

**SGS-CSTC Standards
Technical Services Co., Ltd.**

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FCC TEST REPORT(DOC)

Application No.: SHEMO060400262IT

Applicant: E28

Equipment Under Test (EUT):

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

EUT Name: GSM Mobile Phone

Model No.: R2811

Marketing Name: Rainbow

Item No.: Not supplied by client

Serial No.: Not supplied by client

Standards: CFR 47 part 2: 2004,
CFR 47 Part 15: 2005,
ANSI C63.4: 2003

Date of Receipt: 17 April 2006

Date of Test: 19 April 2006 to 19 May 2006

Date of Issue: 25 May 2006

Test Result :	PASS
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Authorized Signature:



Tino Pan
E&E Section Head
SGS-CSTC Co., Ltd.



Jacky Cao
E&E Project Engineer
SGS-CSTC Co., Ltd

This report refers to the General Conditions for Inspection and Testing Services, printed overleaf

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the SGS PRODUCT CERTIFICATION MARK.. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

All test results in this report can be traceable to National or International Standards.

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2 Test Summary

Test	Test Requirement	Test Method	Class / Severity	Result
Radiated Emission 30MHz-1000MHz	CFR 47 Part 15	ANSI C63.4: 2003	Class B	PASS
Conducted Emission 150KHz-30MHz	CFR 47 Part 15	ANSI C63.4: 2003	Class B	PASS

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4 General Information

4.1 Client Information

Applicant: E28 LTD
Address of Applicant: 689 Beijing east road 2nd

4.2 General Description of E.U.T.

EUT Name: GSM Mobile Phone
Model No.: R2811
Marketing Name: Rainbow
GSM Frequency Bands GSM850/PCS1900

4.3 Details of E.U.T.

Power Supply Model no: PSC05R-050(YR)-R
input: AC Input Voltage rating: 100VAC to 240VAC
Power Cord 2m
Headset Model no: EARPHONE - MIC (ME-818C)
Manufacturer: MINAMI AUDIO EQUIPMENT CO.,LTD
USB Model no: RT-C122.
Manufacturer: Salom
Battery Model no: LI R281.
Manufacturer: Desay

4.4 Description of Support Units

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

4.5 Standards Applicable for Testing

The customer requested EMC tests for a GSM Mobile Phone.

The standards used was CFR 47 part 2: 2004 and CFR 47 part 15: 2005:

Table 1 : Tests Carried Out Under CFR 47 Part 15: 2005 :

Standard		Status
FCC Part 15 Subpart B: 2005	Radiated Emission	√
FCC Part 15 Subpart B: 2005	Conducted Emission	√

× Indicates that the test is not applicable
√ Indicates that the test is applicable

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4.6 Test Location

Radiated Emission was performed at:

SIMT EMC Laboratory, 1/F, Building No.1, Agriculture Machinery Materials Company
No.716 Yi shan Road, Shanghai, P.R.China.
Tel: +86 21 64701390 Fax: +86 21 64514252

Conducted Emission was performed at SGS E&E EMC lab

SGS-CSTC EMC Laboratory, No.889 Yishan Road, Shanghai, P.R.China
Tel:+86 21 61402666 Fax: +86 21 54500954

4.6 Deviation from Standards

None.

4.7 Abnormalities from Standard Conditions

None.

4.8 Monitoring of EUT for All Immunity Test

N/A

4.9 Test Confident level

Test Confident level is recognized, certified, or accredited by the following organizations:

NVLAP – Lab Code: 200632-0

SIMT EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST).
NVLAP Code: 200632-0. Effective through December 31, 2004.

VCCI

The 10m Semi-anechoic chamber and Shielded Room of SIMT have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: 1153.
Date of Registration: May 29, 2004. Valid until May 18, 2007

CNAL – LAB Code: L0134

SIMT EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.

FCC – Registration No.: 142171

SIMT EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 142171, December 9, 2002. With the above and NVLAP, SIMT is an authorized test laboratory for the DoC process.

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5 Equipments Used during Test

Radiated Emission Test in Chamber CFR 47 part 15: 2005

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Date
1	HORN ANTENNA	R&S	HF 906	100023	2005.07.24	2006.07.23
2	BROADBAND ANTENNA	R&S	HL 562	100019	2005.10.10	2006.10.09
3	EMI TEST RECEIVER	R&S	ESI 26	838786/011	2005.08.13	2006.08.13
4	UNIVERSAL RADIO COMMUNICATION TESTER	R&S	CMU 200	SHEM04-1	2005.09.01	2006.08.31

Conducted Emission CFR 47 part 15: 2005

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Date
1	EMI TEST RECEIVER	R&S	ESCS 30	100070	2005.08.28	2006.08.27
2	ARTIFICIAL MAINS NETWORK	R&S	ESH2-Z5	100030	2005.09.19	2006.09.18
3	UNIVERSAL RADIO COMMUNICATION TESTER	R&S	CMU 200	SHEM04-1	2005.09.01	2006.08.31

General Equipment

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Date
1	Temperature, Humidity & Barometer	Oregon Scientific	BA-888	EMC0001 to EMC0004	2005.07.25	2006.07.24
2	DMM	Fluke	73	70681569 or 70671122	2005.07.23	2006.07.22

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6 Emission Test Results

6.1 Radiated Emissions, 30MHz to 1GHz

Test Requirement:	CFR 47 Part 15
Test Method:	ANSI C63.4, CISPR 22
Test Date:	25 April 2006 to 25 May 2006
Frequency Range:	30MHz to 1GHz
Measurement Distance:	3m for ANSI C63.4 and 10m for CISPR 22
Class:	N/A
Detector:	Peak for pre-scan (120kHz resolution bandwidth)

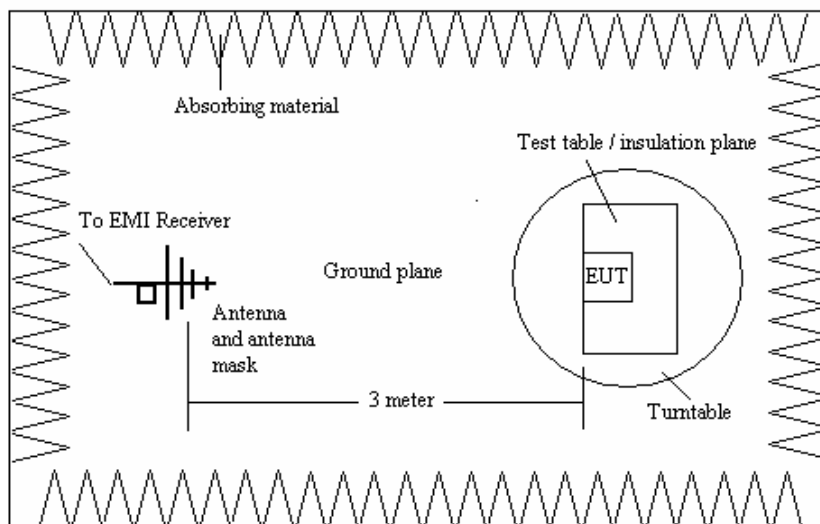
6.1.1 E.U.T. Operation

Operating Environment:

Temperature: 25.0 °C Humidity: 55 % RH Atmospheric Pressure: 1004 mbar

EUT Operation: EUT allocated channel mode Charging, GSM850, PCS 1900 with headset.

6.1.2 Test setup:



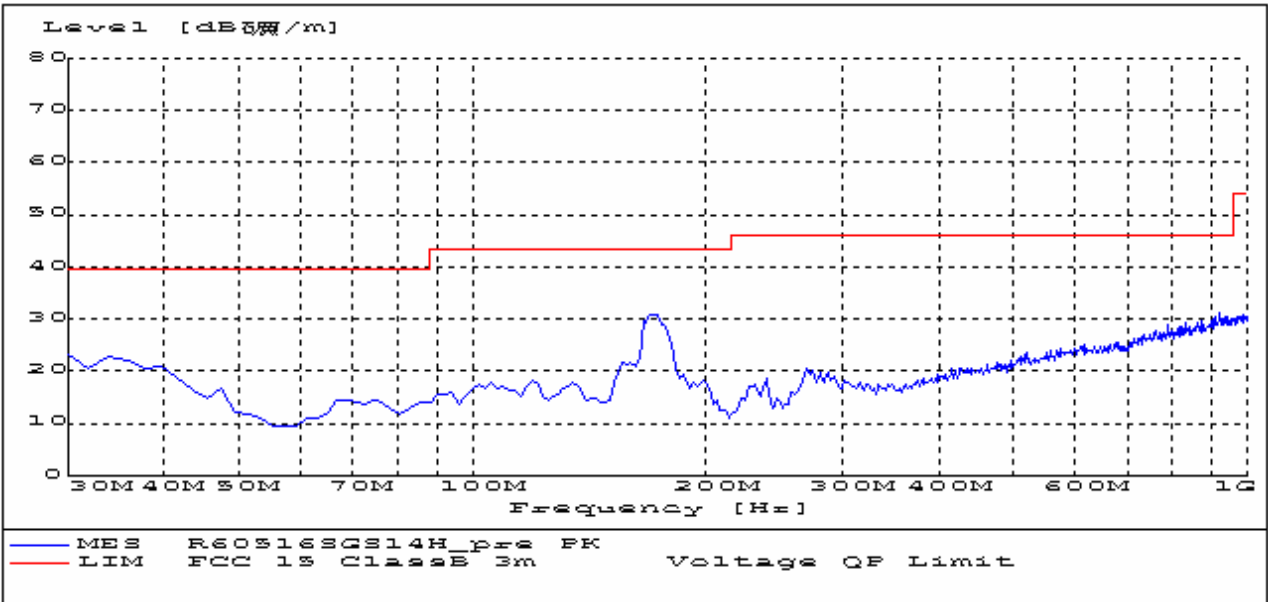
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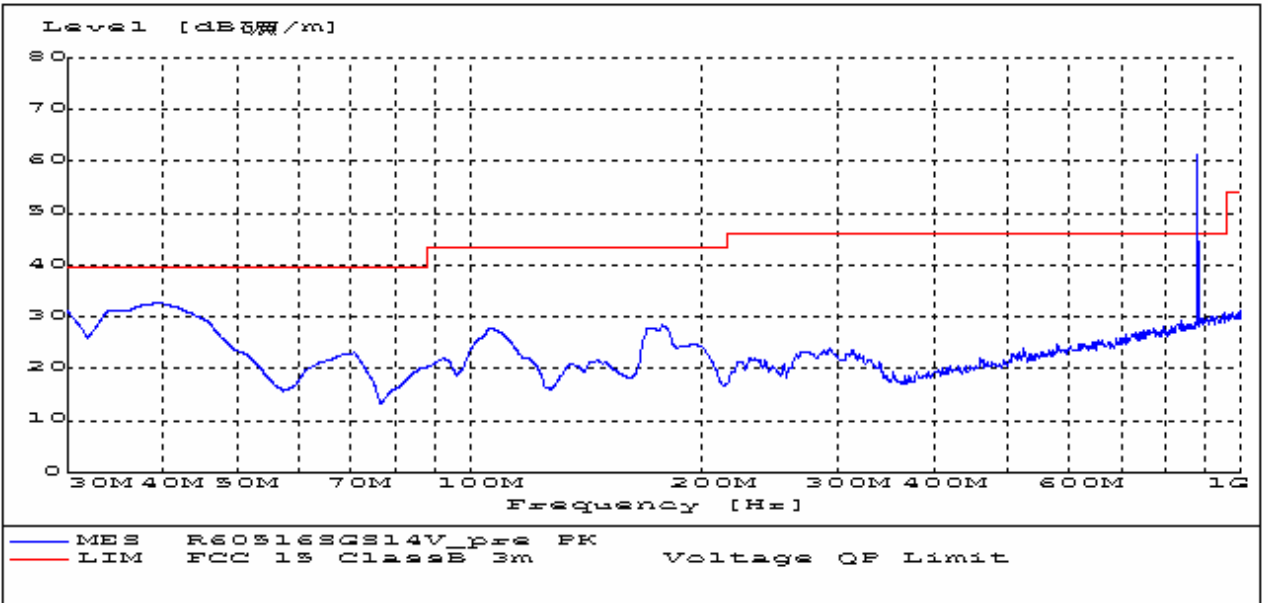
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6.1.3 Test Result:
GSM 850 communicating with headset and adapter
Horizontal:



Vertical



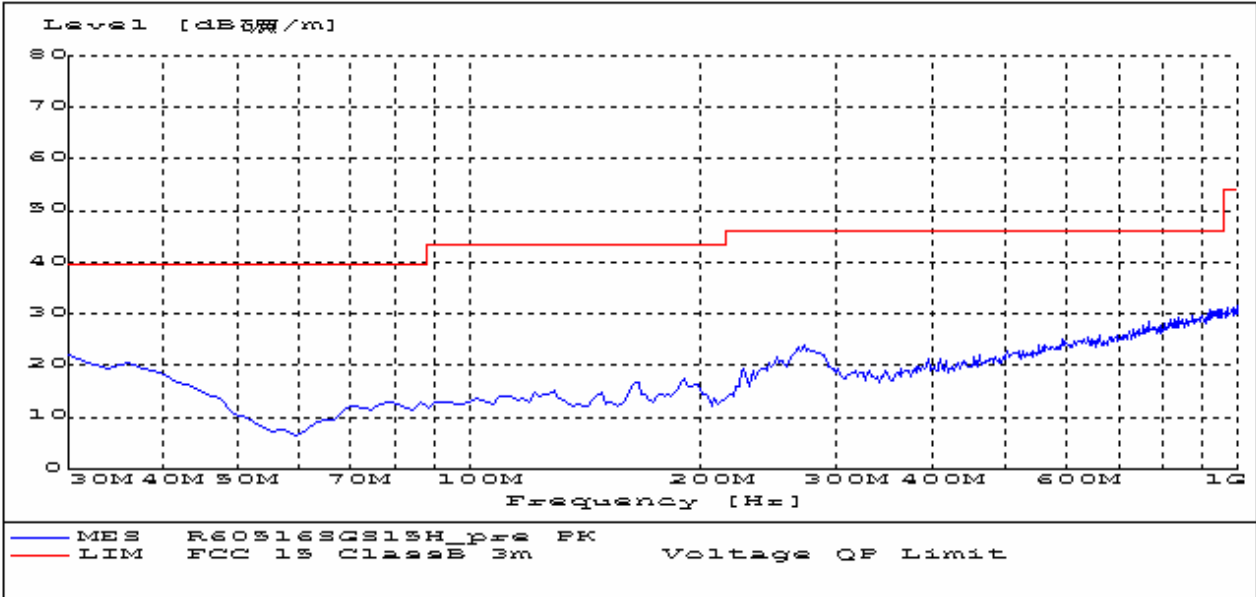
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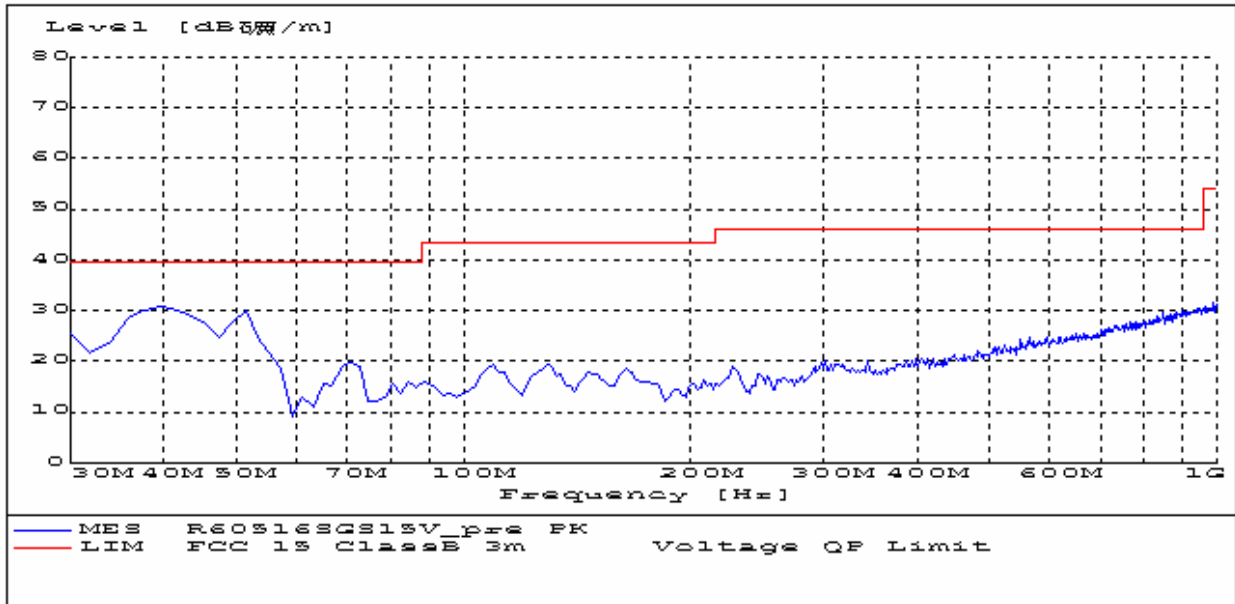
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PCS1900 communicating with headset and adapter
Horizontal:



Vertical:



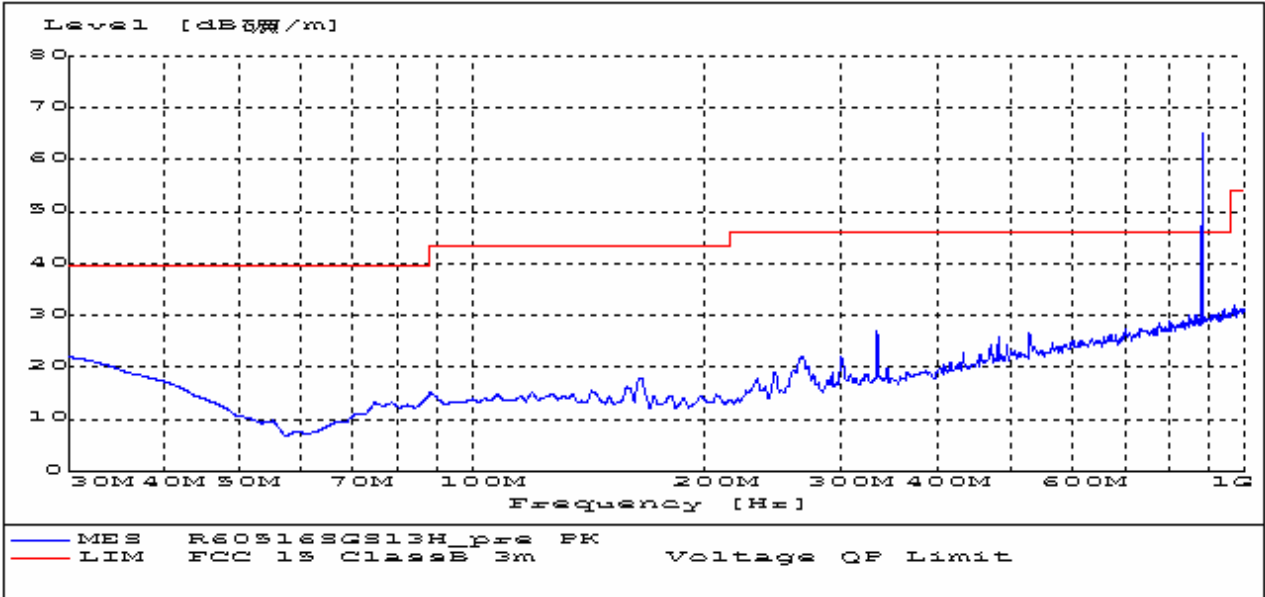
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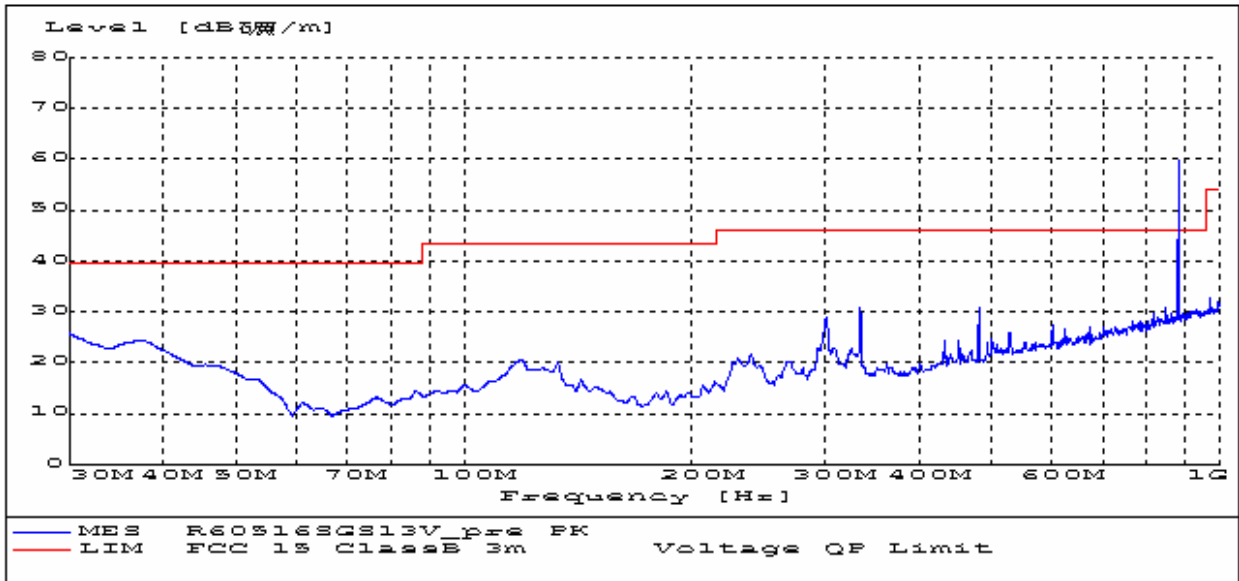
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GSM850 communicating with headset and USB connected to the computer
Horizontal



Vertical:



PCS1900 communicating with headset and USB connected to the computer

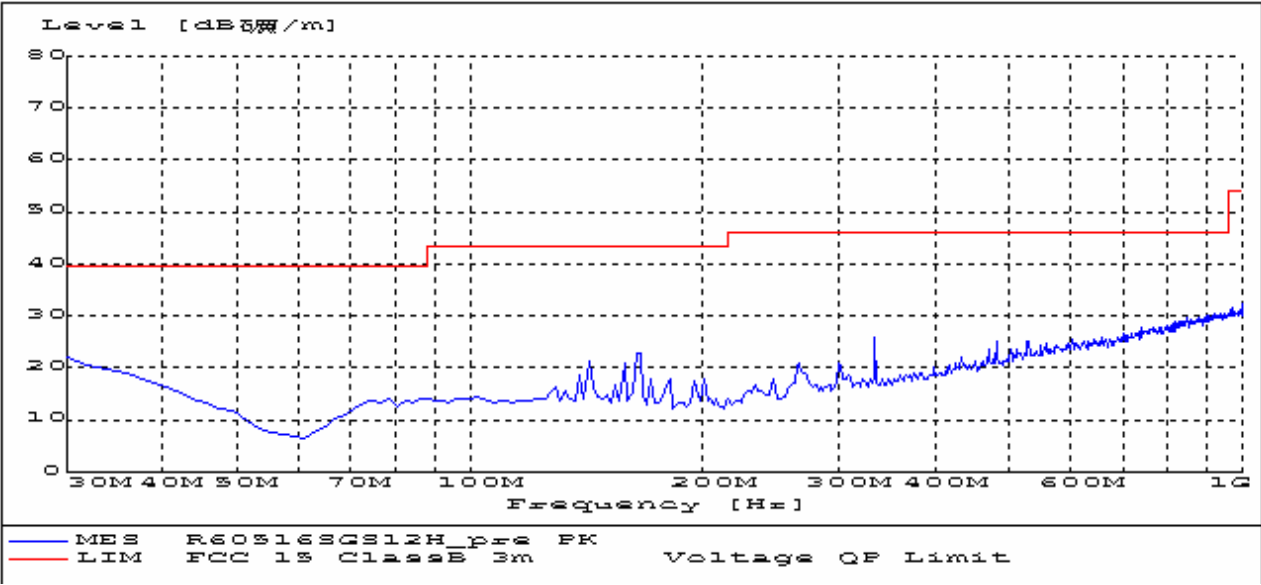
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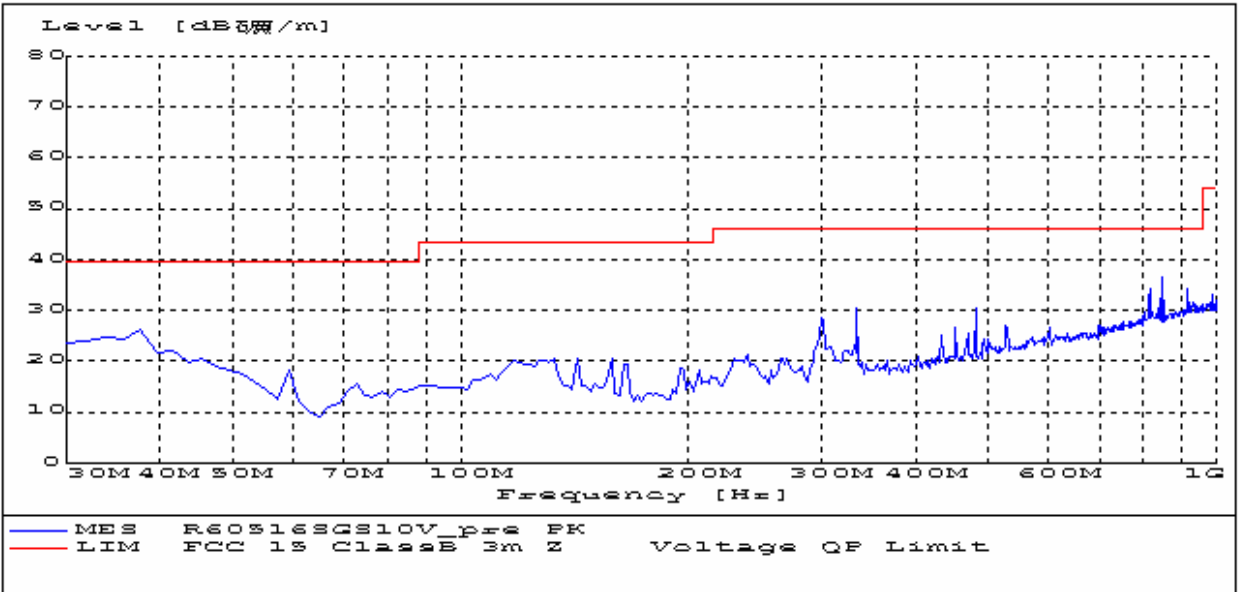
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Horizontal



Vertical:



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6.2 Conducted Emissions, 150kHz to 30MHz

Test Requirement:	CFR 47 part 15
Test Method:	ANSI C63.4
Test Date:	24 April 2006
Frequency Range:	150kHz to 30MHz
Class:	N/A
Limit:	66 dB μ V - 56 dB μ V between 150kHz & 500kHz Quasi-peak 56 dB μ V between 0.5MHz & 5MHz Quasi-peak 60 dB μ V between 5MHz & 30MHz Quasi-peak

6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 24.0°C Humidity: 58% RH Atmospheric Pressure:
EUT Operation: Test EUT is the in the allocated channel mode Charging, GSM850, PCS
1900 with headset.

6.2.2 Test Result and Partial Measurement Data

Pass

An initial pre-scan was performed in the Shielding room using the receiver in peak detection mode. The EUT was measured for 2 orthogonal polarities and peak emissions from the EUT were detected within 6dB of the class B limit line.

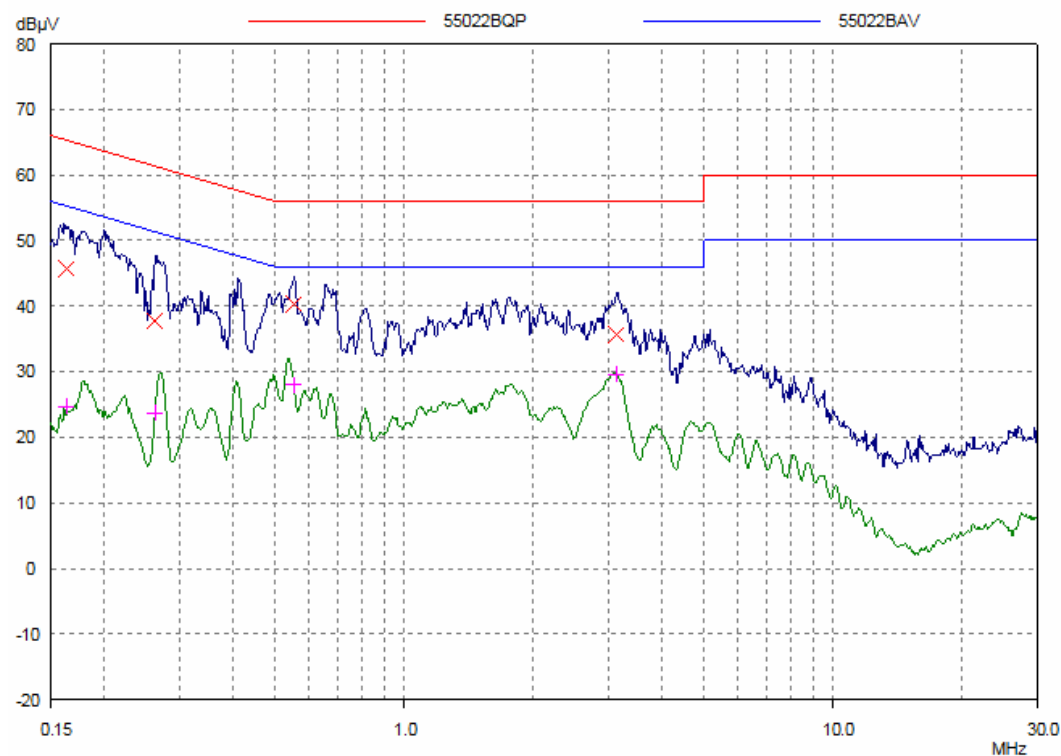
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GSM 850 dedicated, charging with adaptor:
L Line:



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB
0.16374	45.64	65.27	19.63
0.26201	37.70	61.37	23.67
0.55413	40.27	56.00	15.73
3.12287	35.58	56.00	20.42

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB
0.16374	24.65	55.27	30.62
0.26201	23.75	51.37	27.62
0.55413	27.93	46.00	18.07
3.12287	29.52	46.00	16.48

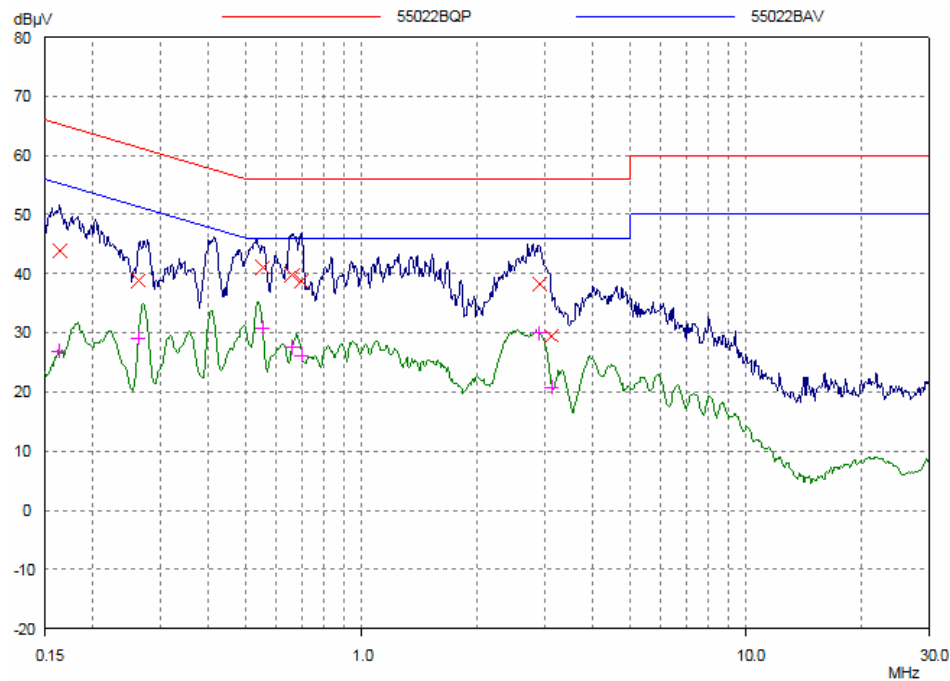
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N Line:



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB
0.16374	43.83	65.27	21.44
0.26201	38.84	61.37	22.53
0.55413	41.11	56.00	14.89
0.66031	39.77	56.00	16.23
0.69819	38.71	56.00	17.29
2.90676	38.28	56.00	17.72
3.12287	29.42	56.00	26.58

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB
0.16374	26.83	55.27	28.44
0.26201	29.05	51.37	22.32
0.55413	30.70	46.00	15.30
0.66031	27.50	46.00	18.50
0.69819	26.13	46.00	19.87
2.90676	29.93	46.00	16.07
3.12287	20.73	46.00	25.27

PCS 1900 dedicated, charging with adaptor:

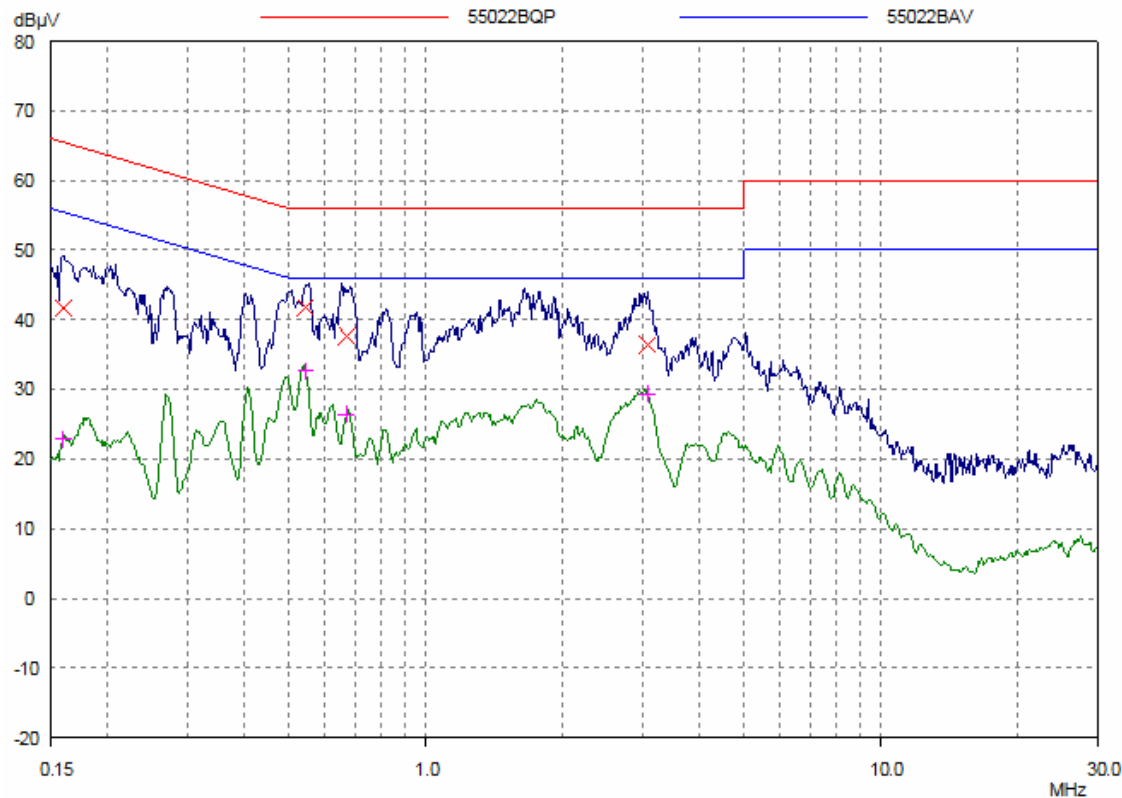
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L Line:



Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB
0.15987	41.66	65.47	23.81
0.54537	41.67	56.00	14.33
0.67092	37.69	56.00	18.31
3.07349	36.27	56.00	19.73

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB
0.15987	22.79	55.47	32.68
0.54537	32.56	46.00	13.44
0.67092	26.32	46.00	19.68
3.07349	29.26	46.00	16.74

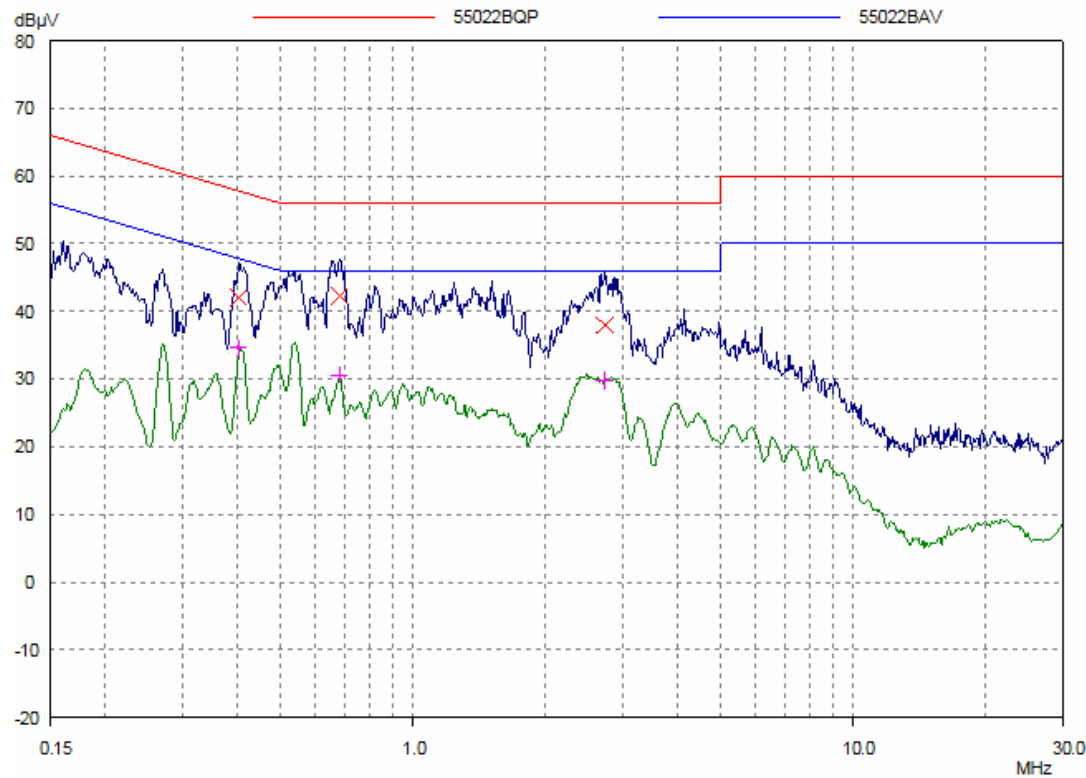
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Final Measurement Results

Frequency MHz	QP Level dBµV	QP Limit dBµV	QP Delta dB
0.40289	41.97	57.79	15.82
0.68169	42.19	56.00	13.81
2.72724	37.96	56.00	18.04

Frequency MHz	AV Level dBµV	AV Limit dBµV	AV Delta dB
0.40289	34.59	47.79	13.20
0.68169	30.46	46.00	15.54
2.72724	29.69	46.00	16.31

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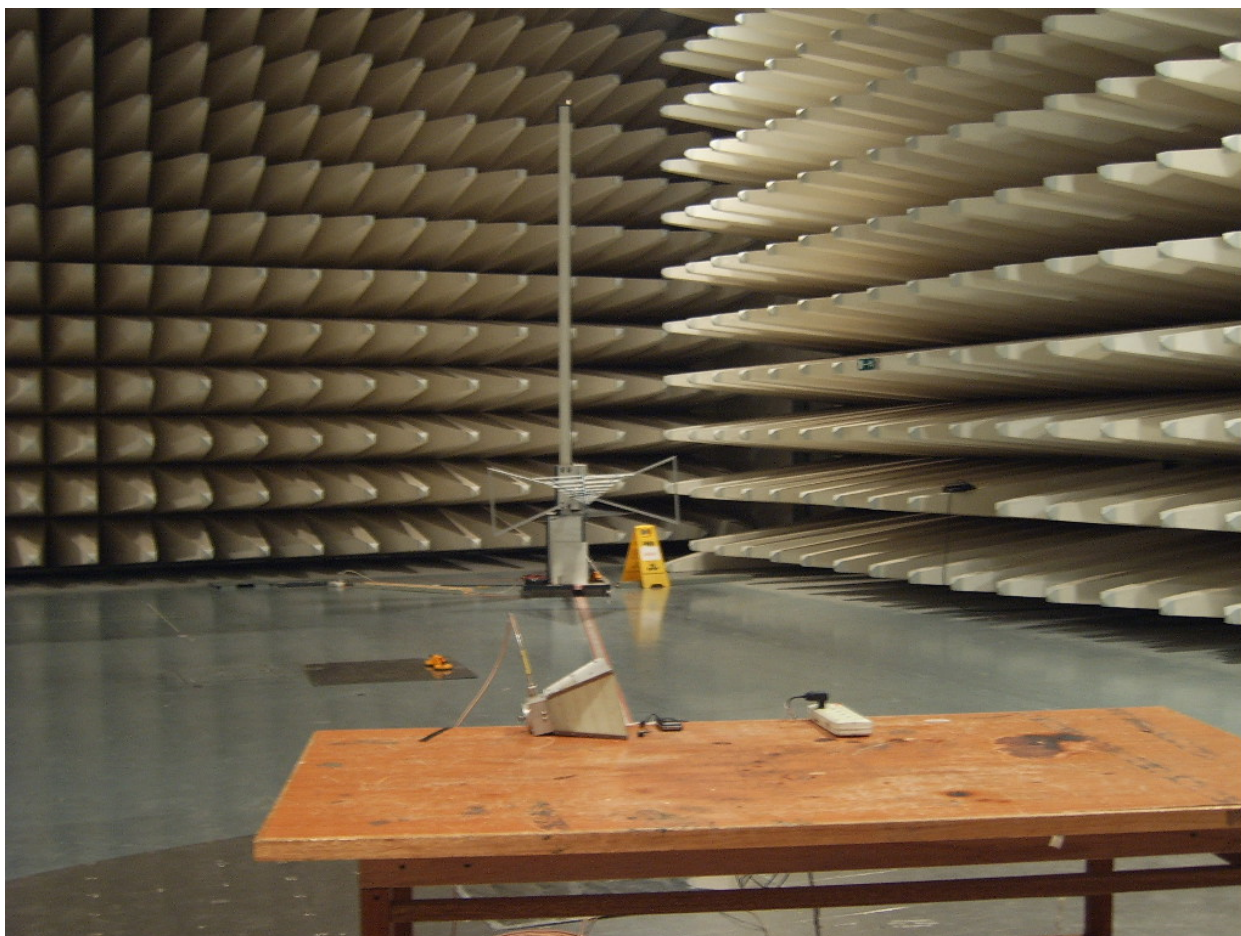
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7 Photographs

7.1 Radiated Emission Test Setup



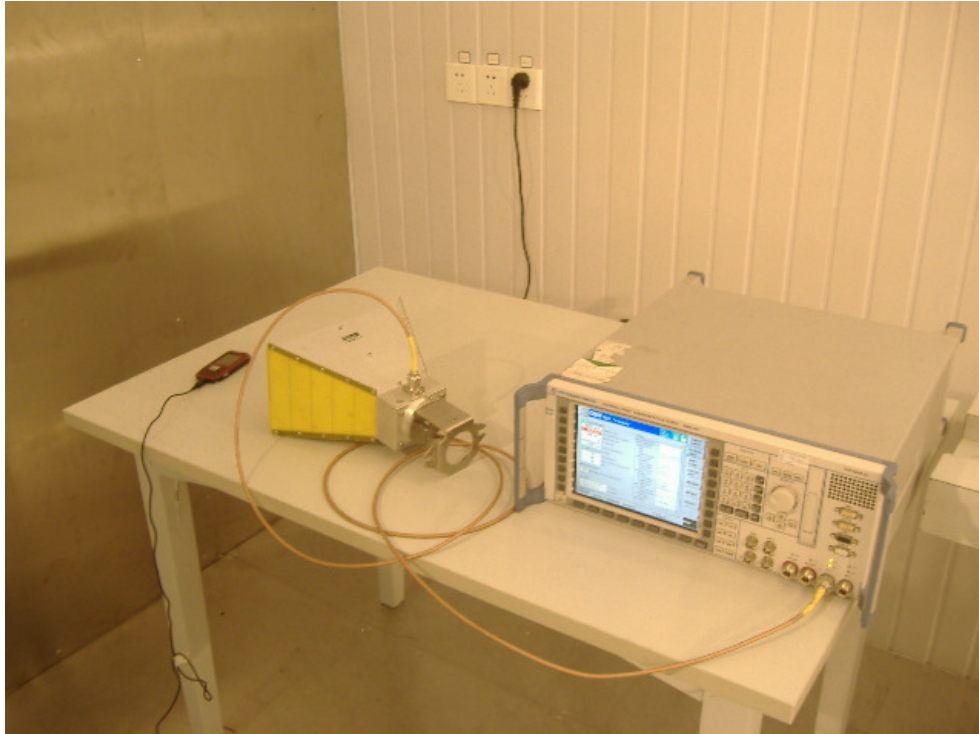
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7.2 Conducted Emission Test Setup



7.3 EUT Constructional Details



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