D-PL-12111-01-01

CNAS L0447

Registration No.910917

TEST REPORT

Report No.: SRTC2015-9003(F)-0002

Product Name: GSM quad band mobile phone

Model Name: 1017D

Applicant: TCL Communication Ltd.

Manufacturer: TCL Communication Ltd.

Specification: FCC Part15B (Verification)

(October 1, 2009 edition)

FCC ID: 2ACCJB016

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

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)
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1.3 Applicant's details

Company: TCL Communication Ltd.
Address: 5F, E building, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area,Shanghai,201203,P.R.China
City: Shanghai
Country or Region: P.R.China
Grantee Code: 2ACCJ
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Email: houhua.fan@tcl.com

1.4 Manufacturer's details

Company: TCL Communication Ltd.
Address: 5F, E building, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area,Shanghai,201203,P.R.China
City: Shanghai
Country or Region: P.R.China
Contacted person: Houhua.FAN
Tel: +86-21- 61460666
Fax: +86-21- 61460602
Email: houhua.fan@tcl.com

1.5 Application details

Date of reception of test sample: 21st April 2015
Date of test: 21st April 2015 to 24th April 2015

1.6 Reference specification

FCC Part 15B October 1, 2009 (Verification)

1.7 Information of EUT

1.7.1 General information

Name of EUT	GSM quad band mobile phone
FCC ID	2ACCJB016
Frequency Range	GSM850: Tx:824~849MHz Rx:869~894MHz PCS1900: Tx:1850~1910MHz Rx:1930~1990MHz
Rated Output Power	GSM850:33.0dBm PCS1900:30.0dBm
E.R.P. & E.I.R.P.	E.R.P.:31.98dBm E.I.R.P.:29.29dBm
Modulation Type	GSM/GPRS:GMSK
Emission Designator	GSM/GPRS
Duplex Mode	FDD
Equipment Class	Class B
Duplex Spacing	GSM850:45MHz PCS1900:80MHz
Antenna Type	Fixed Internal
Power Supply	Battery or Charger
Rated Power Supply Voltage	3.7V
Extreme Temperature	Lowest: -30°C Highest: +50°C
Extreme Voltage	Minimum: 3.5V Maximum: 4.2V
HW Version	1203_MB_PCB_V0.1
SW Version	1017D_L3EN_V01_150408_MCP32+32_FM_LATAM_AL

1.7.2 EUT details

Product Name	Marketing Name	IMEI
GSM quad band mobile phone	1017D	3591616060005730

1.7.3 Auxiliary equipment details

AE (Auxiliary Equipment) 1#: Charger

Equipment	Charger
Manufacturer	AOHAI
Model Number	A220-1501-500200
S/N	CBA0053AG0C4
Input Voltage	100V-240V a.c.
Output Voltage	5.0V d.c.
Frequency	50/60Hz

AE (Auxiliary Equipment) 2#: Charger

Equipment	Charger
Manufacturer	BYD
Model Number	WUS550mA5V00-02
S/N	CBA3002AG0C1
Input Voltage	100V-240V a.c.
Output Voltage	5.0V d.c.
Frequency	50/60Hz

AE (Auxiliary Equipment) 3#: Battery

Equipment	Battery
Manufacturer	BYD
Model Number	CAB0400000C1
Capacity	400mAh
Rated Voltage	3.7V d.c.

AE (Auxiliary Equipment) 4#: Headset

Equipment	Headset
Manufacturer	JIAYIKANG
Model Number	CCB0010A11C7

AE (Auxiliary Equipment) 5#: Headset

Equipment	Headset
Manufacturer	JIAYIKANG
Model Number	CCB0010A10C7

AE (Auxiliary Equipment) 6#: USB Cable

Equipment	USB Cable
Manufacturer	JIAYIKANG
Model Number	CDA0000049C3

AE (Auxiliary Equipment) 7#: USB Cable

Equipment	USB Cable
Manufacturer	BYD
Model Number	CDA0000030C3

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 charger manufactured by two different companies, one battery, two different models of headset manufactured by two different companies and two different models of USB cable manufactured by two different companies.

The relevant tests have been performed in order to verify in which combination case (EUT exercised by only one model of charger, one model of battery, one model of headset and one model of data cable) the EUT would have the worst features. So all the tests shown in this test report are performed when the EUT exercised by the charger WUS550mA5v00-02, the battery CAB0400000C1, the headset CCB0010A11C7 and the USB cable CDA0000030C3..

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. Gong Jian Test engineer	**Issued date:** **2015.04.29**

2.2 Test result

2.2.1 Conducted Emissions-FCC Part15.107

Ambient condition:

Temperature	Relative humidity	Pressure
24.2°C	35.5%	101.1kPa

Test Setup:

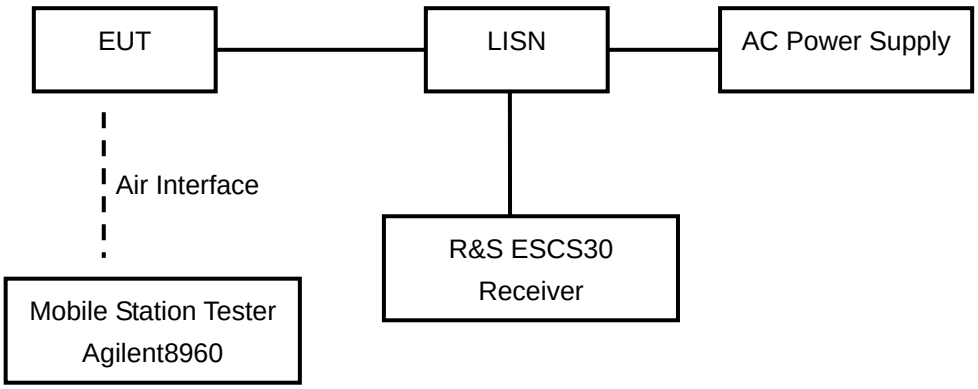


Figure 1

Test Procedure:

The EUT is placed on a non-matellic 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.
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 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.

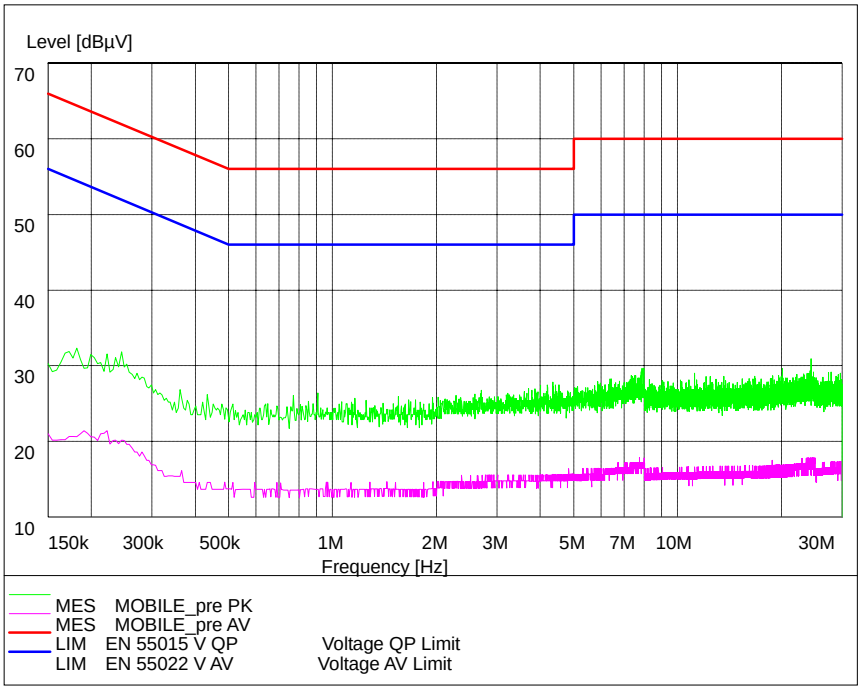
Limit:

Frequency of Emission(MHz)	Limits(dBμV)	
	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

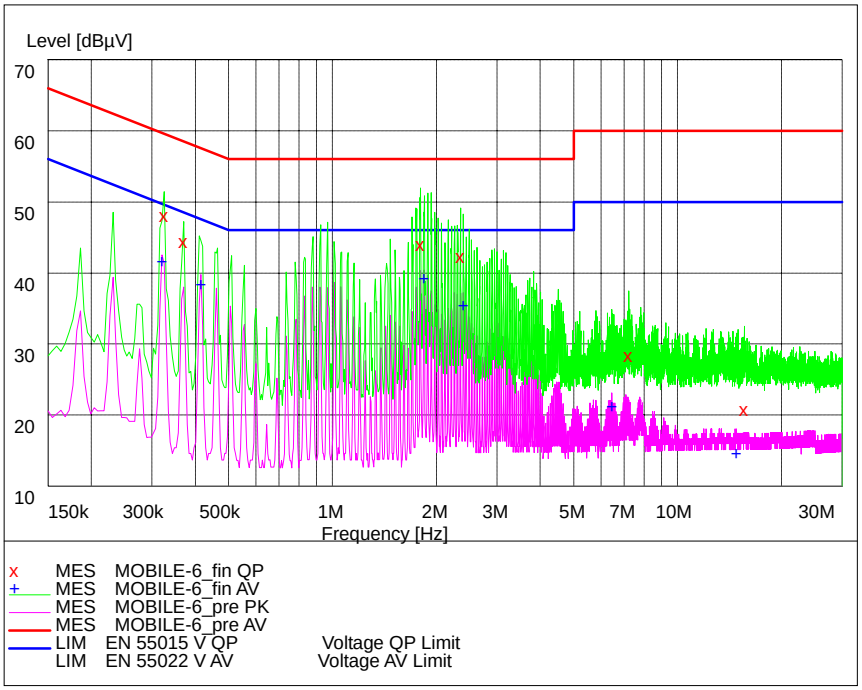
Test result:

Noise Level of the Measuring Instrument



L and N Line

GSM850 AE1#+AE3#+AE4#



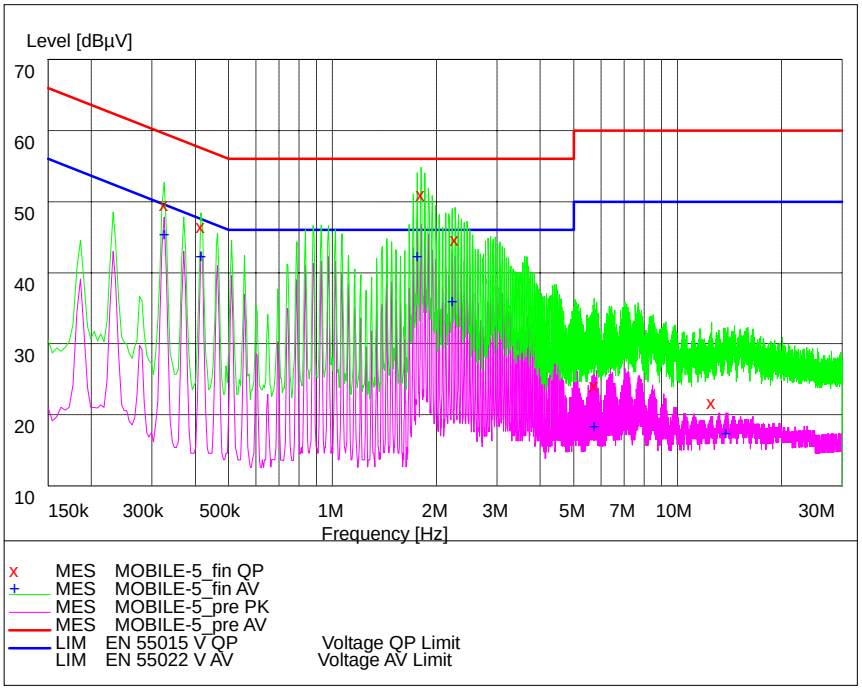
L Line

MEASUREMENT RESULT: "MOBILE_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.325500	49.80	20.1	60	9.8	---	---
0.370500	46.10	20.1	59	12.4	---	---
1.801500	45.60	20.1	56	10.4	---	---
2.350500	44.00	20.3	56	12.0	---	---
7.233000	30.00	20.5	60	30.0	---	---
15.612000	22.40	20.8	60	37.6	---	---

MEASUREMENT RESULT: "MOBILE_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.321000	43.30	20.1	50	6.3	---	---
0.415500	40.00	20.1	48	7.5	---	---
1.842000	40.90	20.1	46	5.1	---	---
2.395500	37.10	20.2	46	8.9	---	---
6.450000	22.90	20.4	50	27.1	---	---
14.824500	16.30	20.7	50	33.7	---	---



N Line

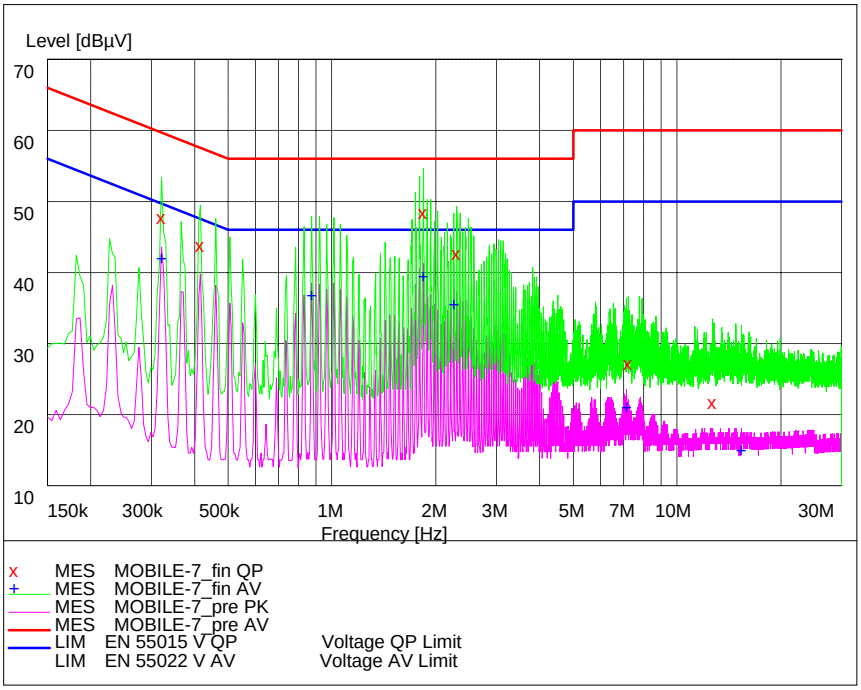
MEASUREMENT RESULT: "MOBILE_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.325500	51.20	20.1	60	8.4	---	---
0.415500	48.10	20.1	58	9.4	---	---
1.806000	52.70	20.1	56	3.3	---	---
2.269500	46.30	20.3	56	9.7	---	---
5.743500	25.80	20.4	60	34.2	---	---
12.547500	23.40	20.7	60	36.6	---	---

MEASUREMENT RESULT: "MOBILE_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.325500	47.00	20.1	50	2.6	---	---
0.415500	43.90	20.1	48	3.7	---	---
1.761000	43.90	20.2	46	2.1	---	---
2.224500	37.60	20.3	46	8.4	---	---
5.743500	20.00	20.4	50	30.0	---	---
13.830000	19.10	20.7	50	30.9	---	---

PCS1900 AE1#+AE3#+AE4#



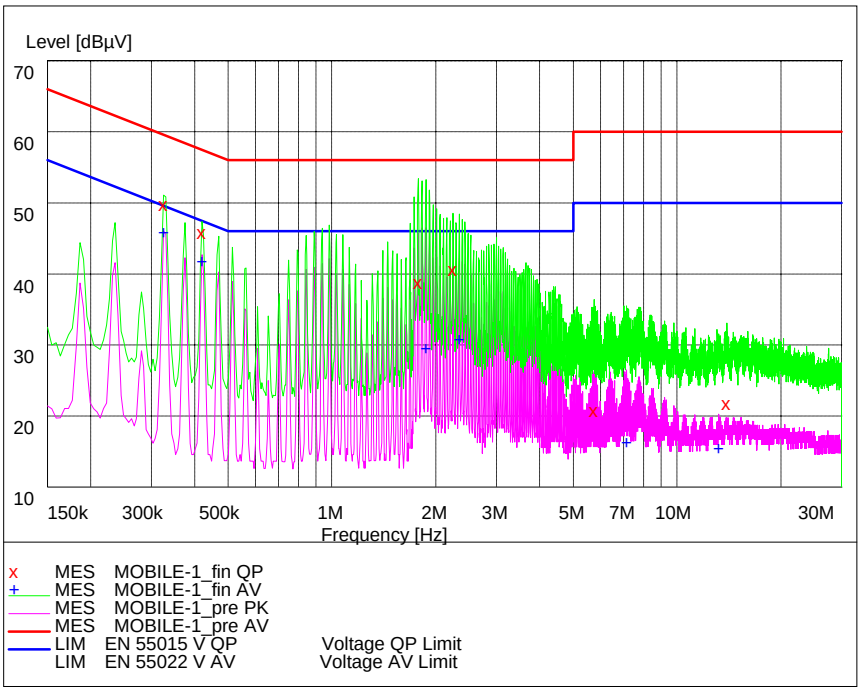
L Line

MEASUREMENT RESULT: "MOBILE_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.321000	49.40	20.1	60	10.3	---	---
0.415500	45.40	20.1	58	12.1	---	---
1.842000	50.10	20.1	56	5.9	---	---
2.301000	44.40	20.3	56	11.6	---	---
7.233000	28.90	20.5	60	31.1	---	---
12.705000	23.40	20.7	60	36.6	---	---

MEASUREMENT RESULT: "MOBILE_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.321000	43.60	20.1	50	6.1	---	---
0.874500	38.40	20.2	46	7.6	---	---
1.842000	41.10	20.1	46	4.9	---	---
2.256000	37.10	20.3	46	8.9	---	---
7.138500	22.60	20.5	50	27.4	---	---
15.373500	16.60	20.7	50	33.4	---	---



N Line

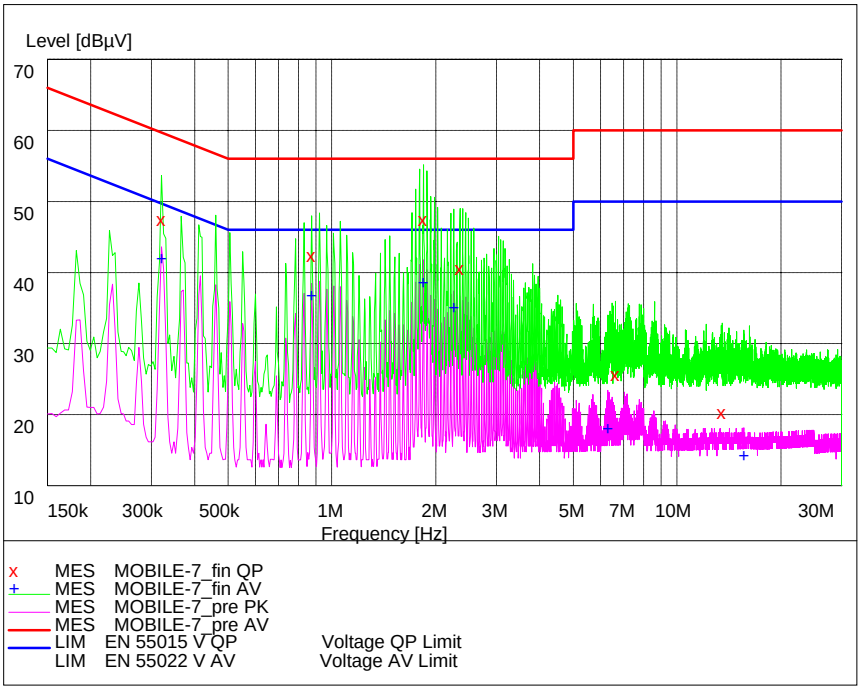
MEASUREMENT RESULT: "MOBILE_fin QP"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.325500	51.50	20.1	60	8.1	---	---
0.420000	47.50	20.1	57	9.9	---	---
1.779000	40.50	20.2	56	15.5	---	---
2.242500	42.30	20.3	56	13.7	---	---
5.748000	22.50	20.4	60	37.5	---	---
13.965000	23.40	20.7	60	36.6	---	---

MEASUREMENT RESULT: "MOBILE_fin AV"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.325500	47.40	20.1	50	2.2	---	---
0.420000	43.40	20.1	47	4.0	---	---
1.873500	31.20	20.1	46	14.8	---	---
2.337000	32.40	20.3	46	13.6	---	---
7.152000	17.90	20.5	50	32.1	---	---
13.213500	17.10	20.7	50	32.9	---	---

FM Radio AE1#+AE3#+AE4#



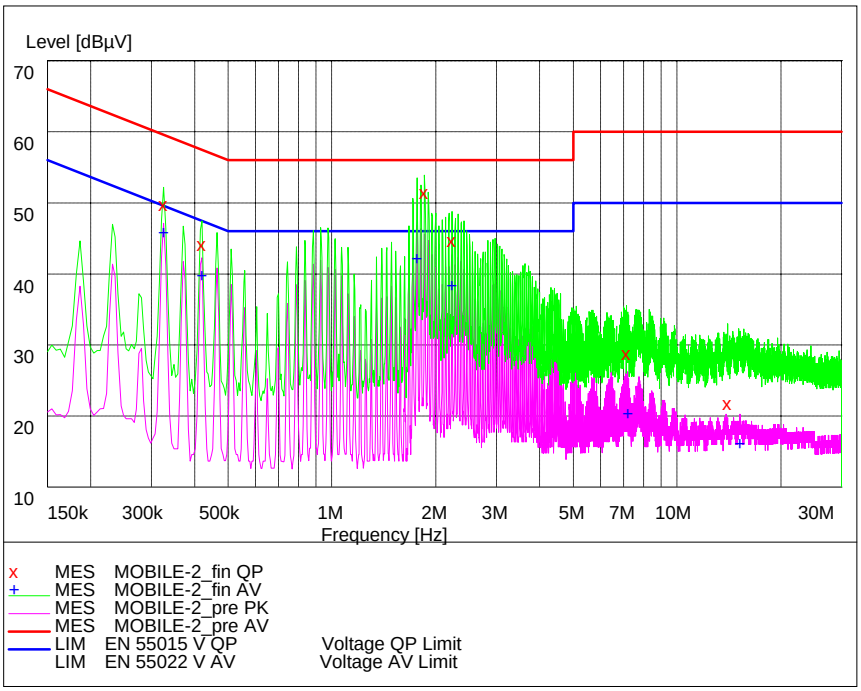
L Line

MEASUREMENT RESULT: "MOBILE_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.321000	49.20	20.1	60	10.5	---	---
0.874500	44.00	20.2	56	12.0	---	---
1.842000	49.20	20.1	56	6.8	---	---
2.350500	42.20	20.3	56	13.8	---	---
6.630000	27.30	20.4	60	32.7	---	---
13.533000	22.00	20.7	60	38.0	---	---

MEASUREMENT RESULT: "MOBILE_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.321000	43.70	20.1	50	5.9	---	---
0.874500	38.50	20.2	46	7.5	---	---
1.842000	40.30	20.1	46	5.7	---	---
2.256000	36.70	20.3	46	9.3	---	---
6.310500	19.70	20.4	50	30.3	---	---
15.612000	16.00	20.8	50	34.0	---	---



N Line

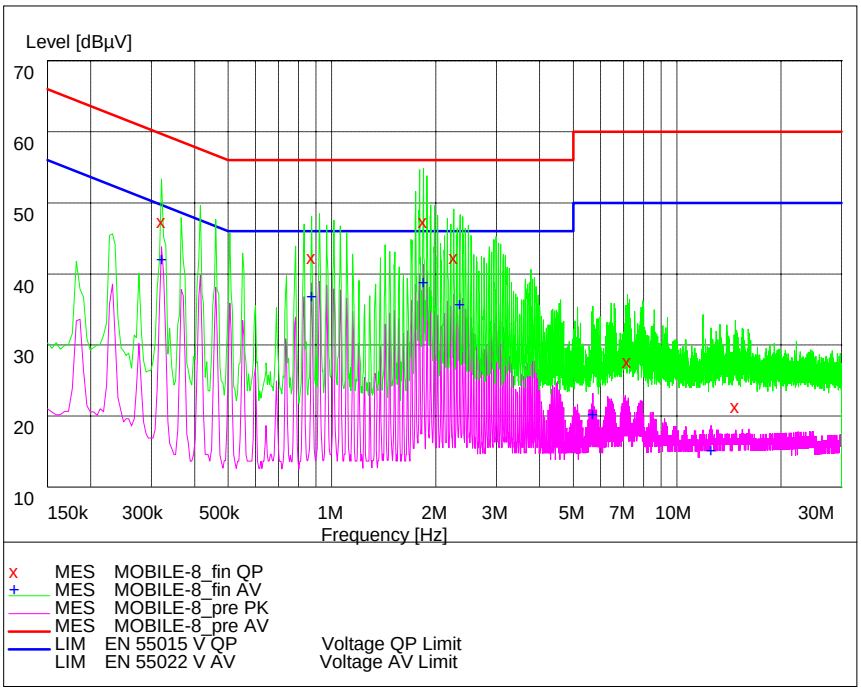
MEASUREMENT RESULT: "MOBILE_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.325500	51.40	20.1	60	8.1	---	---
0.420000	45.80	20.1	57	11.6	---	---
1.855500	53.10	20.1	56	2.9	---	---
2.229000	46.40	20.3	56	9.6	---	---
7.147500	30.50	20.5	60	29.5	---	---
14.019000	23.40	20.7	60	36.6	---	---

MEASUREMENT RESULT: "MOBILE_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.325500	47.40	20.1	50	2.2	---	---
0.420000	41.50	20.1	47	6.0	---	---
1.765500	43.80	20.2	46	2.2	---	---
2.229000	40.10	20.3	46	5.9	---	---
7.197000	22.00	20.5	50	28.0	---	---
15.229500	17.80	20.7	50	32.2	---	---

MP3/MP4 AE1#+AE3#+AE4#



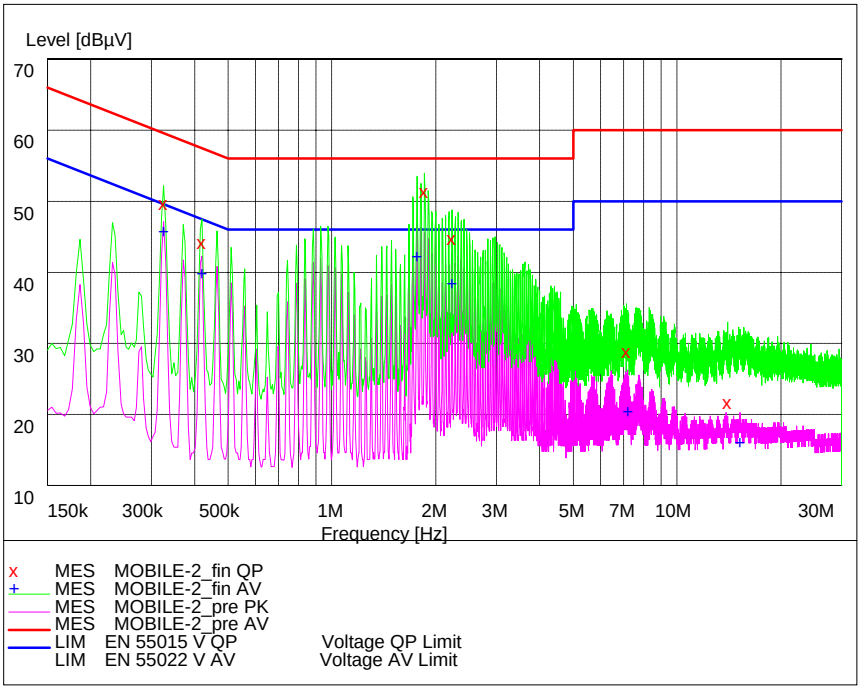
L Line

MEASUREMENT RESULT: "MOBILE_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.321000	49.10	20.1	60	10.5	---	---
0.874500	43.90	20.2	56	12.1	---	---
1.842000	49.10	20.1	56	6.9	---	---
2.256000	43.90	20.3	56	12.1	---	---
7.183500	29.40	20.5	60	30.6	---	---
14.775000	23.10	20.7	60	36.9	---	---

MEASUREMENT RESULT: "MOBILE_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.321000	43.70	20.1	50	6.0	---	---
0.874500	38.50	20.2	46	7.5	---	---
1.842000	40.50	20.1	46	5.5	---	---
2.346000	37.30	20.3	46	8.7	---	---
5.707500	21.90	20.4	50	28.1	---	---
12.565500	16.80	20.7	50	33.2	---	---



N Line

MEASUREMENT RESULT: "MOBILE_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.325500	51.40	20.1	60	8.1	---	---
0.420000	45.80	20.1	57	11.6	---	---
1.855500	53.10	20.1	56	2.9	---	---
2.229000	46.40	20.3	56	9.6	---	---
7.147500	30.50	20.5	60	29.5	---	---
14.019000	23.40	20.7	60	36.6	---	---

MEASUREMENT RESULT: "MOBILE_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dBµV	dB	dBµV	dB		
0.325500	47.40	20.1	50	2.2	---	---
0.420000	41.50	20.1	47	6.0	---	---
1.765500	43.80	20.2	46	2.2	---	---
2.229000	40.10	20.3	46	5.9	---	---
7.197000	22.00	20.5	50	28.0	---	---
15.229500	17.80	20.7	50	32.2	---	---

2.2.2 Radiated Emissions-FCC Part15.109

Ambient condition:

Temperature	Relative humidity	Pressure
24.7°C	34.9%	101.1kPa

Test Setup:

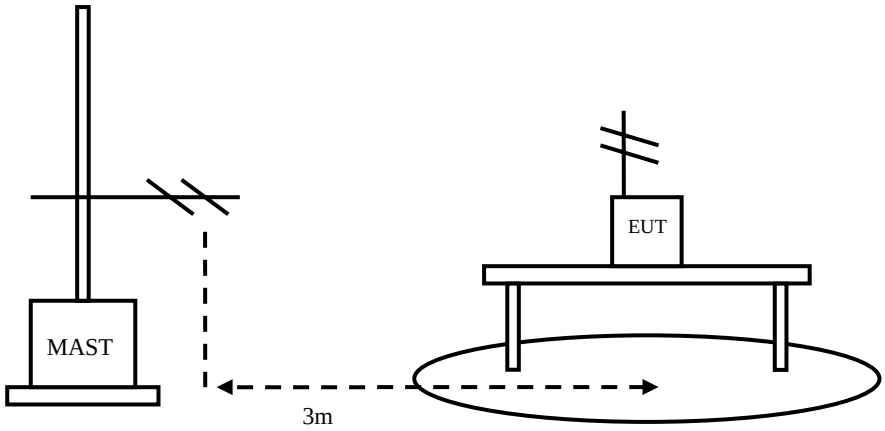


Figure 2

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 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 C63.4:2009.
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:

Result= P_{mea} + A_{Rpl}

Limit:

Frequency of Emission(MHz)	Limits	
	Detector	Unit (dBμV/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 Peak	54 74

Test result:

GSM850 Mode

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea} (dBuV/m)	Polarity
30.98	22.89	20.6	2.29	Vertical
81.06	20.65	9.9	10.75	HORIZONTAL
146.49	29.93	10.5	19.43	HORIZONTAL
557.11	26.71	22.2	4.51	Vertical
869.73	46.77	27.3	19.47	HORIZONTAL

PCS1900 Mode

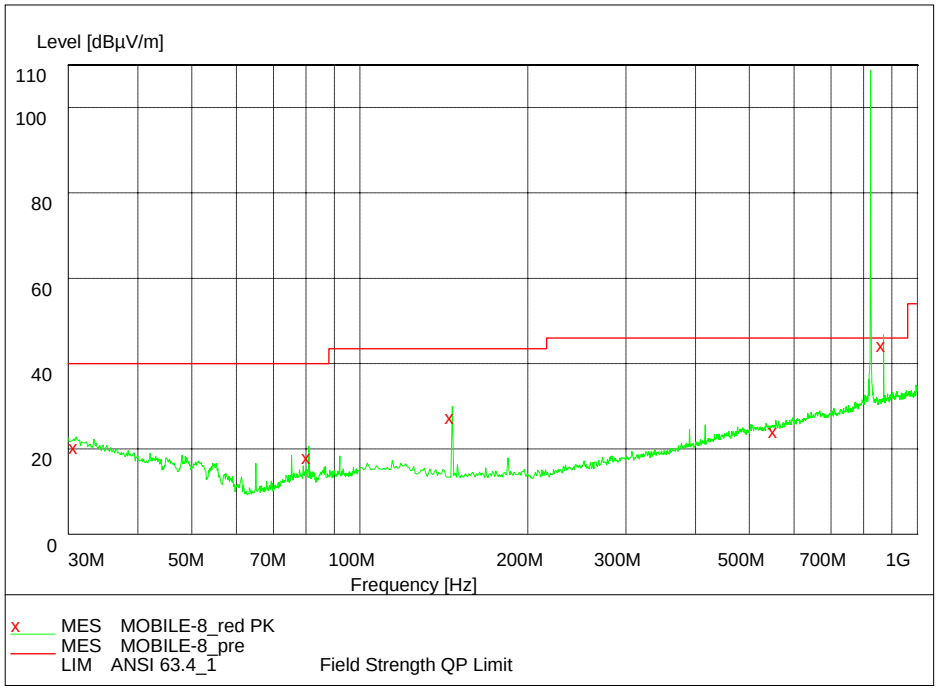
Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea} (dBuV/m)	Polarity
30.42	22.66	20.90	1.76	HORIZONTAL
51.60	17.30	9.40	7.90	HORIZONTAL
86.67	16.70	10.80	5.90	Vertical
113.62	16.09	12.70	3.39	HORIZONTAL
404.60	20.89	18.50	2.39	Vertical
489.57	23.79	21.00	2.79	HORIZONTAL

FM Radio Mode

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea} (dBuV/m)	Polarity
30.14	21.41	21.00	0.41	Vertical
87.51	13.27	10.80	2.47	Vertical
149.69	17.66	10.40	7.26	Vertical
482.36	24.94	20.90	4.04	Vertical
543.08	26.32	21.80	4.52	Horizontal
915.83	34.13	28.10	6.03	Vertical

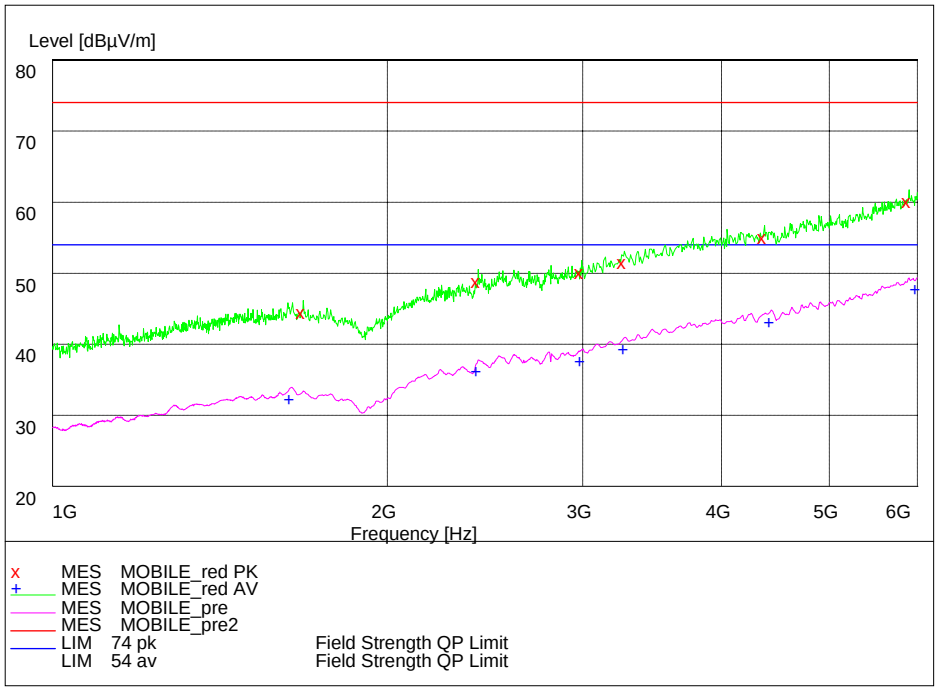
MP3/MP4 Mode

Frequency(MHz)	Result(dBuV/m)	A_{Rpl} (dB)	P_{mea} (dBuV/m)	Polarity
30.00	21.77	21.10	0.67	Vertical
87.79	14.11	10.80	3.31	Vertical
99.85	15.35	12.00	3.35	Vertical
467.13	23.93	20.40	3.53	Vertical
528.05	24.87	21.50	3.37	Horizontal
959.91	32.20	28.40	3.80	Vertical

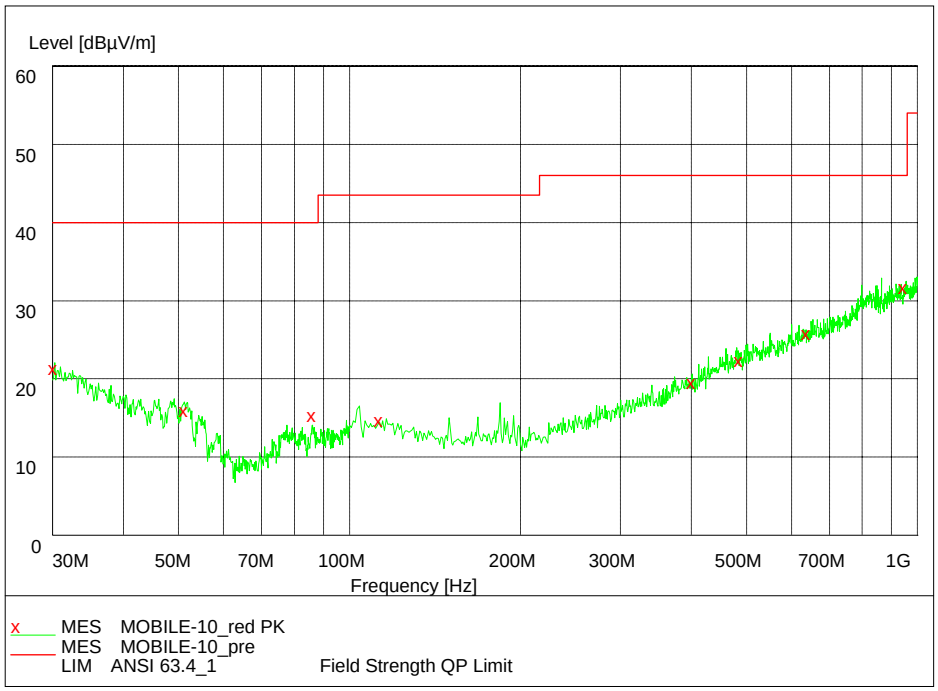


GSM850 (30MHz – 1GHz)

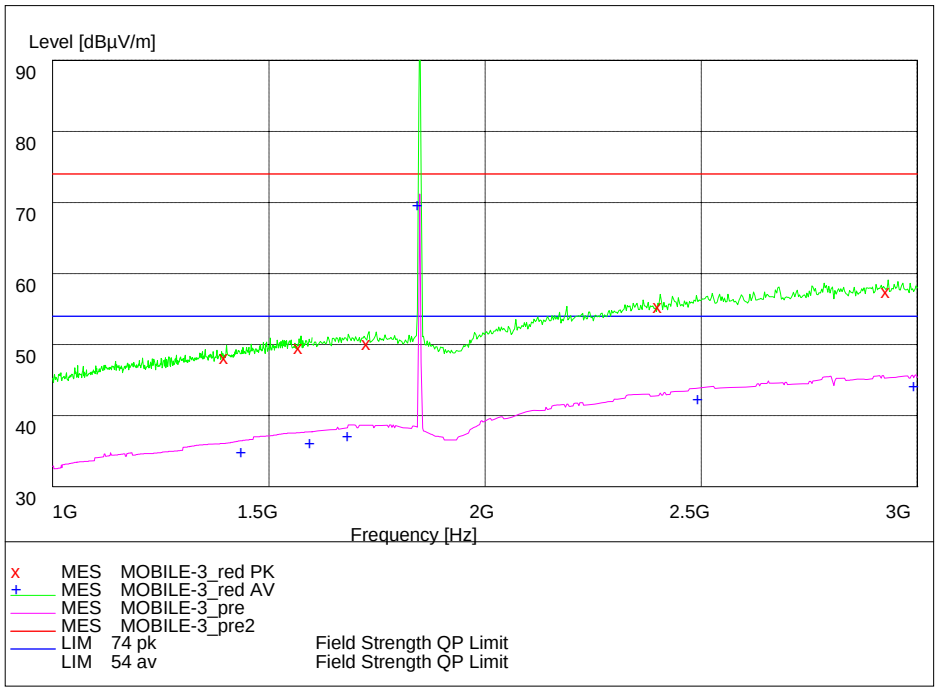
Note: The signal beyond the limit is the base station simulator carrier.



GSM850 (1GHz – 6GHz)

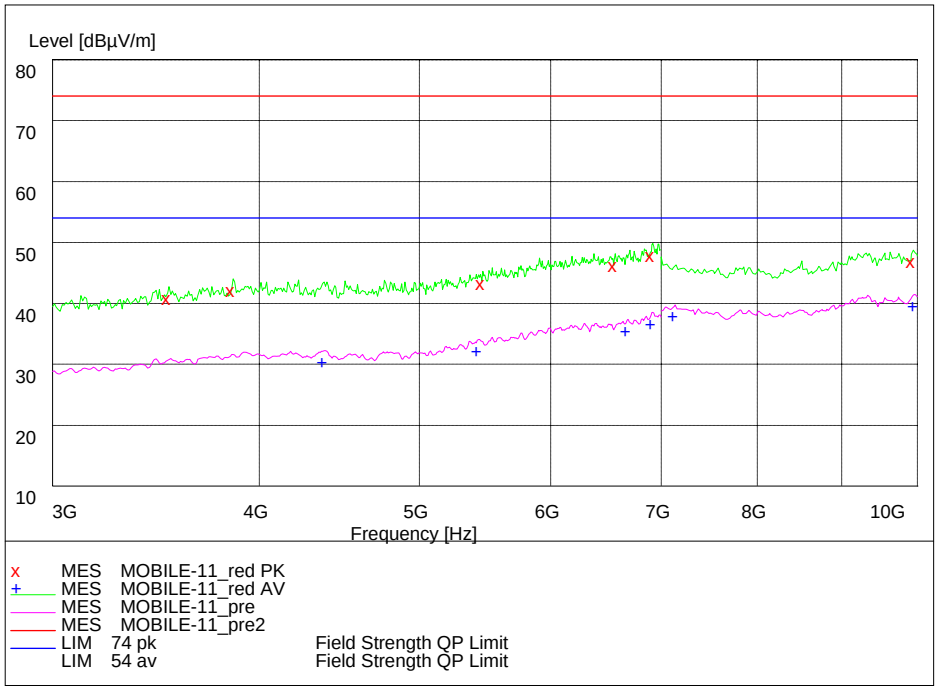


PCS1900 (30MHz – 1GHz)

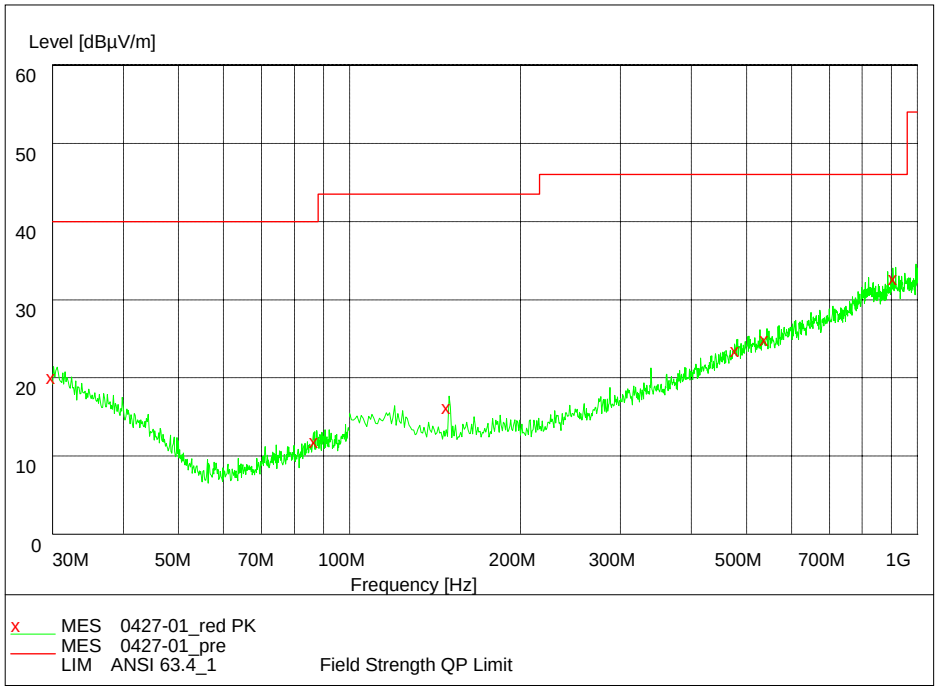


PCS1900 (1GHz – 3GHz)

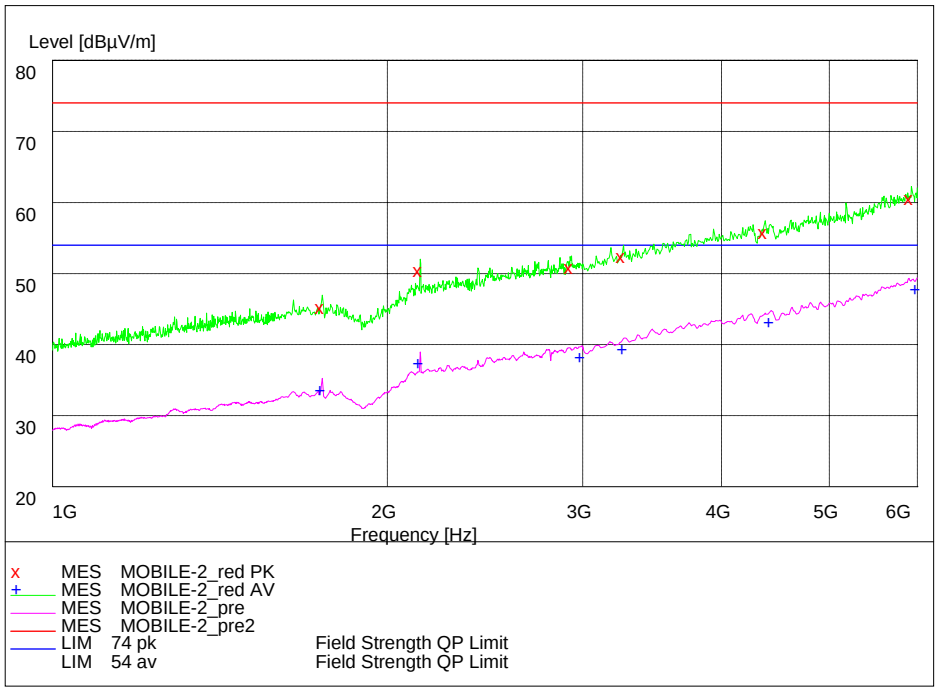
Note: The signals beyond the limit are the base station and simulator carrier.



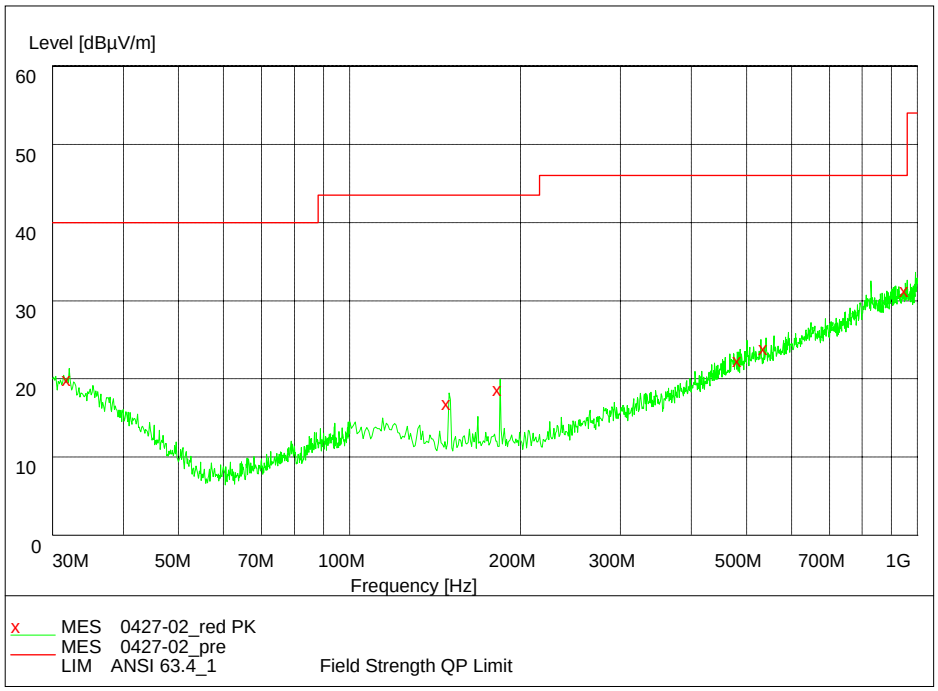
PCS1900 (3GHz – 10GHz)



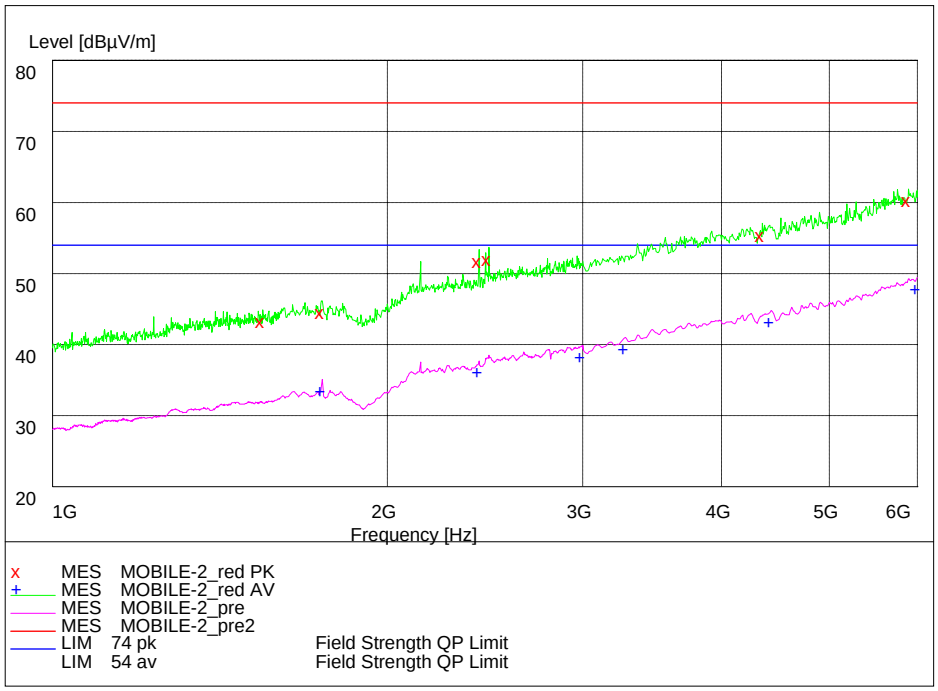
FM Radio (30MHz – 1GHz)



FM Radio (1GHz – 6GHz)



MP3/MP4 (30MHz – 1GHz)



MP3/MP4 (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	-----	20th Aug. 2015
2	ESI 40 EMI test receiver	R&S	100015	20th Aug. 2015
3	E5515C(8960) Mobile Station Tester	Agilent	GB44050904	20th Aug. 2015
4	9.080m×5.255m×3.525m Shielding room	FRANKONIA	-----	20th Aug. 2015
5	ESCS30 EMI test receiver	R&S	100029	20th Aug. 2015
6	HL562 Ultra log test antenna	R&S	100016	20th Aug. 2015
7	ESH3-Z2 Pulse limiter	R&S	10002	20th Aug. 2015
8	LS16C AMN	AFJ	16011306281	20th Aug. 2015
9	ESH2Z11 LISN	R&S	50FH-020-10	20th Aug. 2015
10	HF 906 Double-Ridged Waveguide Horn Antenna	R&S	100030	20th Aug. 2015
11	HF 906 Double-Ridged Waveguide Horn Antenna	R&S	100029	20th Aug. 2015
12	PS2000 Turn Table	FRANKONIA	-----	20th Aug. 2015
13	MA260 Antenna Master	FRANKONIA	-----	20th Aug. 2015
14	ES-K1EMI test software	R&S	-----	20th Aug. 2015
15	HL562 Receive antenna	R&S	100167	20th Aug. 2015

Appendix

Appendix1 Test Setup