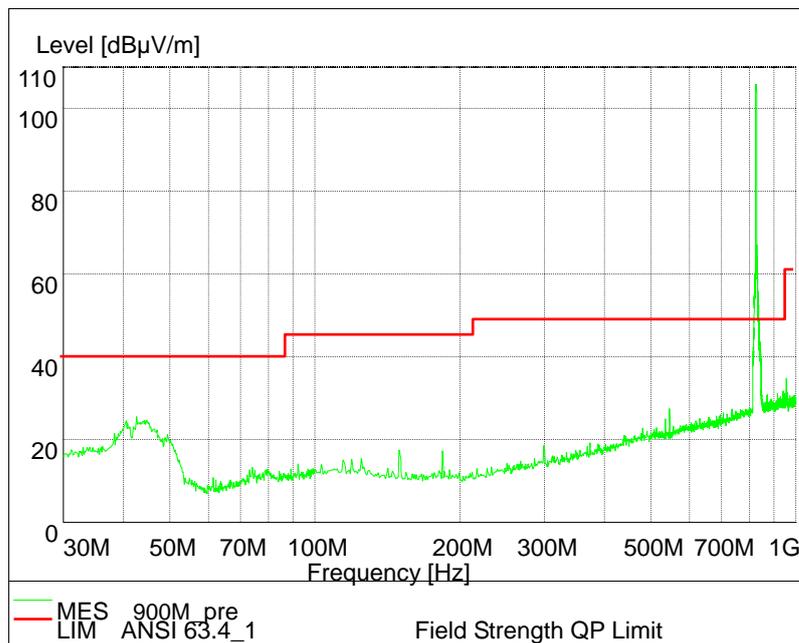


PCS 1900(1GHz – 3GHz)

Note: The signals beyond the limit are the base station and simulator carrier.

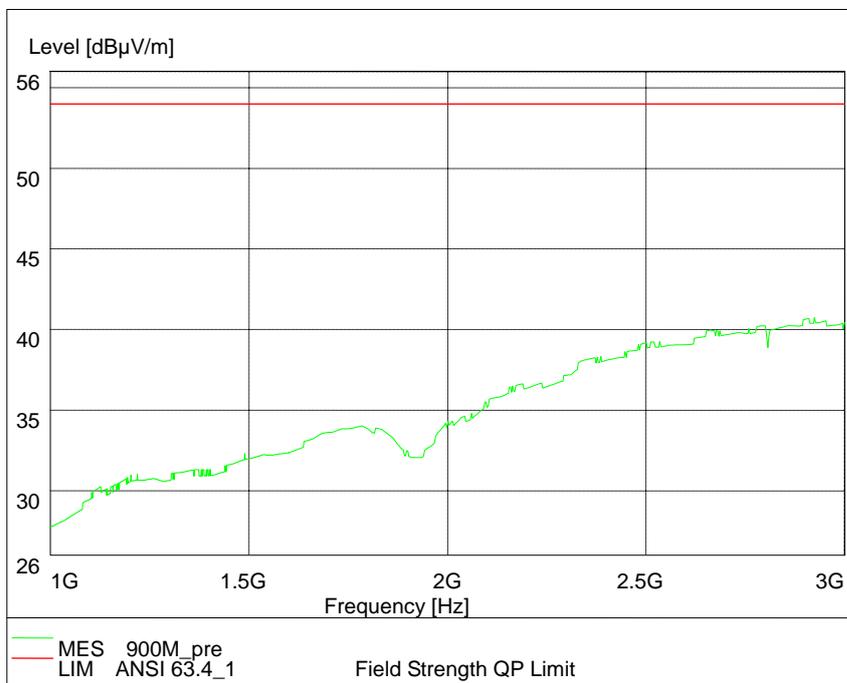


PCS 1900(3GHz – 10GHz)

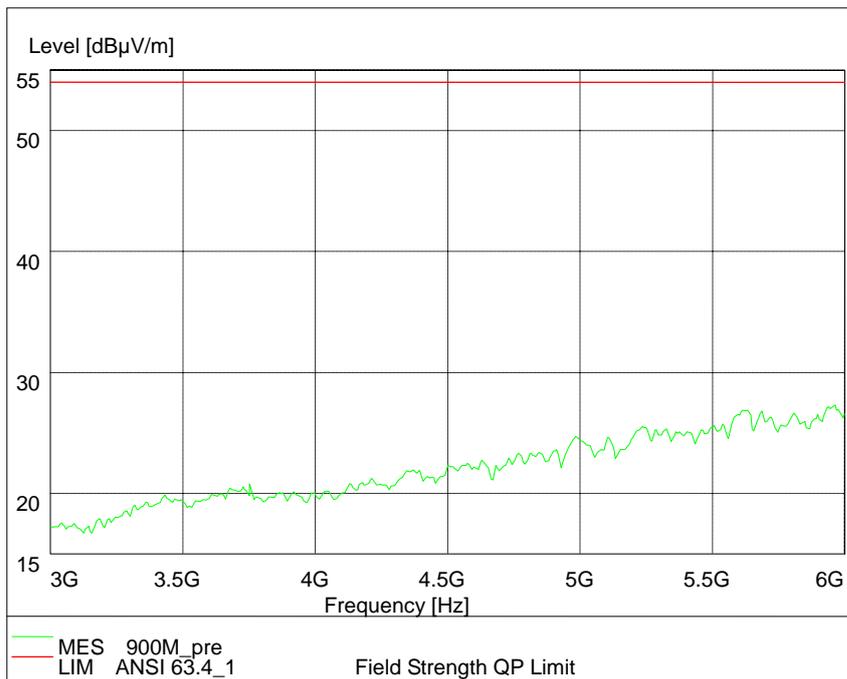


WCDMA BAND V (30MHz – 1GHz)

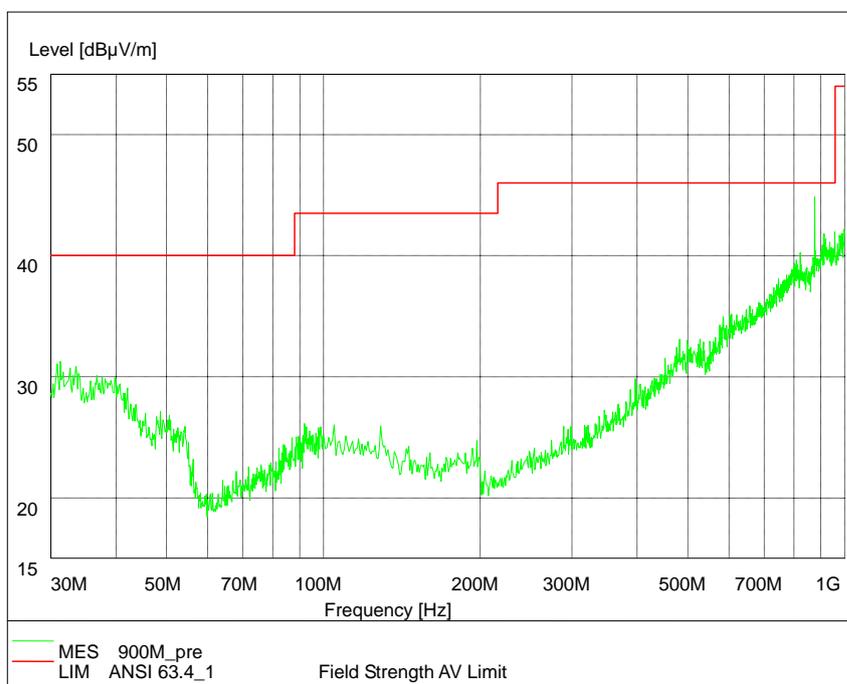
Note: The signals beyond the limit are the base station and simulator carrier.



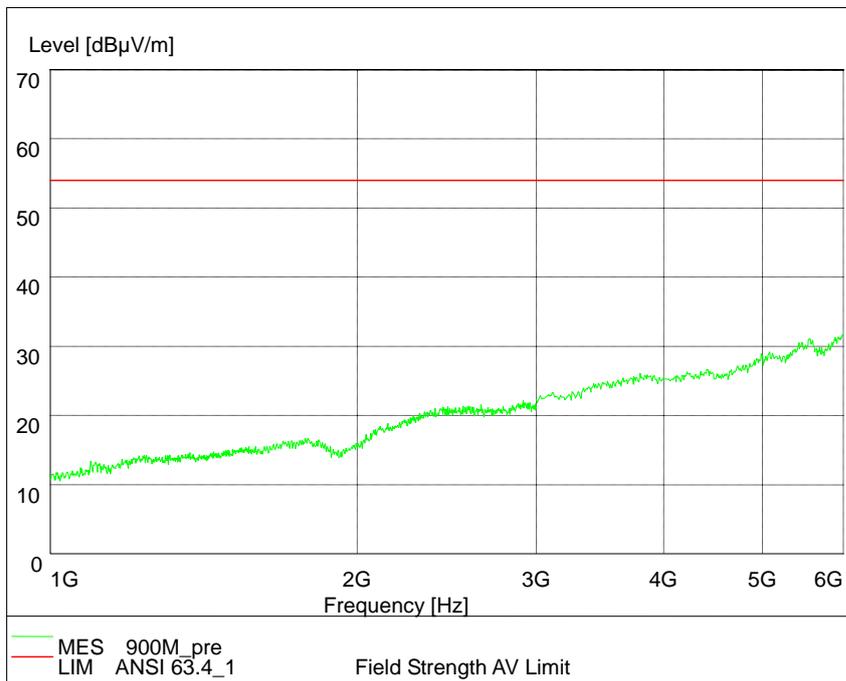
WCDMA BAND V (1GHz – 3GHz)



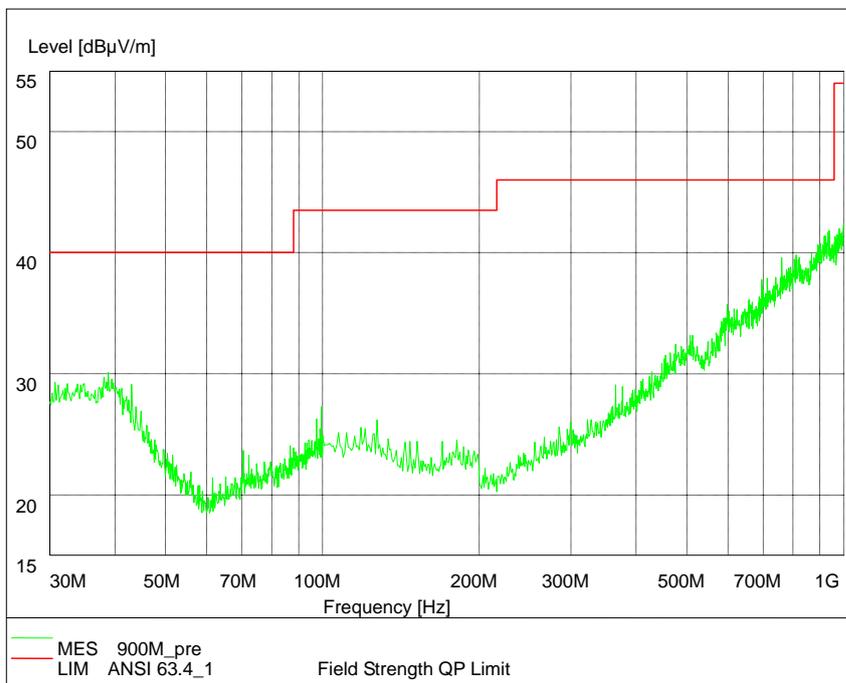
WCDMA BAND V (3GHz – 6GHz)



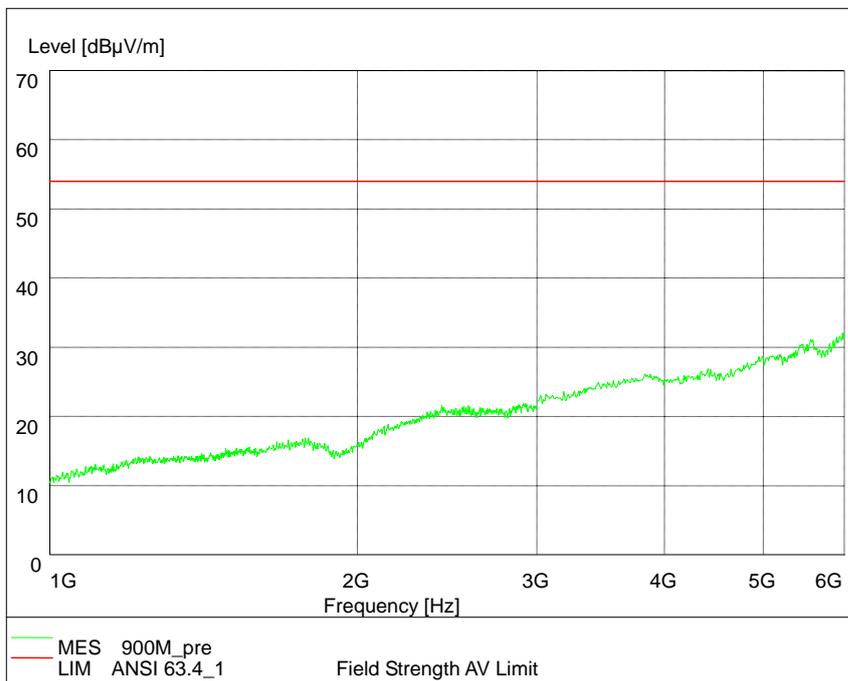
FM Radio (30MHz – 1GHz)



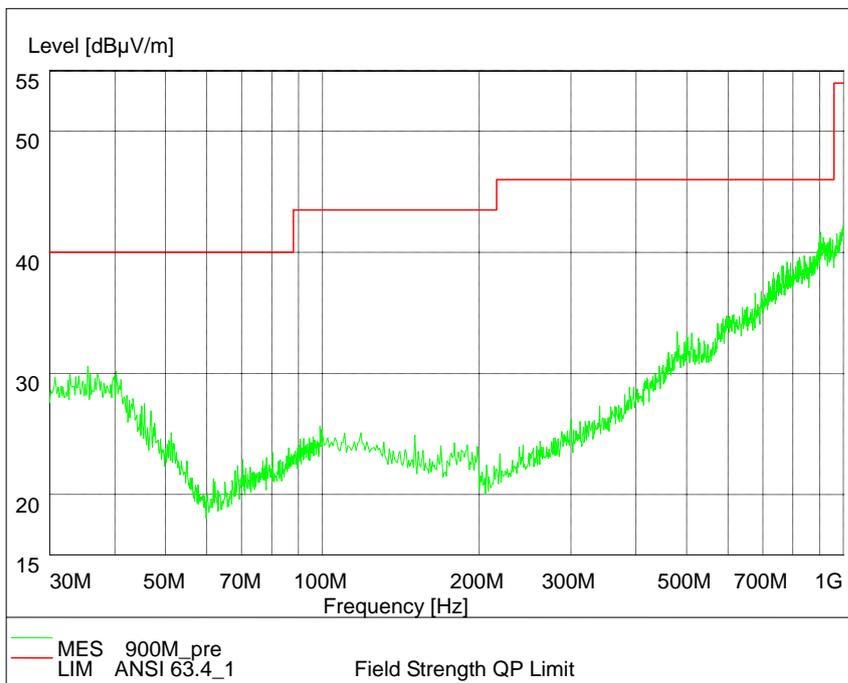
FM Radio (1GHz – 6GHz)



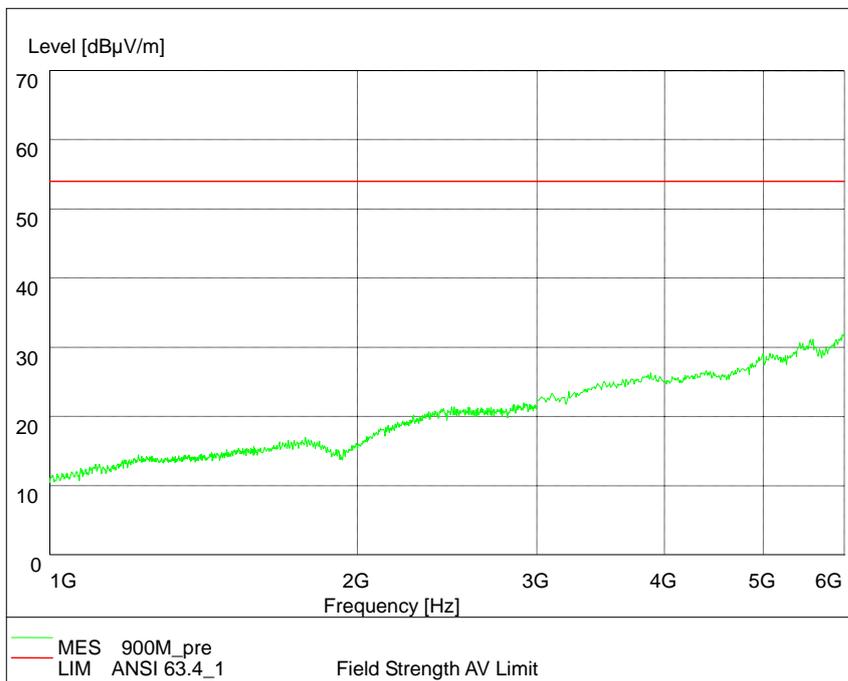
MP3/MP4 (30MHz – 1GHz)



MP3/MP4 (1GHz – 6GHz)



Camera (30MHz – 1GHz)



Camera (1GHz – 6GHz)

2.3. List of test equipments

No.	Name/Model	Manufacturer	S/N	Calibration Due Date
1	23.18m×16.88m×9.60m Semi-Anechoic Chamber	FRANKONIA	-----	19 th Aug. 2011
2	ESI 40 EMI test receiver	R&S	100015	19 th Aug. 2011
3	E5515C(8960) Mobile Station Tester	Agilent	GB44050904	19 th Aug. 2011
4	9.080m×5.255m×3.525m Shielding room	FRANKONIA	-----	19 th Aug. 2011
5	ESCS30 EMI test receiver	R&S	100029	19 th Aug. 2011
6	HL562 Ultra log test antenna	R&S	100016	19 th Aug. 2011
7	ESH3-Z2 Pulse limiter	R&S	10002	19 th Aug. 2011
8	ESH3-Z5 Attenuator	R&S	100020	19 th Aug. 2011
9	ESH2Z11 LISN	R&S	50FH-020-10	19 th Aug. 2011
10	HF 906 Double-Ridged Waveguide Horn Antenna	R&S	100030	19 th Aug. 2011
11	HF 906 Double-Ridged Waveguide Horn Antenna	R&S	100029	19 th Aug. 2011
12	PS2000 Turn Table	FRANKONIA	-----	19 th Aug. 2011
13	MA260 Antenna Master	FRANKONIA	-----	19 th Aug. 2011
14	ES-K1EMI test software	R&S	-----	19 th Aug. 2011
15	HL562 Receive antenna	R&S	100167	19 th Aug. 2011

Appendix