



47 CFR PART 15B

TEST REPORT

of

CDMA FWP

Model Name: FX805P
Trade Name: Motorola
Report No.: SZ07050046E01
FCC ID: VKO-FX805P

prepared for

Brightstar Corporate

2010 NW 84th Avenue, Miami – Florida 33122



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1. Test Result Certification

Equipment under Test: CDMA FWP

Trade Name: Motorola
Model Name: FX805P
FCC ID: VKO-FX805P

Applicant: Brightstar Corporate
2010 NW 84th Avenue, Miami – Florida 33122
Manufacturer: TeleEpoch Limited
5A,B1 Building, Digital Tech Zone South section, High-Tech park,
Nanshan, Shenzhen, Guangdong Province, China

Test Standards: 47 CFR Part 2
47 CFR Part 15 Subpart B

Test Result: PASS

* We Hereby Certify That:

The equipment under test was tested by Shenzhen Morlab Communications Technology Co., Ltd. The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the requirement of related FCC rules.

The test results of this report only apply for the tested sample equipment identified above. The test report shall be invalid without all the signatures of the test engineer, the reviewer and the approver.

Tested by: Ni Yong Dated: 2007.08.15
Ni Yong

Reviewed by: Wei Yanquan Dated: 2007.08.15
Wei Yanquan

Approved by: Shu Luan Dated: 2007.08.15
Shu Luan



2. General Information

2.1 Equipment under Test (EUT) Description

EUT1	
Description:	CDMA FWP
Model No.:	FX805P
Modulation:	CDMA
Emission Designator:	1M25F9W
Frequency:	Tx: 825.25-847.75MHz; Rx: 870.25-892.75MHz
Hardware Version:	V1.2
Software Version:	V2.10
EUT2	
Description:	Battery
Model No.:	B0173A
Manufacturer:	EVE BATTERY CO.,LTD
Capacitance:	900mAh/0.2C mA
Rated Voltage:	3.6V
Charge Limit:	0.1CmA(80mA)
EUT3	
Description:	AC/DC Adapter (Charger)
Model No.:	HY0181-A
Manufacturer:	SHENZHEN HUAYE NEW TECHNOLOGY INDUSTRY CO., LTD
Rated Input:	DC 100-240V, 50/60Hz,0.5Amax
Rated Output:	DC 12.0V, 1.0A
Length DC cable:	150cm

NOTE:.

1. The EUT is a model of CDMA mobile station operating in Cellular 800MHz band, The EUT is equipped with a special USB interface which can be connected to computer by the common USB Adapter Cable, but no USB Adapter will be sold with the CDMA FWP to the consumer, and the USB interface was just used in the factory with a USB Adapter for program-loading on the assembly line.
2. The normal configuration for the EUT is the Mobile Phone (MS) associated with ancillary equipments e.g. the Battery and/or the AC Adapter (Charger).
3. For detailed features about the EUT, please see user manual supplied by the applicant.



2.2 Test Standards and Results

The objective of the report is to perform tests according to 47 CFR Part 2, Part 15 for FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2 (10-1-05 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 15 (10-1-05 Edition)	Radio Frequency Devices

Test detailed items and the results are as below:

No.	Rules	Test Type	Result	Date of Test
FCC Part 15 Requirement				
1	§15.107	Conducted Emissions	PASS	2007-8-7
2	§15.109	Radiated Emissions	PASS	2007-8-7

2.3 Facilities and Accreditations

2.3.1 Facilities

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

All measurement facilities used to collect the measurement data are located at Electronic Testing Building, Shahe Road, Xili, Nanshan District, Shenzhen, P. R. China. The site was constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22, the FCC registration number is 741109.

2.3.2 Test Equipments

No.	Description	Specification
1	Pulse Limiter (20dB)	Manufacturer: Schwarzbeck Model No.: VTSD 9561-D Serial No.: 9391
2	System Simulator	Manufacturer: Agilent Model No.: E5515C Serial No.: GB43130131
3	Spectrum Analyzer	Manufacturer: Agilent Model No.: E7405A Serial No.: US44210471
4	Telecommunication Antenna	Manufacturer: European Antennas Model No.: PSA-45010R/356 Serial No.: 403688-001
5	Trilogy Antenna	Manufacturer: Schwarzbeck Model No.: VULB 9163 Serial No.: 9163-274
6	Horn Antenna	Manufacturer: Schwarzbeck Model No.: BBHA 9120C Serial No.: 9120C-384
7	LISN	Manufacturer: Schwarzbeck Model No.: NSLK 8127 Serial No.: 812744
8	Anechoic Chamber	Manufacturer: Albatross Projects GmbH

NOTE:

1. Equipments listed above have been calibrated and are in the period of validation.

2.3.3 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature:	20 - 25°C
Relative Humidity:	40 - 50%
Atmospheric Pressure:	96kPa

3. 47 CFR Part 15B Requirements

3.1 General Information

3.1.1 Test Mode

The test modes of the EUT are showed as below:

(1) Call Mode:

The EUT configuration of the emission tests was MS + Battery + Charger.

Before the measurement, the lithium battery was completely discharge.

During the measurement, the lithium battery was installed into the MS, and the charger was connected to the MS. A communication link was established between the MS and a System Simulator (SS).

(2) Idle Mode:

The EUT configuration of the emission tests was MS + Battery + Charger.

Before the measurement, the lithium battery was completely discharge.

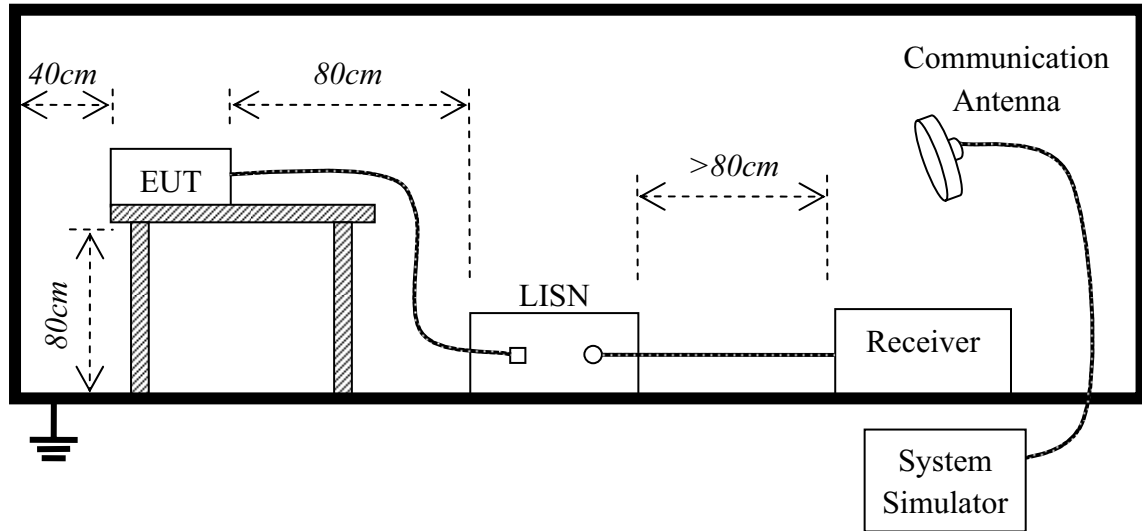
The MS was registered to the base station simulator but no call was set up.

NOTE:

1. All test modes are performed, only the worst cases are recorded in this report.

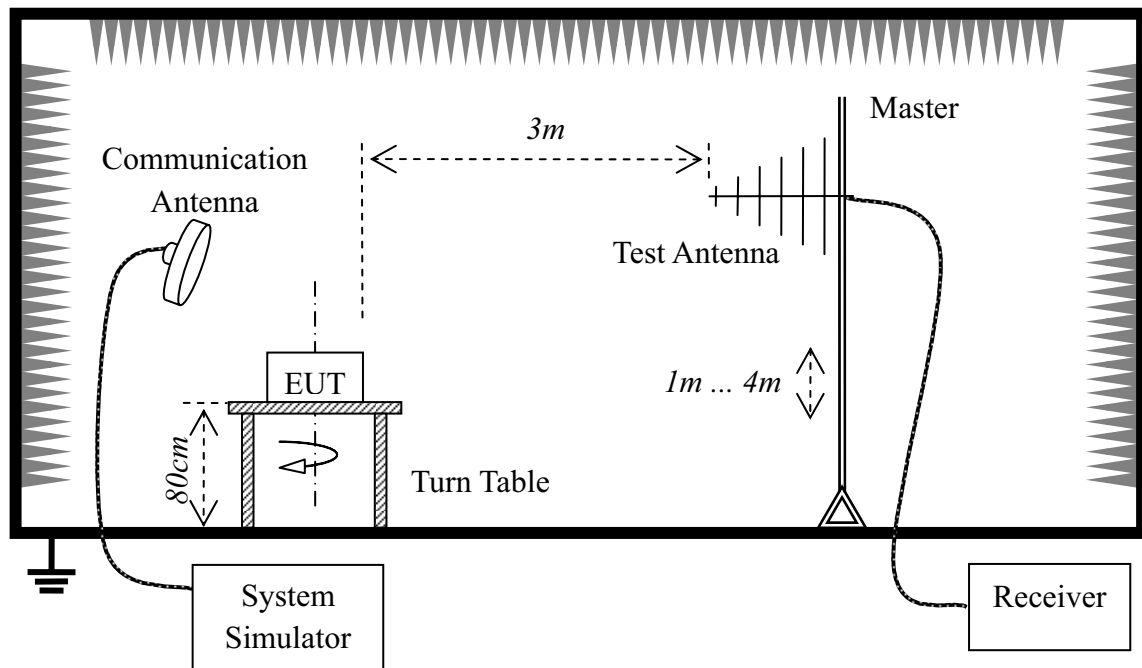
3.1.2 Test Setup

3.1.2.1 Conducted Emission Test



1. The test is performed in a Shield Room; the factors of the test system are calibrated to correct the reading.
2. The EUT is placed on a 0.8 meters high insulating table and keeps 0.4 meters away from the conducting wall of the Shield Room.
3. The EUT is connected to the power mains through a Line Impedance Stabilization Network (LISN). The LISN provides $50\Omega/50\mu\text{H}$ of coupling impedance for the measuring instrument.

3.1.2.2 Radiated Emission Test



1. The test is performed in a Semi-anechoic Chamber; the factors of the test system are calibrated to correct the reading.
2. The EUT is placed on a 0.8 meters high insulating table and keeps 3 meters away from the Test Antenna, which is mounted on the top of a variable-height antenna Master tower.

3.2 Conducted Emission

3.2.1 Requirement

According to FCC §15.107, the radio frequency voltage that is conducted back onto the AC power line on any frequency within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
0.50 - 30	60	50

NOTE:

1. The limit subjects to the Class B digital device.
2. The lower limit shall apply at the band edges.
3. The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

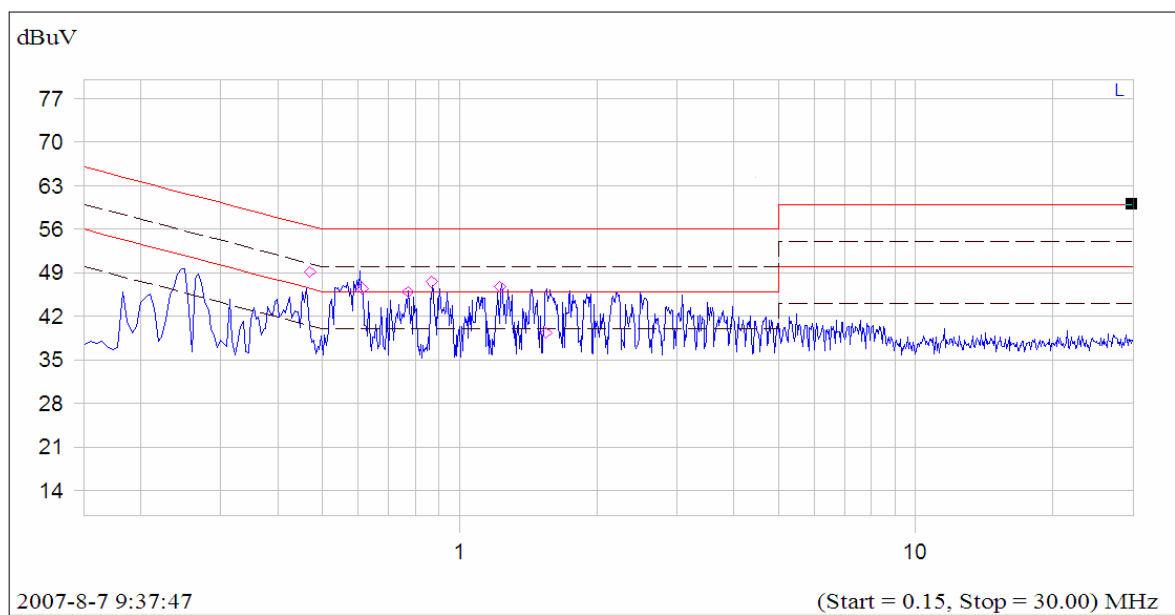
3.2.2 Test Procedure

1. Perform test setup as described in section 3.1.2.1.
2. Each test mode in section 3.1.1 should be applied. At each test mode, the frequency range from 150 kHz to 30MHz is searched using the CISPR Quasi-Peak and/or the Average detector of the Receiver. If the emission levels measured with Quasi-Peak detector are lower than the Average Limit, it's not necessary to measure with Average detector.
3. The emission levels at both L phase and N phase should be tested.
4. Record the test result plot and distinct points.
5. In the test report show the worst test data.

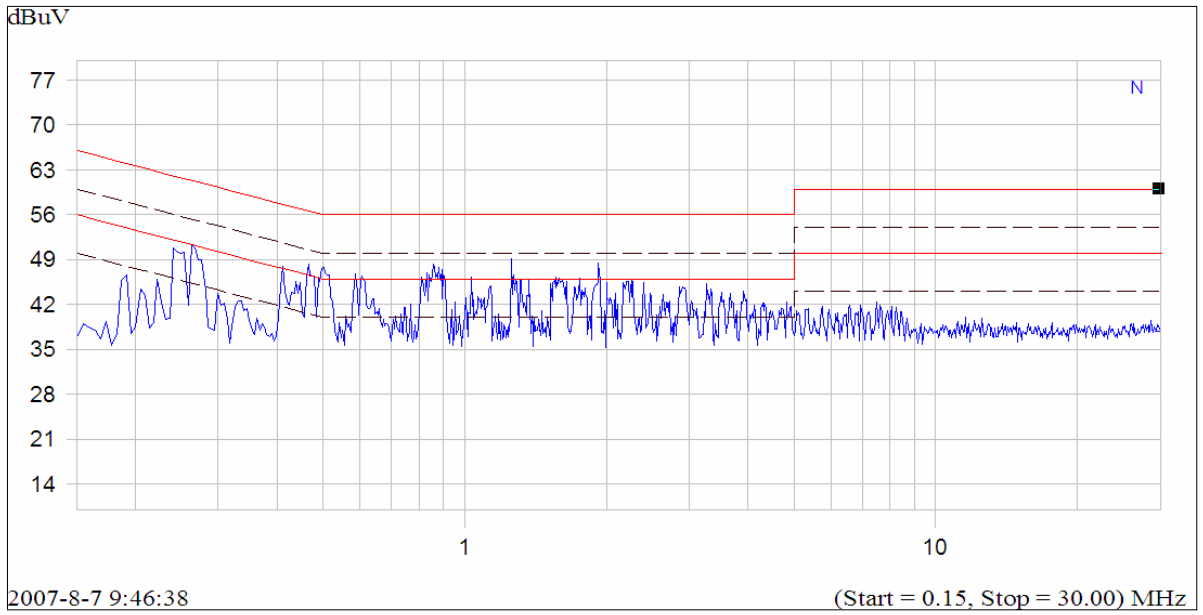
3.2.3 Test Result

No.	@Frequency (MHz)	Measured Emission Level (dB μ V)				Limit (dB μ V)		Verdict
		PK	QP	AV	Phase	QP	AV	
1	0.469	49.1	45.1	31.9	L	56.5	46.5	PASS
2	0.613	46.5	43.6	33.2	L	56.0	46.0	PASS
3	0.771	45.9	40.6	39.1	L	56.0	46.0	PASS
4	0.868	47.6	41.8	29.8	L	56.0	46.0	PASS
5	1.228	46.8	41.6	28.4	L	56.0	46.0	PASS
6	1.549	39.4	41.8	28.8	L	56.0	46.0	PASS
7	(n.a.)	(n.a.)	(n.a.)	(n.a.)	L	(n.a.)	(n.a.)	(n.a.)
9	0.268	46.0	47.0	32.7	N	61.2	51.2	PASS
8	0.472	46.7	43.0	30.4	N	56.5	46.5	PASS
9	0.860	47.0	41.0	27.8	N	56.0	46.0	PASS
10	1.928	45.8	40.7	27.7	N	56.0	46.0	PASS
11	1.247	40..2	39.9	26.6	N	56.0	46.0	PASS

1. Plot for L Phase:



2. Plot for N Phase:



3.3 Radiated Emission

3.3.1 Requirement

According to FCC §15.109, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency range (MHz)	Field Strength	
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

NOTE:

1. Field Strength ($\text{dB}\mu\text{V/m}$) = $20 \cdot \log[\text{Field Strength } (\mu\text{V/m})]$.
2. In the emission tables above, the tighter limit applies at the band edges.

3.3.2 Test Procedure

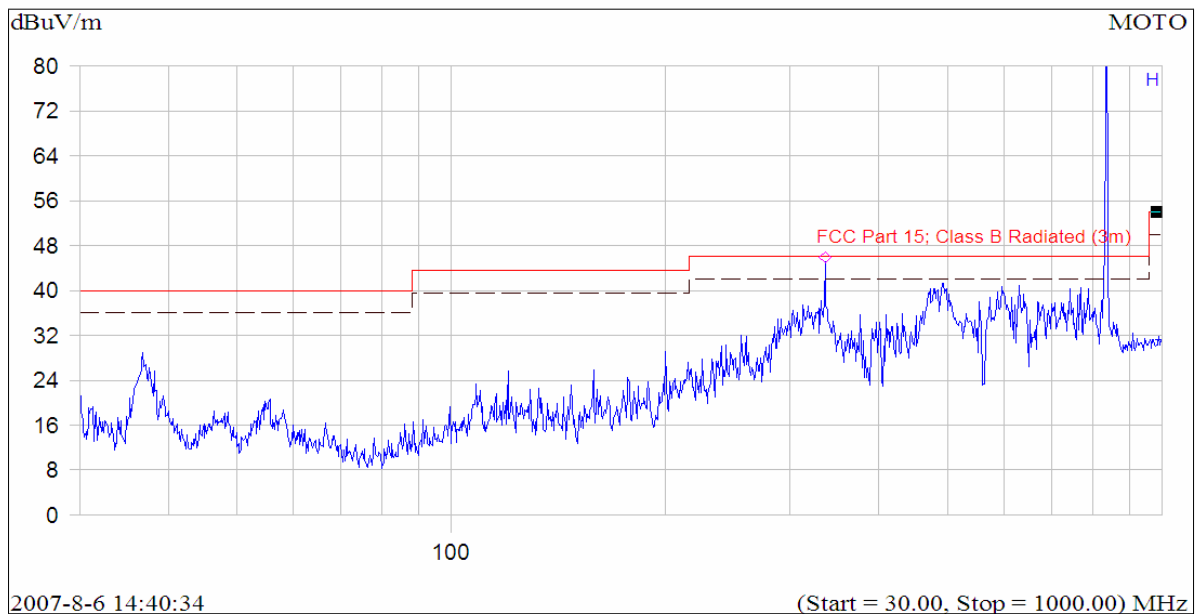
1. Perform test setup as described in section 3.1.2.2.
2. Each test mode in section 3.1.1 should be applied. At each test mode, the Turn Table turns from 0 degrees to 360 degrees to find the maximum reading; for the suspected points, the Test Antenna varies from 1 meter to 4 meters to determine the maximum value of the field strength.
3. The Receiver is set to Peak Detector function and specified bandwidth with maximum hold mode. If the emission level of the EUT in peak mode is 6dB lower than the limit specified, then testing could be stopped and the peak values would be reported; otherwise the emission less than 6dB margins would be retested one by one using the quasi-peak method.
4. The emission levels at both horizontal and vertical polarizations should be tested.
5. Record the test result plot and distinct points.
6. In the test report show the worst test data.

3.3.3 Test Result

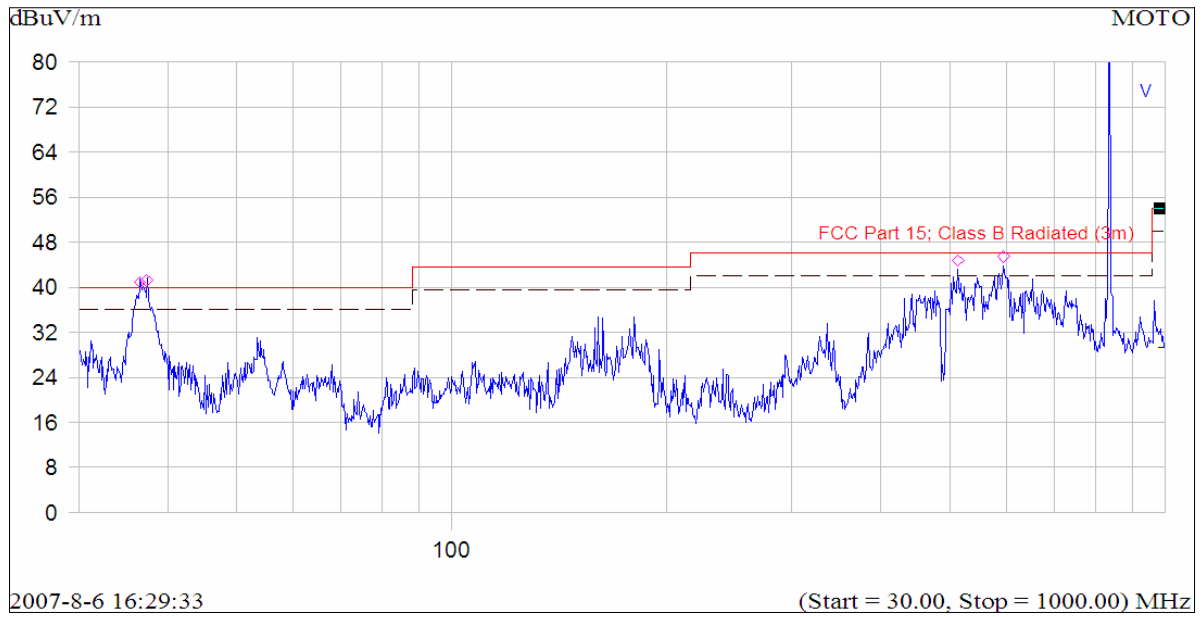
No.	Frequency (MHz)	Emission Level (dB μ V/m)			Quasi-Peak Limit (dB μ V/m)	Result
		Peak	Quasi-Peak	Antenna Polarization		
1	336.024	45.9	42.6	Horizontal	< 45.0	PASS
2	37.386	41.2	36.2	Vertical	< 40.0	PASS
3	36.535	40.9	36.0	Vertical	< 40.0	PASS
4	513.032	44.7	37.7	Vertical	< 46.0	PASS
5	593.932	44.7	37.1	Vertical	< 46.0	PASS

Following is the plots for emission measurement; please note that marked spikes with circle should be ignored because they are MS and SS carrier frequency.

1. Plot when Test Antenna at Horizontal Polarization:



2. Plot when Test Antenna at Vertical Polarization:

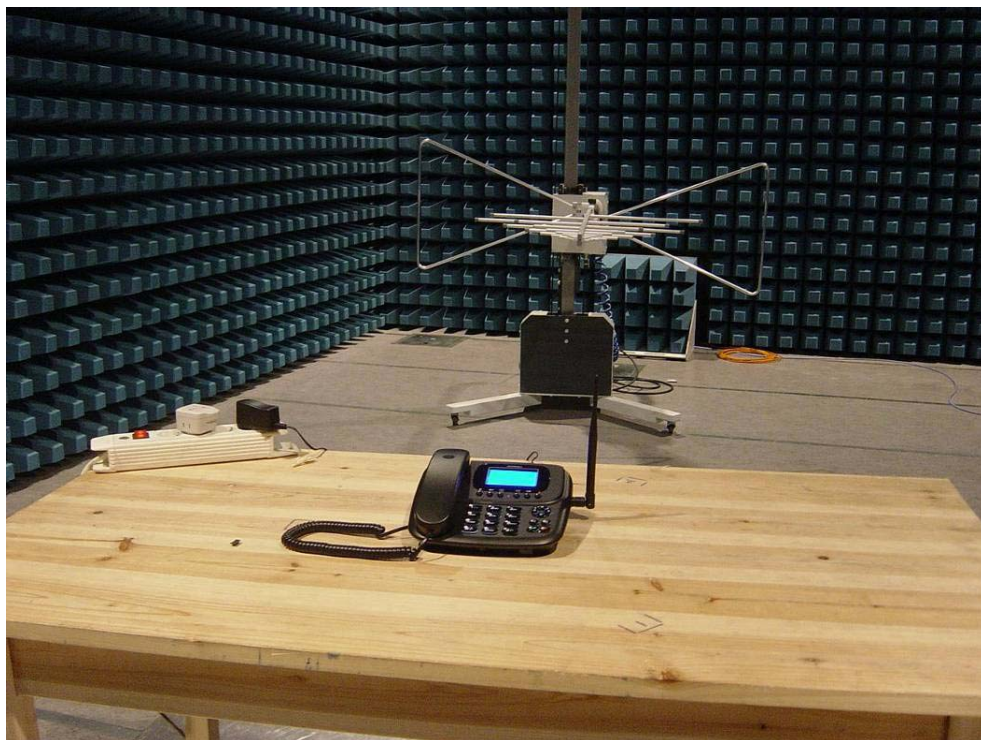


I Photograph of the test setup

1. Conducted Emission Measurement



2. Radiated Emission Measurement



II Photograph of the EUT

1. Appearance of the EUT







2. Appearance of the Adapter



3. Inside of the EUT



