

**SGS-CSTC Standards  
Technical Services  
(Shanghai)Co., Ltd.**

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Report No.: SHEMO10040047801  
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## **EMC TEST REPORT**

**Application No.:** SHEMO10040047801

**Applicant:** Lenovo Mobile Communication Technology LTD.

**Equipment Under Test (EUT):**

**NOTE:** The following sample(s) submitted was/were identified on behalf of the client as

**Product Name:** GSM Mobile

**Brand Name:** LENOVO

**Model Name:** A332

**Standards:** FCC PART 15:2008 Section B

**Date of Receipt:** April 30, 2010

**Date of Test:** May 4, 2010 to May 20, 2010

**Date of Issue:** May 24, 2010

<b>Test Result :</b>	<b>PASS*</b>
----------------------	--------------

\* In the configuration tested, the EUT complied with the standards specified above.



Tino Pan  
E&E Section Manager  
SGS-CSTC(Shanghai) Co., Ltd.



San Yuan  
E&E Project Engineer  
SGS-CSTC(Shanghai) Co., Ltd

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## 2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission 30MHz-1000MHz	CFR 47 Part 15.109	ANSI C63.4: 2003	Class B	PASS
Conducted Emission 150KHz-30MHz	CFR 47 Part 15.107	ANSI C63.4: 2003	Class B	PASS

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## 4 General Information

### 4.1 Client Information

Applicant: Lenovo Mobile Communication Technology LTD.  
Address of Applicant: No.999,Qishan North 2nd Road,Information&Optoelectronics Park,Torch Hi-tech Industry Development Zone,Xiamen,P.R.China P.C:361006  
Manufacturer: Lenovo Mobile Communication Technology LTD.  
Address of Manufacturer: No.999,Qishan North 2nd Road,Information&Optoelectronics Park,Torch Hi-tech Industry Development Zone,Xiamen,P.R.China P.C:361006

### 4.2 General Description of E.U.T.

Product Name: A332  
Brand Name: LENOVO  
Support Frequency Band: GSM 850/1900  
Hardware Version: Q58\_MB\_V1.0  
Software Version: a332\_ve\_s0003\_100512  
Charger Model:C-P14  
Input:AC100-240V 50/60Hz;Output:DC 5V,500mA

### 4.3 Details of support units

Name / Function	Model No.	Remark
N/A	N/A	N/A

### 4.4 Standards Applicable for Testing

The standards used were CFR 47 Part 15B:

**Table 1 : Tests Carried Out Under CFR 47 Part 15B :**

Standard	Status
FCC Part 15 Subpart B Radiated Emission	✓
FCC Part 15 Subpart B Conducted Emission	✓

× Indicates that the test is not applicable

✓ Indicates that the test is applicable

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## 4.5 Test Location

All the tests were performance at:

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## 4.6 Test Confident level

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L0599)**

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2011-07-29.

- **FCC – Registration No.: 402683**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2012-03-17.

- **Industry Canada (IC) – IC Assigned Code: 8617A**

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2011-09-29.

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3172 and C-3514 respectively. Date of Registration: 2009-11-30. Date of Expiry: 2012-03-17.

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## 5 Equipment Used during Test

### Radiated Emission

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due date
1	EMI test receiver	Rohde & Schwarz	ESU40	100109	2009-6-4	2010-6-3
2	ANTENNA	SCHWARZBECK	VULB9168	9168-313	2009-6-4	2010-6-3
3	ANTENNA	SCHWARZBECK	BBHA9120D	9120D-679	2009-6-4	2010-6-3
4	ANTENNA	SCHWARZBECK	BBHA9170	9170-373	2009-6-4	2010-6-3
5	TURNTABLE	INNCO	DS 2000S-1T	/	/	/
6	UNIVERSAL RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMU 200	112012	2009-08-25	2010-08-24

### Conducted Emission

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due date
1	EMI test receiver	Rohde & Schwarz	ESCS30	100086	2009-06-26	2010-06-25
2	Line impedance stabilization network	SCHWARZBECK	NSLK8127	8127-490	2009-07-30	2010-07-29
4	UNIVERSAL RADIO COMMUNICATION TESTER	Rohde & Schwarz	CMU 200	112012	2009-08-25	2010-08-24

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**General Equipment**

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal.Due date
1	Atmosphere pressure meter	Shanghai ZhongXuan Electronic Co;Ltd	BY-2003P	/	2009-10-15	2010-10-14
2	Digital Multimeter	FLUKE	17B	10560713	2009-09-16	2010-09-15
3	Thermo-Hygrometer	ZHICHEN	ZC1-2	01050033	2009-10-21	2010-10-20
4	Digital illuminance meter	TES electrical electronic Corp.	TES-1330A	050602219	2009-10-16	2010-10-15

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## 6 Emission Test Results

### 6.1 Radiated Emissions

Test Requirement:	CFR 47 Part 15.109
Test Method:	ANSI C63.4:2003
Test Date:	May 6, 2010
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m
Detector:	Peak for pre-scan (120kHz resolution bandwidth)
Result:	<b>PASS</b>

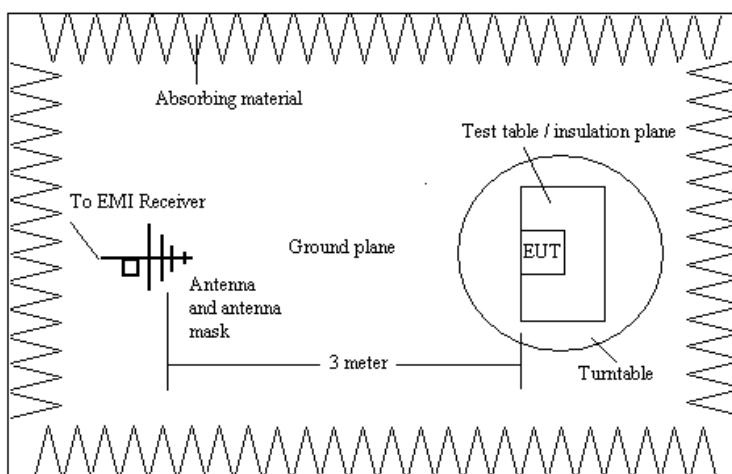
#### 6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C      Humidity: 45 % RH      Atmospheric Pressure: 1012 mbar

EUT Operation: Test EUT with charger and headphone in GSM 850/1900, BT & FM mode.

#### 6.1.2 Test setup:



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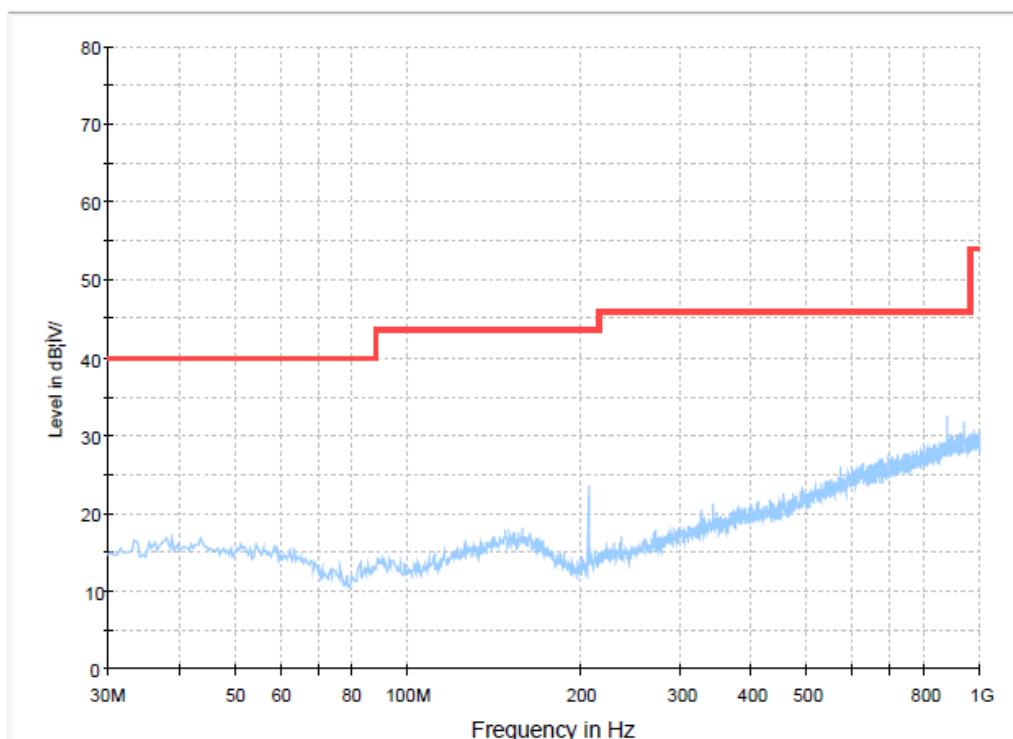
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**6.1.3 Measurement Data:**

Test in GSM 850 idle mode.

Horizontal(30MHz -1GHz)



Frequency (MHz)	Actual Level QP (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

“\*” means the emission level is 6dB lower than the relevant limit.

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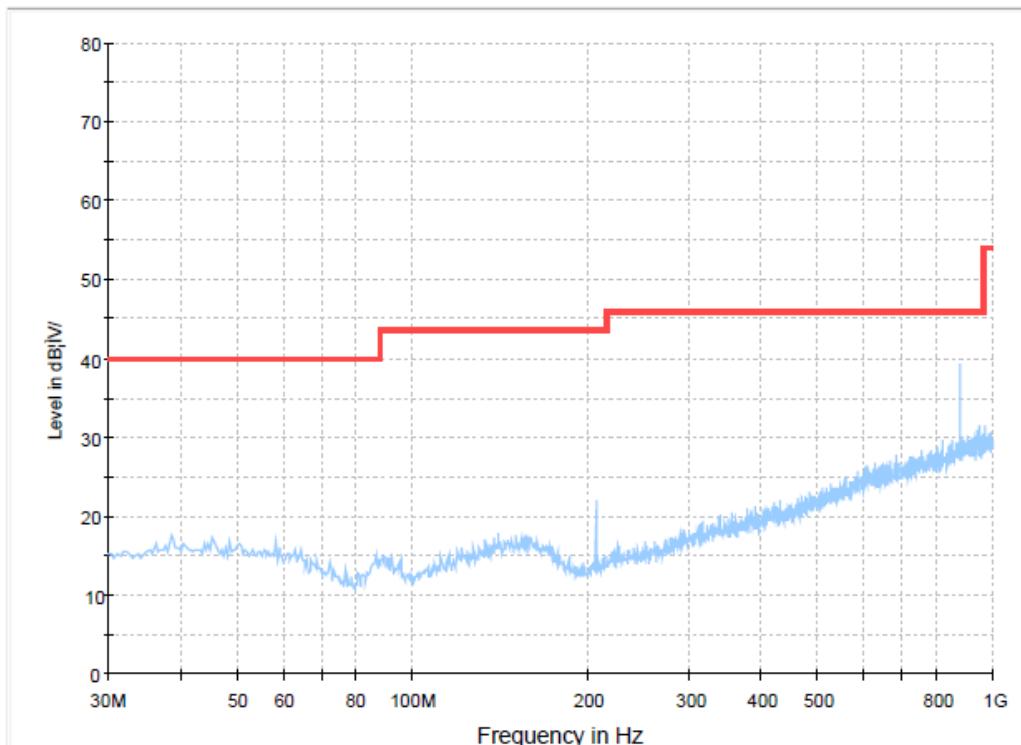
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Vertical (30MHz -1GHz):



Frequency (MHz)	Actual Level QP (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

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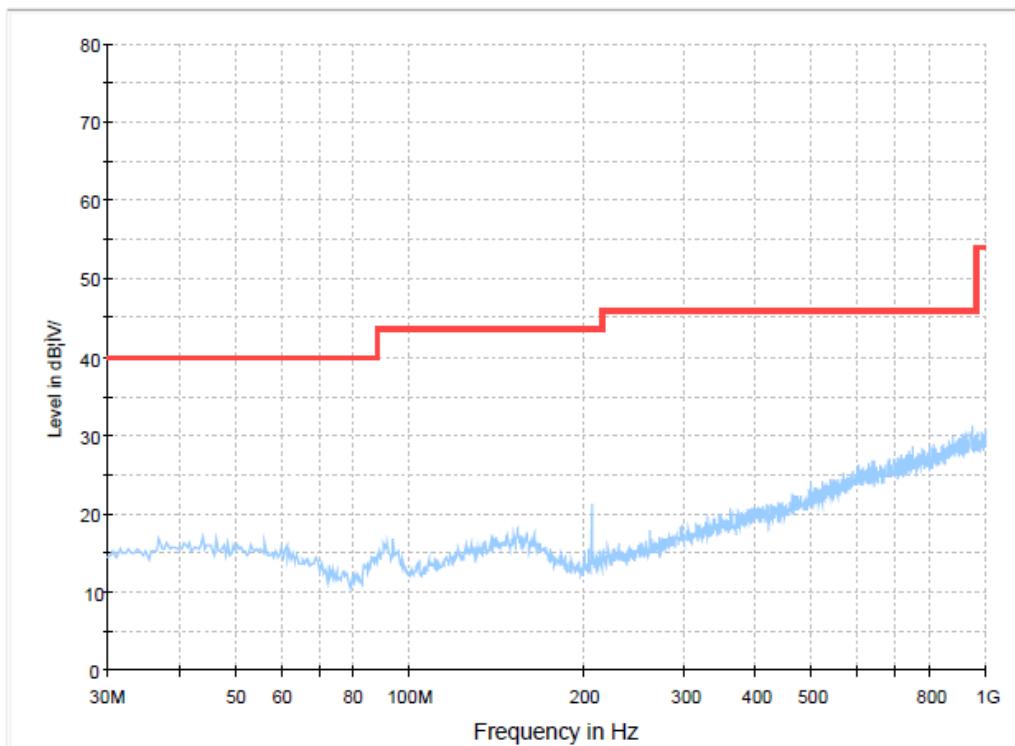
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Test in GSM 1900 idle mode.

Horizontal(30MHz -1GHz)



Frequency (MHz)	Actual Level QP		Limit (dBuV/m)	Margin (dB)
	(dBuV/m)	(dBuV/m)		
30.00	*		40.0	*
100.00	*		43.5	*
160.00	*		43.5	*
200.00	*		43.5	*
800.00	*		46.0	*
1000.00	*		54.0	*

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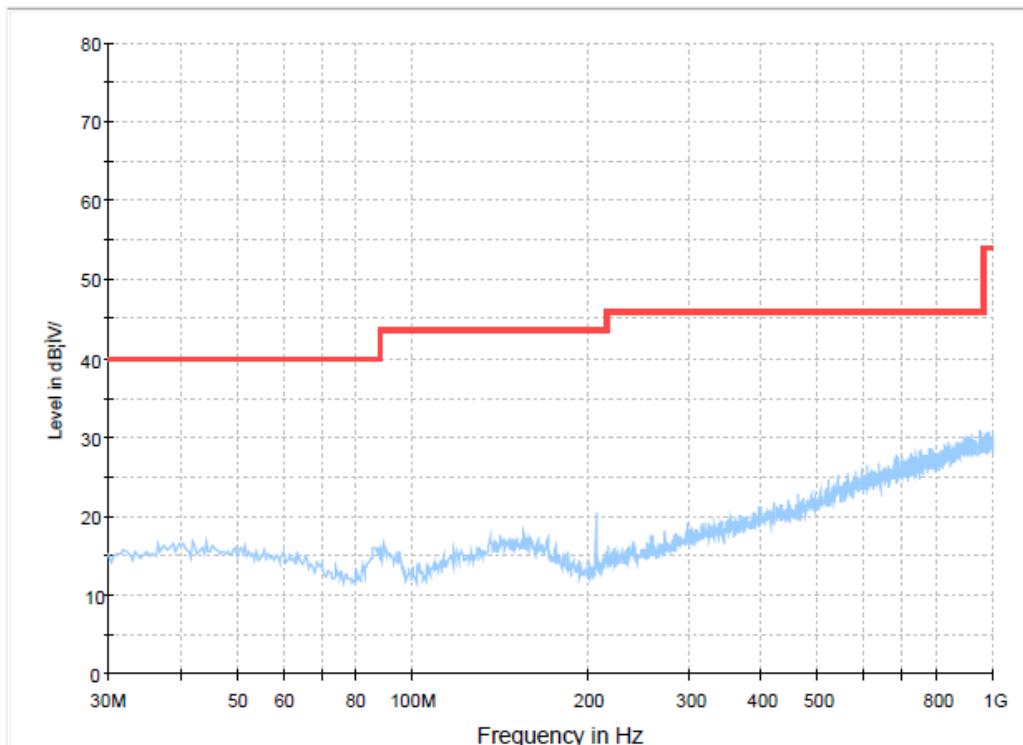
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Vertical (30MHz -1GHz):



Frequency (MHz)	Actual Level QP (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

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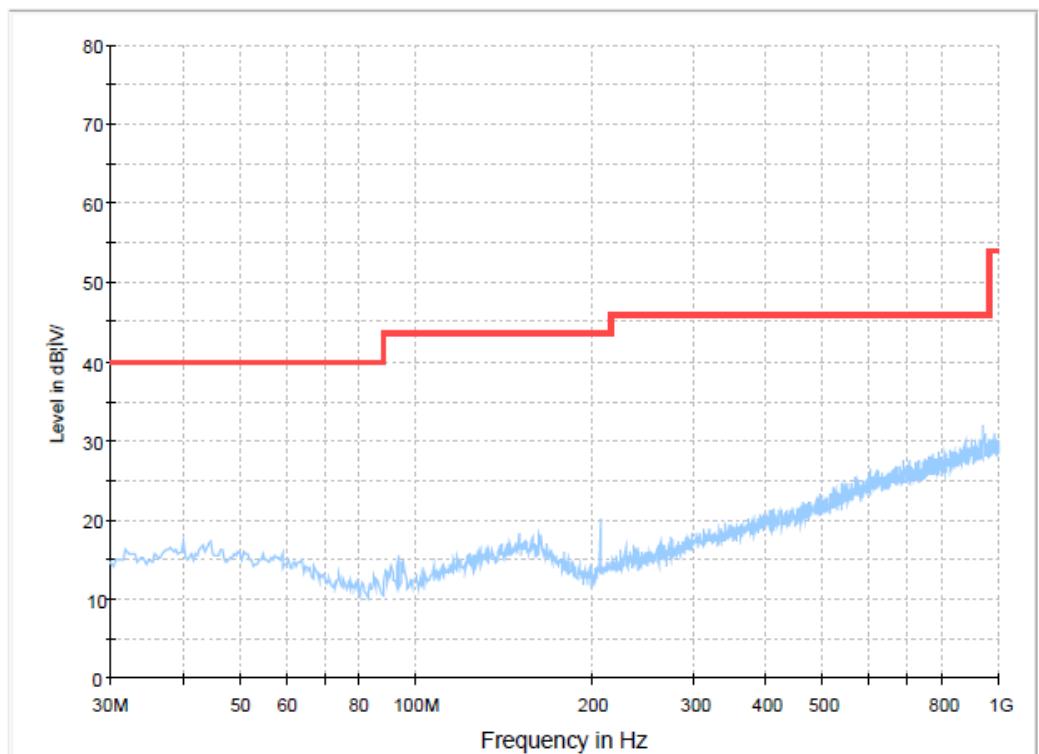
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Test in BT function mode.

Horizontal(30MHz -1GHz)



Frequency (MHz)	Actual Level QP (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

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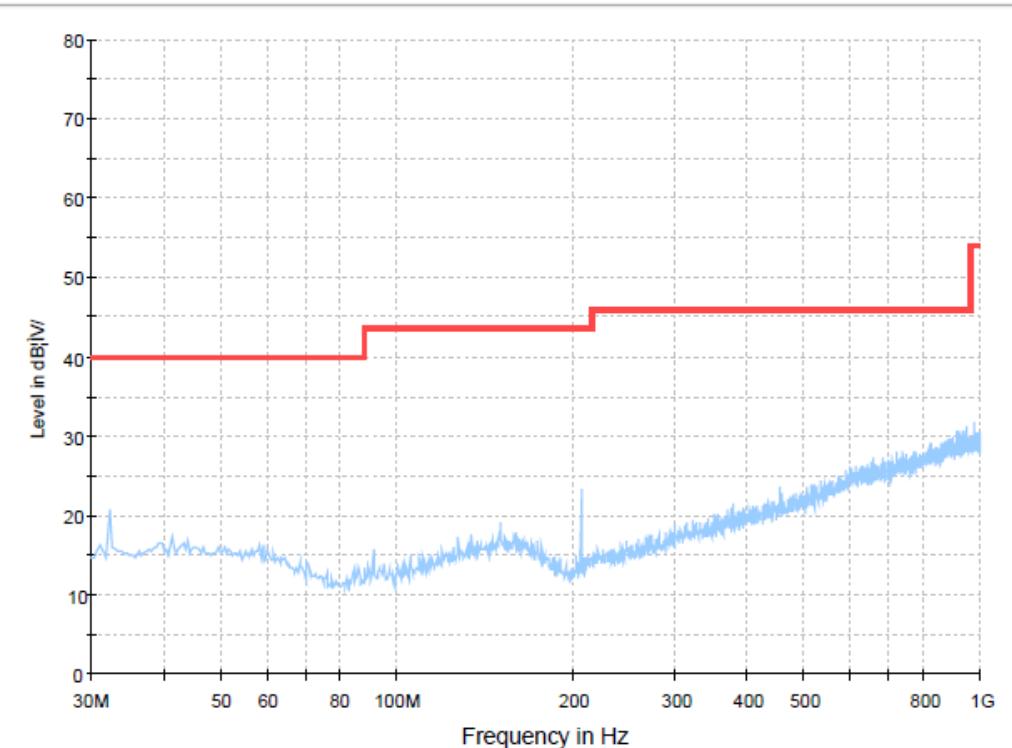
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Vertical(30MHz -1GHz)



Frequency (MHz)	Actual Level QP		Limit (dBuV/m)	Margin (dB)
	(MHz)	(dBuV/m)		
30.00	*		40.0	*
100.00	*		43.5	*
160.00	*		43.5	*
200.00	*		43.5	*
800.00	*		46.0	*
1000.00	*		54.0	*

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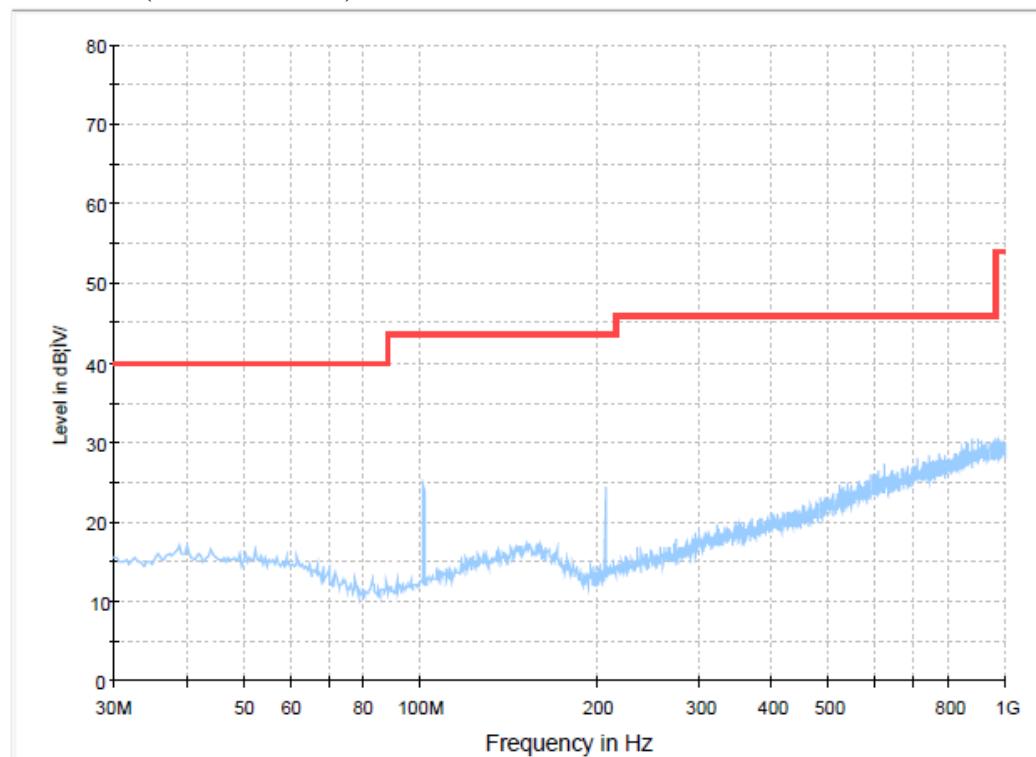
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Test in FM function mode.

Horizontal(30MHz -1GHz)



Frequency (MHz)	Actual Level QP (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

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(Shanghai)Co., Ltd.**

588 West Jindu Road, Songjiang District, Shanghai, China

Report No.: SHEMO10040047801

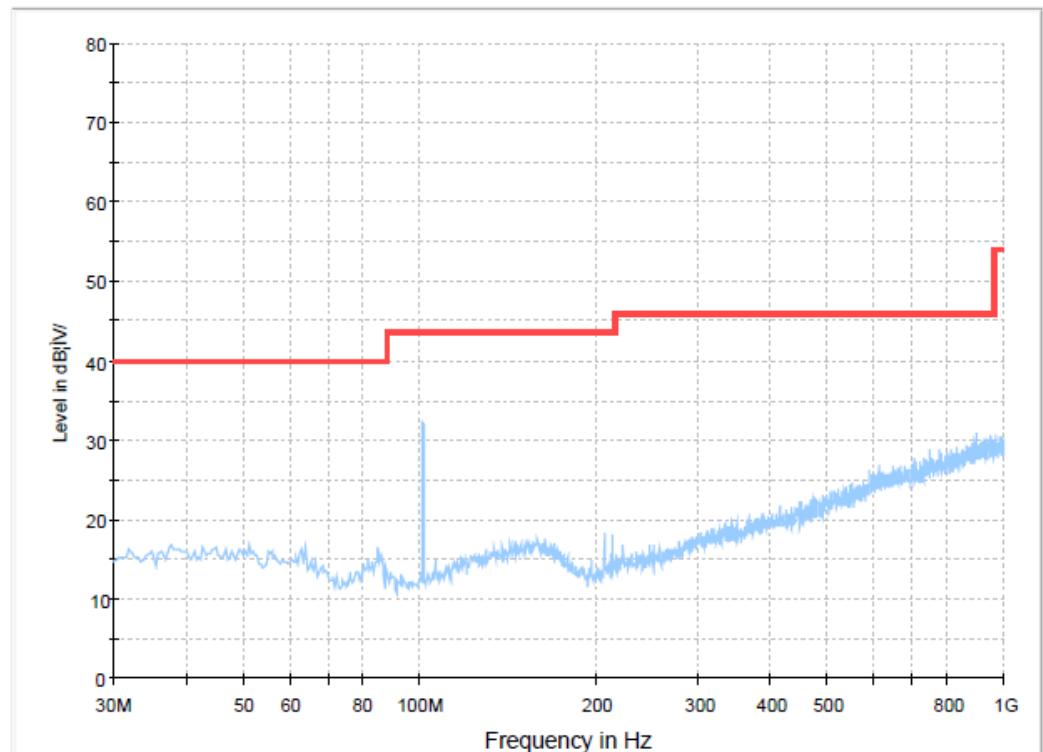
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Telephone: +86 (0) 21 6191 5666

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Vertical(30MHz -1GHz)



Frequency (MHz)	Actual Level QP (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.00	*	40.0	*
100.00	*	43.5	*
160.00	*	43.5	*
200.00	*	43.5	*
800.00	*	46.0	*
1000.00	*	54.0	*

“\*” means the emission level is 6dB lower than the relevant limit.

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## 6.2 Conducted Emissions

Test Requirement: CFR 47 part 15.107

Test Method: ANSI C63.4:2003

Test Date: May 6, 2010

Frequency Range: 150kHz to 30MHz

Limit:

Frequency of Emission (MHz)	Conducted Limit (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

\* Decreases with the logarithm of the frequency.

Result:

**PASS**

### 6.2.1 E.U.T. Operation

Operating Environment:

Temperature: 23.0°C Humidity: 45% RH Atmospheric Pressure: 1012 mbar

EUT Operation: Test EUT with charger and headphone in GSM 850/1900, BT & FM mode.

### 6.2.2 Test Result and Measurement Data

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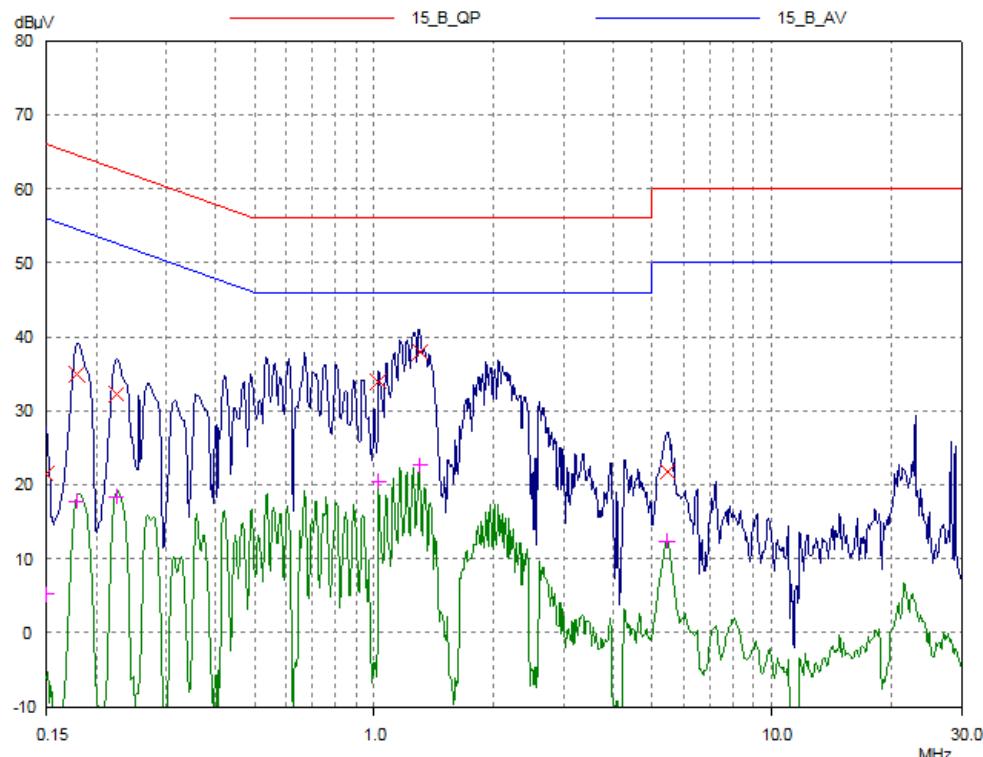
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GSM 850 idle mode.

L Line:



Final Measurement Results

Frequency MHz	QP Level dB $\mu$ V	QP Limit dB $\mu$ V	QP Delta dB
0.15	21.43	66.00	44.57
0.17874	34.98	64.54	29.56
0.2252	32.27	62.62	30.35
1.02348	33.90	56.00	22.10
1.29985	37.95	56.00	18.05
5.45495	21.76	60.00	38.24

Frequency MHz	AV Level dB $\mu$ V	AV Limit dB $\mu$ V	AV Delta dB
0.15	5.18	56.00	50.82
0.17874	17.73	54.54	36.81
0.2252	18.33	52.62	34.29
1.02348	20.49	46.00	25.51
1.29985	22.63	46.00	23.37
5.45495	12.33	50.00	37.67

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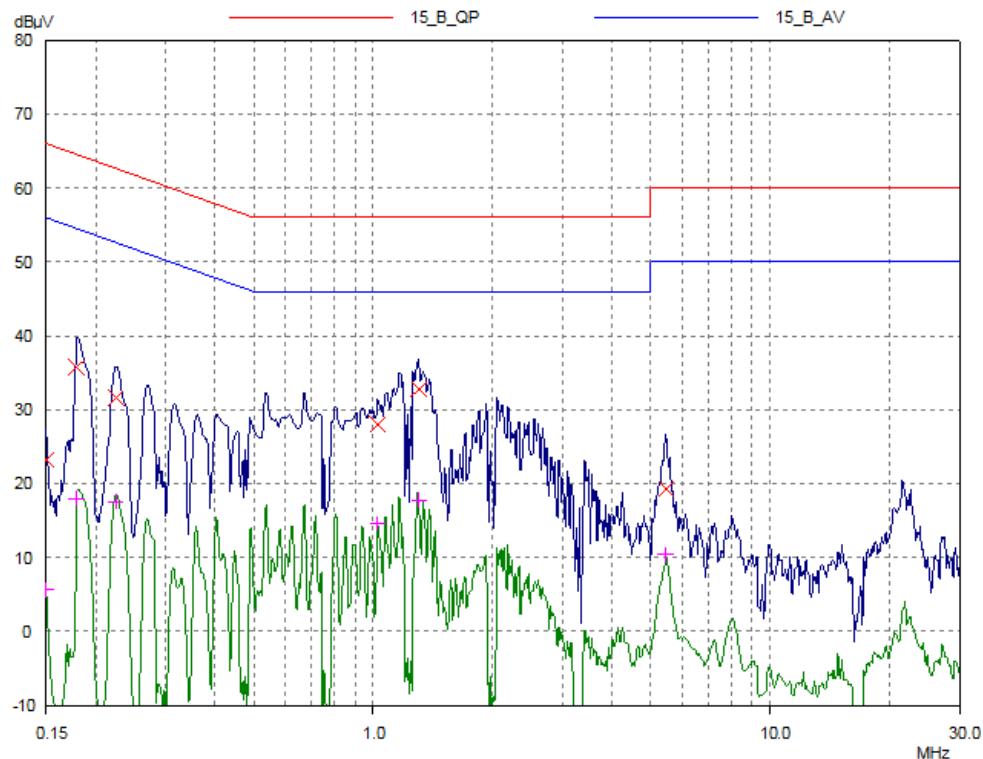
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N Line:



## Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB
0.15	23.19	66.00	42.81
0.17874	35.71	64.54	28.83
0.2252	31.56	62.62	31.06
1.02348	28.04	56.00	27.96
1.29985	32.77	56.00	23.23
5.45495	19.22	60.00	40.78

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB
0.15	5.63	56.00	50.37
0.17874	18.02	54.54	36.52
0.2252	17.53	52.62	35.09
1.02348	14.59	46.00	31.41
1.29985	17.79	46.00	28.21
5.45495	10.41	50.00	39.59

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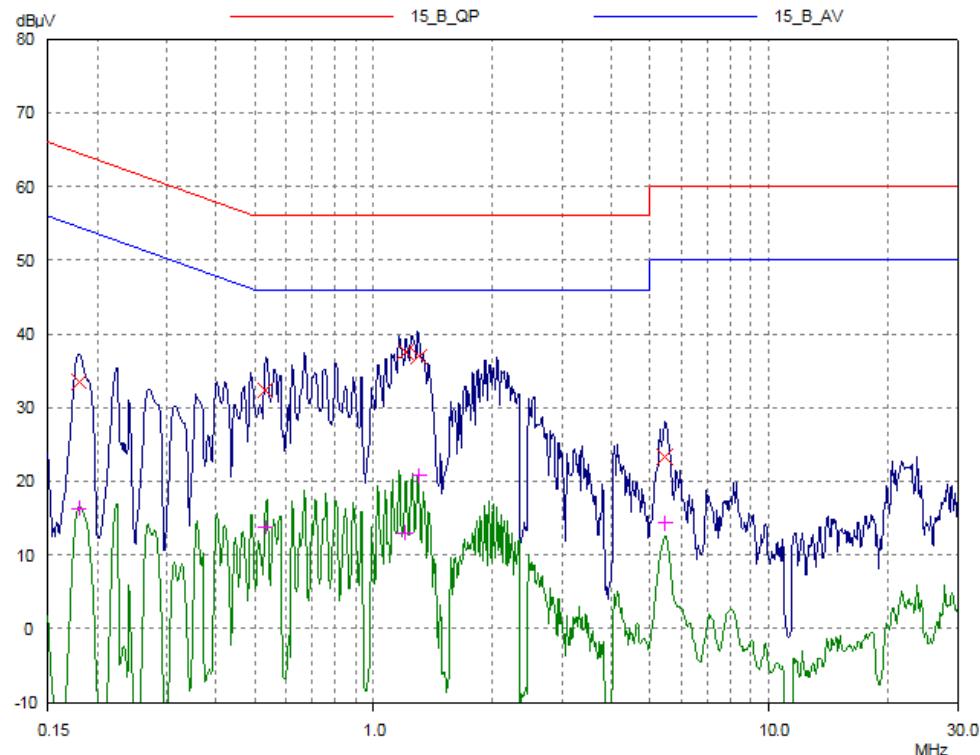
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**GSM 1900 idle mode**

**L Line:**



**Final Measurement Results**

Frequency MHz	QP Level dB $\mu$ V	QP Limit dB $\mu$ V	QP Delta dB
0.18017	33.54	64.48	30.94
0.53249	32.35	56.00	23.65
1.2003	37.55	56.00	18.45
1.29985	36.98	56.00	19.02
5.45495	23.32	60.00	36.68

Frequency MHz	AV Level dB $\mu$ V	AV Limit dB $\mu$ V	AV Delta dB
0.18017	16.29	54.48	38.19
0.53249	13.75	46.00	32.25
1.2003	12.92	46.00	33.08
1.29985	20.74	46.00	25.26
5.45495	14.29	50.00	35.71

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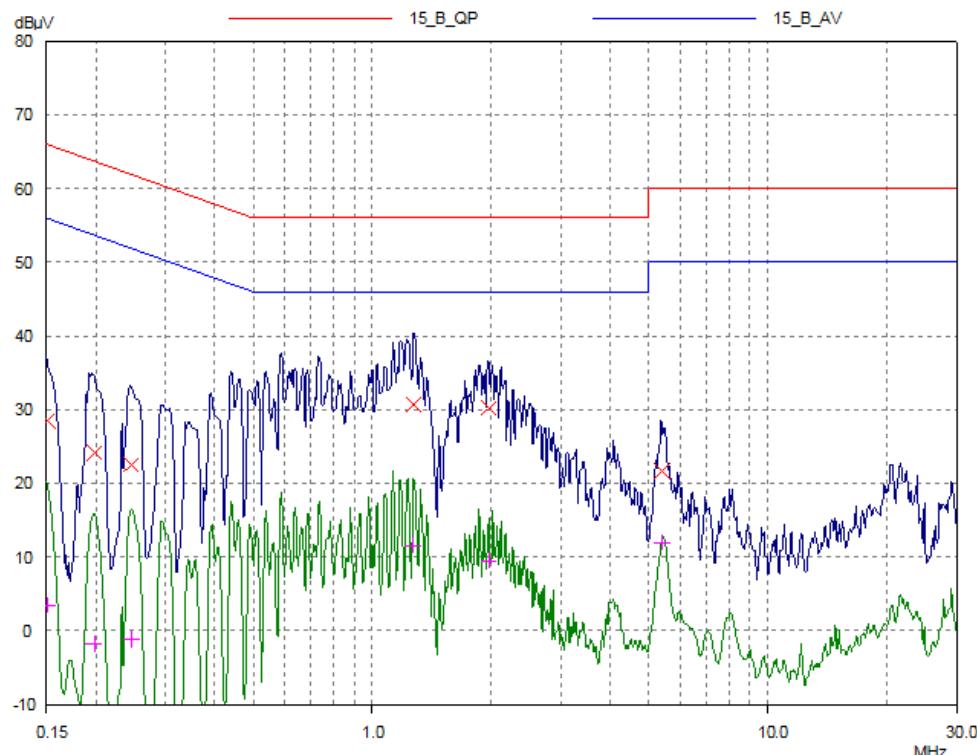
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**BT function mode**

**L Line:**



**Final Measurement Results**

Frequency MHz	QP Level dB $\mu$ V	QP Limit dB $\mu$ V	QP Delta dB
0.1512	28.52	65.93	37.41
0.19824	24.13	63.68	39.55
0.24583	22.56	61.90	39.34
1.26915	30.75	56.00	25.25
1.96717	30.21	56.00	25.79
5.41166	21.67	60.00	38.33

Frequency MHz	AV Level dB $\mu$ V	AV Limit dB $\mu$ V	AV Delta dB
0.1512	3.45	55.93	52.48
0.19824	-1.77	53.68	55.45
0.24583	-1.23	51.90	53.13
1.26915	11.53	46.00	34.47
1.96717	9.43	46.00	36.57
5.41166	11.93	50.00	38.07

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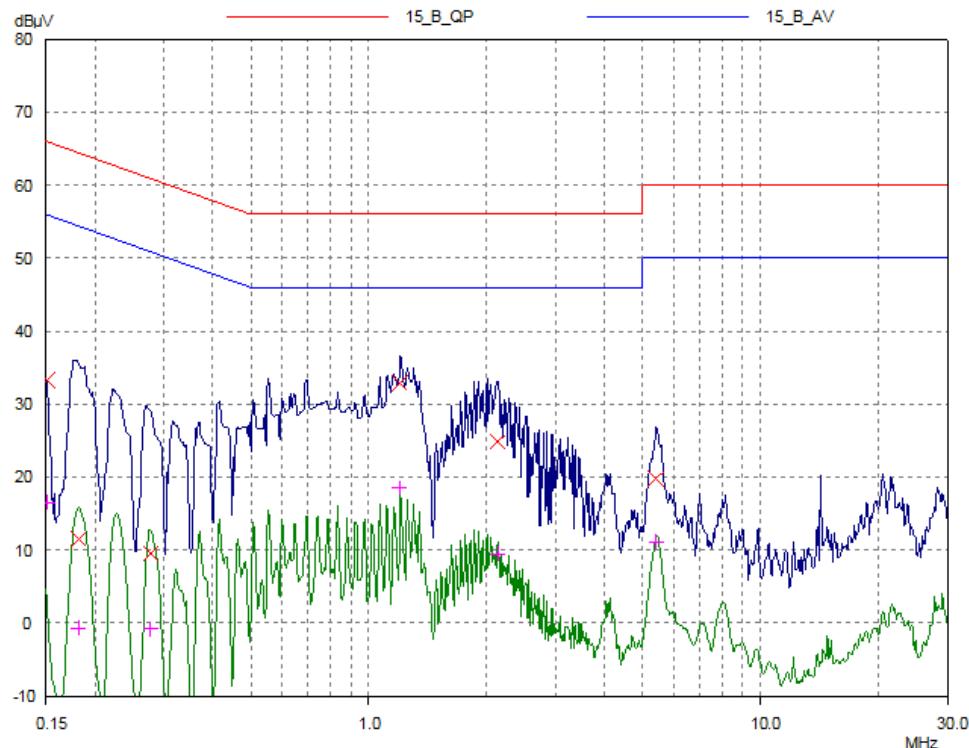
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**N Line:**



**Final Measurement Results**

Frequency MHz	QP Level dB $\mu$ V	QP Limit dB $\mu$ V	QP Delta dB
------------------	------------------------	------------------------	----------------

0.1512	33.22	65.93	32.71
0.18161	11.55	64.41	52.86
0.27704	9.53	60.90	51.37
1.2003	32.87	56.00	23.13
2.13033	24.85	56.00	31.15
5.41166	19.78	60.00	40.22

Frequency MHz	AV Level dB $\mu$ V	AV Limit dB $\mu$ V	AV Delta dB
------------------	------------------------	------------------------	----------------

0.1512	16.57	55.93	39.36
0.18161	-0.70	54.41	55.11
0.27704	-0.85	50.90	51.75
1.2003	18.54	46.00	27.46
2.13033	9.54	46.00	36.46
5.41166	11.18	50.00	38.82

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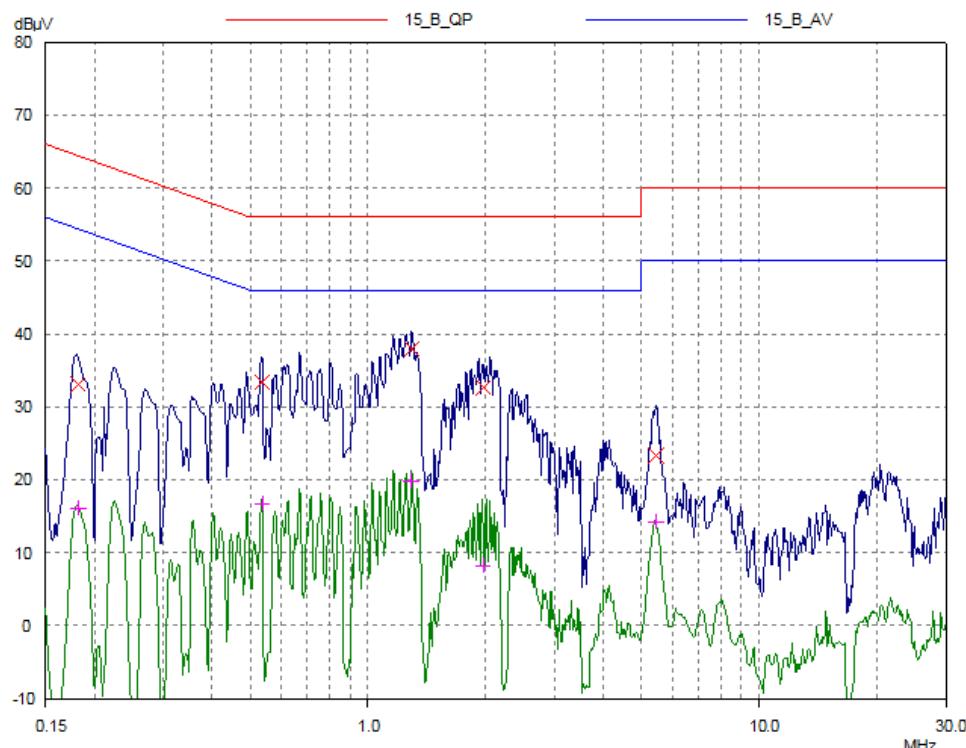
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**FM function mode**

**L Line:**



**Final Measurement Results**

Frequency MHz	QP Level dB $\mu$ V	QP Limit dB $\mu$ V	QP Delta dB
0.18161	33.06	64.41	31.35
0.53675	33.38	56.00	22.62
1.28954	37.98	56.00	18.02
1.96717	32.64	56.00	23.36
5.45495	23.34	60.00	36.66

Frequency MHz	AV Level dB $\mu$ V	AV Limit dB $\mu$ V	AV Delta dB
0.18161	15.98	54.41	38.43
0.53675	16.73	46.00	29.27
1.28954	19.80	46.00	26.20
1.96717	8.20	46.00	37.80
5.45495	14.24	50.00	35.76

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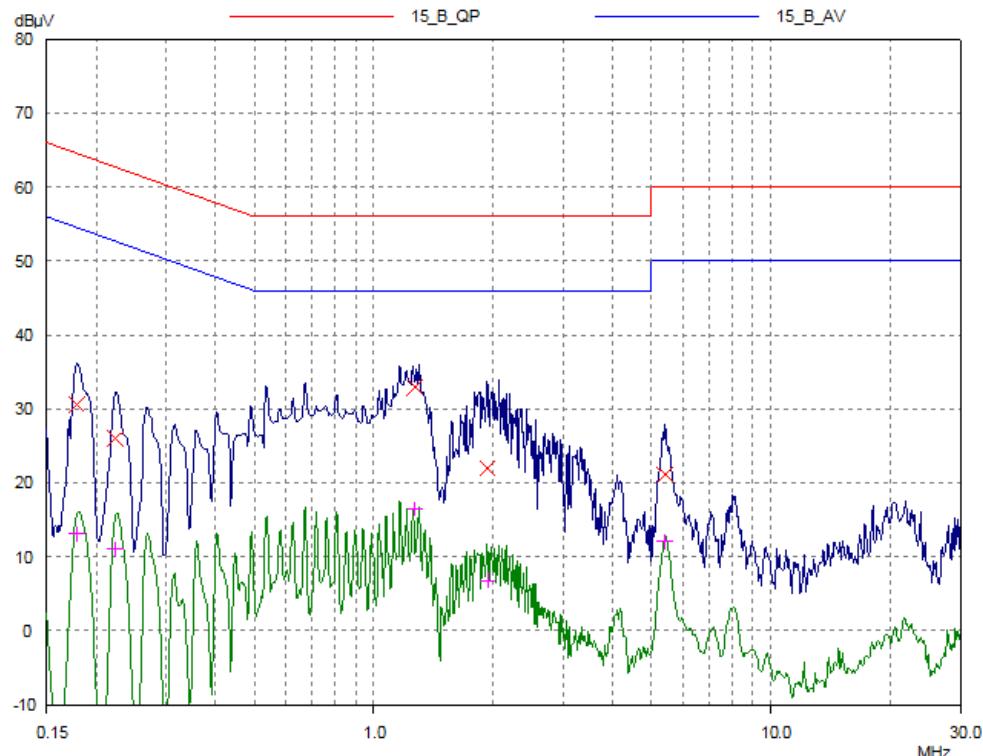
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**N Line:**



**Final Measurement Results**

Frequency MHz	QP Level dB $\mu$ V	QP Limit dB $\mu$ V	QP Delta dB
------------------	------------------------	------------------------	----------------

0.17874	30.62	64.54	33.92
0.22341	25.97	62.69	36.72
1.26915	32.90	56.00	23.10
1.93607	21.98	56.00	34.02
5.41166	21.11	60.00	38.89

Frequency MHz	AV Level dB $\mu$ V	AV Limit dB $\mu$ V	AV Delta dB
------------------	------------------------	------------------------	----------------

0.17874	13.07	54.54	41.47
0.22341	10.97	52.69	41.72
1.26915	16.43	46.00	29.57
1.93607	6.71	46.00	39.29
5.41166	12.08	50.00	37.92

***End of Report~***

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