TEST REPORT

REPORT NUMBER: I08GE5251-FCC-EMC

ON

Type of Equipment: GPRS Triband Data and Messaging Device
Type of Designation: PEEK
Manufacturer: TXTBL INC.

ACCORDING TO
FCC CFR Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS; e-CFR, March 23, 2006
PART 22, PUBLIC MOBILE SERVICES (Oct 1, 02 Edition)
PART 24, PERSONAL COMMUNICATIONS SERVICES (Oct 1, 97 Edition)

China Telecommunication Technology Labs.

Month date, year
June, 14, 2008

Signature

He Guili
Director

FCC ID:	V6LPEEK0001
Report Date:	2008-06-14
Test Firm Name:	China Telecommunication Technology Labs
Registration Number:	840587

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, and 24. The sample tested was found to comply with the requirements defined in the applied rules.

CONTENTS

1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22 and 24.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

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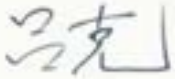
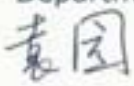
1.2 Testers

Name:	Lv Ke
Position:	Engineer
Department:	Department of EMC test
Signature:	

Name:	Yuan Yuan
Position:	Engineer
Department:	Department of EMC test
Signature:	

Editor of this test report:

Name:	Li Guoqing
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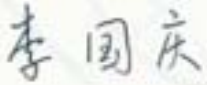
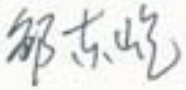
Signature:	

Technical responsibility for area of testing:

Name:	Zou Dongyi
Position:	Manager
Department:	Department of EMC test
Date:	2008-06-14
Signature:	

1.3 Testing Laboratory information

1.3.1 Location

Name:	China Telecommunication Technology Labs.
Address:	No. 11, Yue Tan Nan Jie, Xi Cheng District BEIJING P. R. CHINA, 100083
Tel:	+86 10 68094053
Fax:	+86 10 68011404
Email:	emc@chinattl.com

1.3.2 Details of accreditation status

Accredited by:	China National Accreditation Service for Conformity Assessment (CNAS)
Registration number:	CNAS Registration No. CNAS L0570
Standard:	ISO/IEC 17025:2005

1.3.3 Test location, where different from section 1.3.1

Name:	------
Street:	------
City:	------
Country:	------
Telephone:	------
Fax:	------
Postcode:	------

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name:	Beijing BTC Wireless Ltd.
Address:	3/F M8 West, No.1 Jiu Xian Qiao Dong Road, Chao Yang District. Beijing, China.
Country:	China
Telephone:	+86 10 6434 5888
Fax:	+86 10 6437 5999
Contact:	Hongyun Dai
Telephone:	+86 10 6434 5888 ext. 71156
Email:	Dai.hongyun@byd.com

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name:	TXTBL INC.
Address:	265 Madison Ave, 4th Floor, New York, NY 10016

1.4.3 Manufactory (if different from applicant in section 1.4.1)

Name:	BYD (Tianjin) CO.,LTD.
Address:	15# Standard Workshop West Zone TEDA Tianjin 300457, P.R.China

2 Test Item

2.1 General Information

Manufacturer: TXTBL INC.

Name: GPRS Triband Data and Messaging Device

Model Number: PEEK

Serial Number: --

Production Status: Product

Receipt date of test item: 2008-05-19

2.2 Outline of EUT

E.U.T. is a GPRS Triband Data and Messaging Device.

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	handset	TXTBL INC.	PEEK	--	None
B	adapter	Anthin Power Supply Co.,Ltd.	APW305UC-03-06	--	None
C	battery	BYD COMPANY LIMITED	PK-BAT-001	--	None

Cables:

Item	Cable Type	Manufacturer	Length	Shield	Quantity	Remarks
1	DC cable on Adapter	Unknown	1.0 m	No	1	None

2.5 Other Information

(a) Modulation is GMSK.

(b) Emission Designator is 250KGXW.

(c) Version of hardware and software

HW Version: B0.5-3

SW Version: VIN_QWERT_08w16_B05_4

(d) Adaptor information:
Input: 100-240VAC 50-60Hz 0.15A
Output: 5.0V 0.7A

(e) Battery information:
3.7VDC 700mAh

3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

GPRS mode:		
Specification Clause	Name of Test	Result
2.1051, 24.238, 2.1053,22.917	Radiated Spurious Emission	Pass
2.1046,24.232	Radiated RF Power Output	Pass
22.913(a)	Effective Radiated Power (ERP)	Pass
2.1049,22.917(b), 24.238(b)	Occupied Bandwidth	*Note 1
2.1055,22.355, 24.235	Frequency Stability over Temperature Variation	Pass
2.1055,22.355, 24.235	Frequency Stability over Voltage Variation	Pass
2.1046,22.913(a), 24.232(c)	Conducted RF Power Output	Pass
2.1051,22.917,24.238	Conducted spurious emissions	Pass
Note 1: No applicable performance criteria.		

4 Test Results of mode

4.1 Radiated Spurious Emission

Specifications:	2.1051, 24.238, 2.1053, 22.917
Date of Tests	2008-05-30
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 190 and 661 for GPRS
Test Results:	Pass

Test equipment Used:

Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Ultra Broadband Antenna	R/S	HL562	100013	2008-07-24	Normal
7330	Double-Ridged Horn Antenna	R/S	HF906	100037	2009-01-14	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2010-11-17	Normal
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
111835	Wireless Communications Test Set	R&S	CMU200	1100000802	--	Normal

Limit Level Construction:
According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is:
P(dBm) – (43 + 10 log(P)) dB= -13dBm

Limits for Radiated spurious emissions(UE)

Frequency range	Limit Level /Resolution Bandwidth
30 MHz to 20000 MHz	-13dBm/1MHz

Test Setup:

The EUT was placed in an anechoic chamber, see figure SP. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns. The test was done using an automated test system, where all test equipments were controlled by a computer.

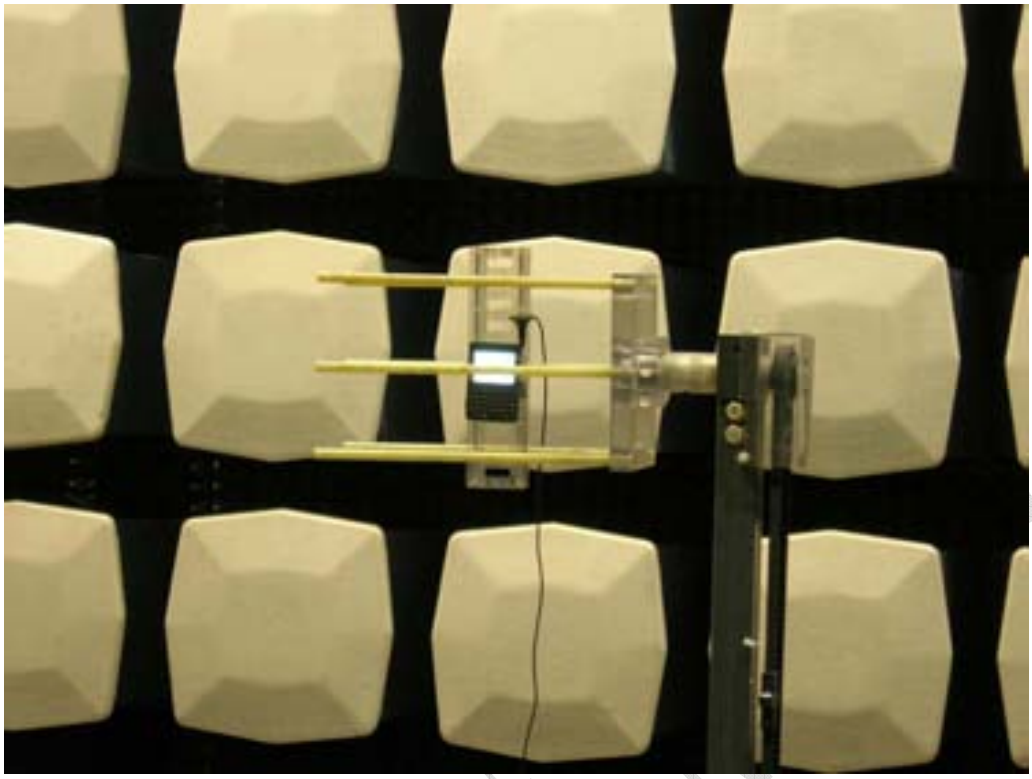


Figure SP

Test Method:

The measurement was performed accordance with section 2.2.12 of ANSI/TIA-603-B-2002: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

1 The maximum spurious emissions were searched by turning the azimuth of the turntable, shifting the polarization of the measuring antenna and changing the pose of the EUT.

2 Levels of EUT's transmitter harmonics and suspicious signals were recorded.

3 The recorded levels were corrected in the automated test system with the correction factors given by a substitution calibration made before the measurement. The calibration was made separately for vertical and horizontal polarization and the system uses different correction factors depending on the measuring antenna polarization.

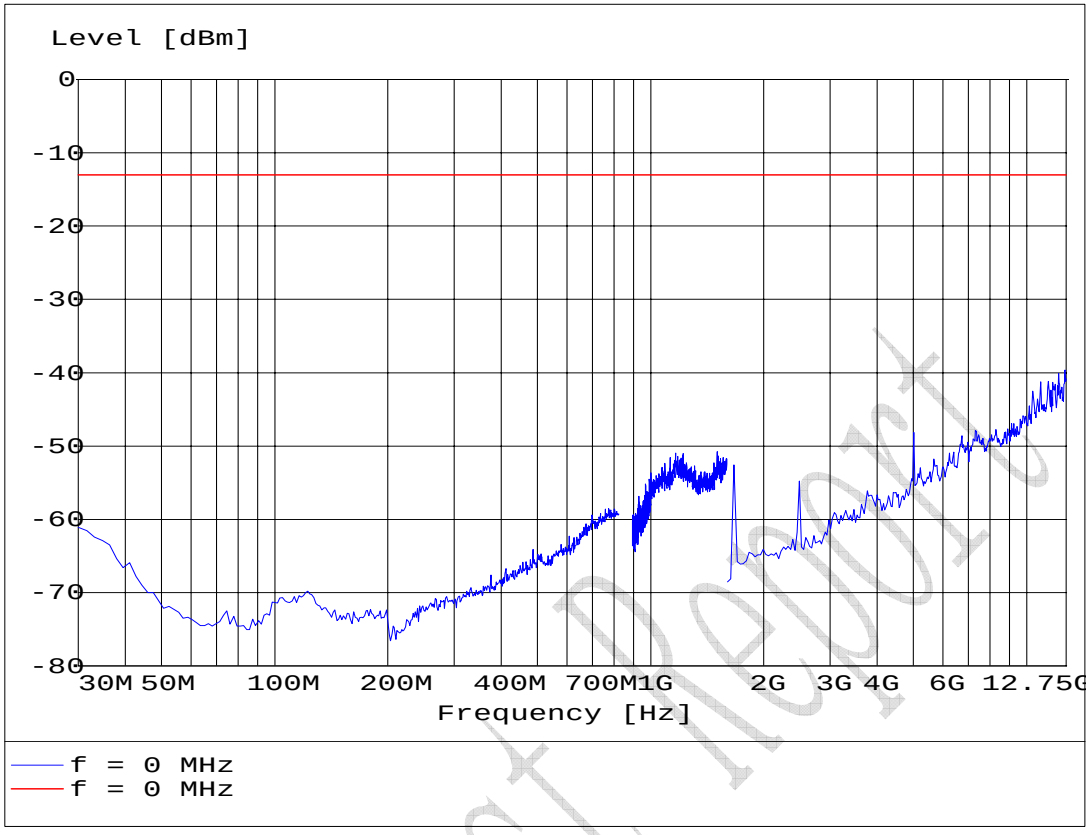
4 The corrected values of radiated spurious emissions indicated as EIRP are reported.

Note:

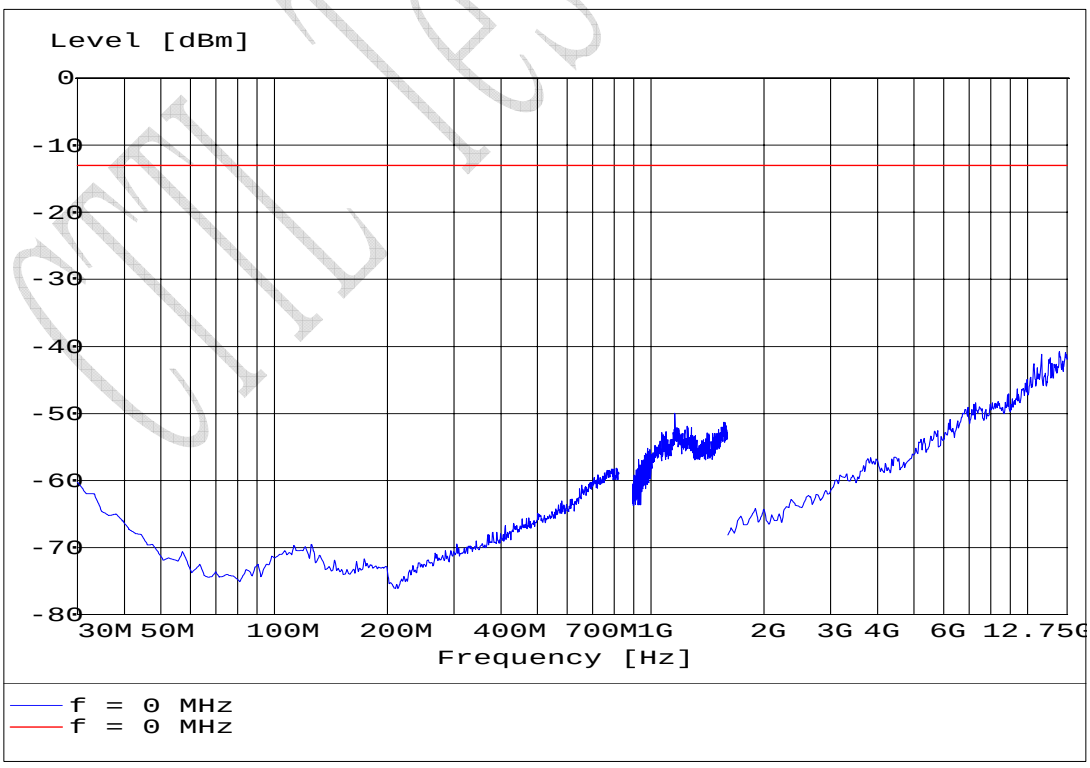
1 The investigated ARFCNs are 190 (836.6 MHz) and 661 (1880.0 MHz).

2 The investigated frequency range is 30 MHz ~ 18 GHz, including out of band emission and band-edge emission measurements.

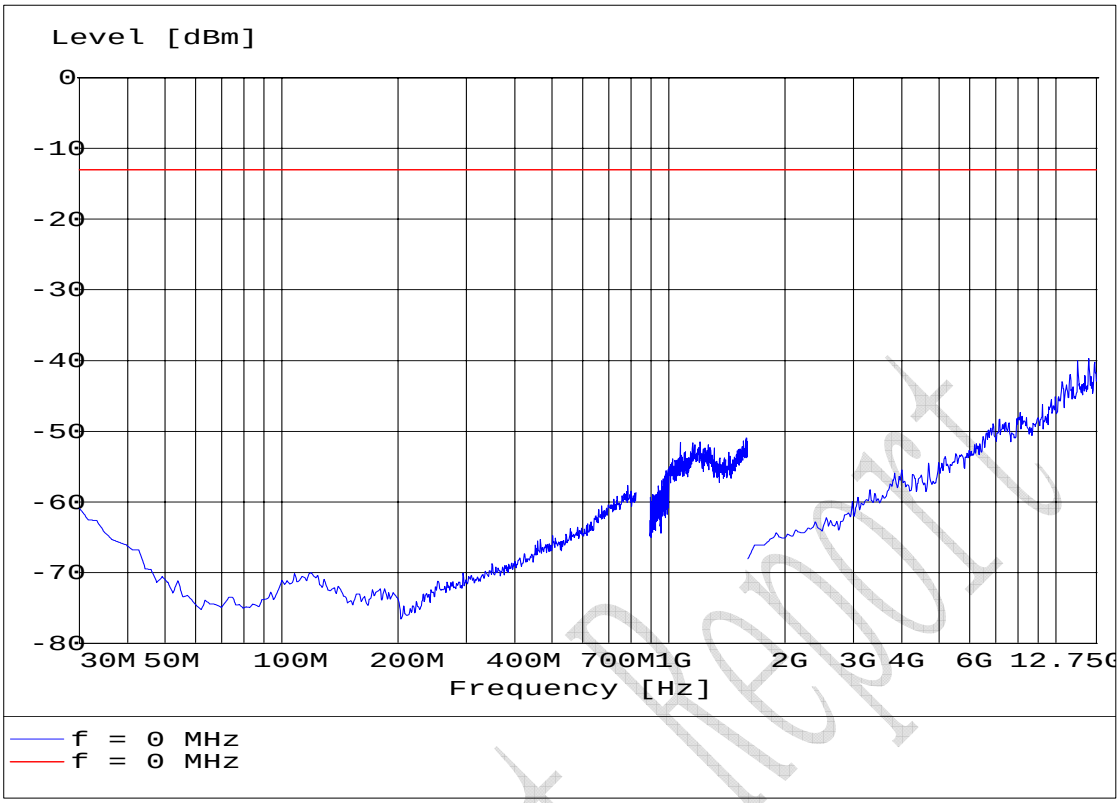
Test Results for GPRS mode:



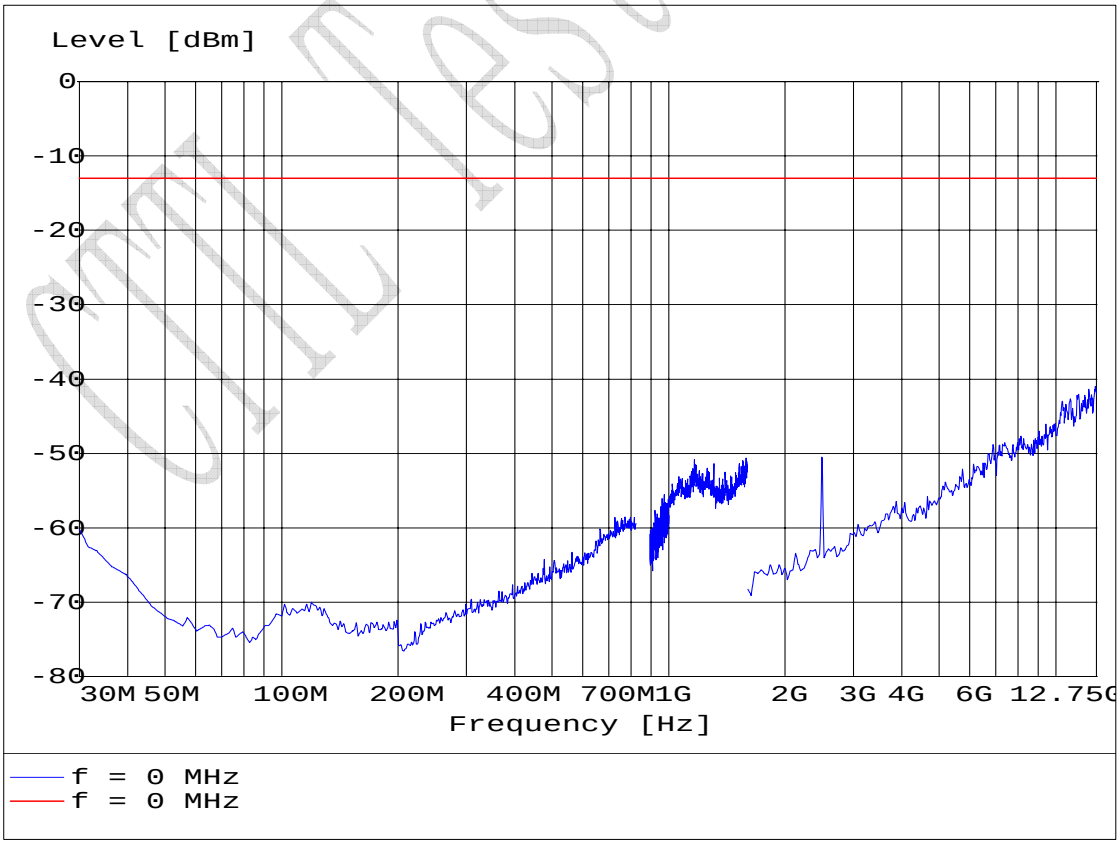
S190VF for GPRS mode



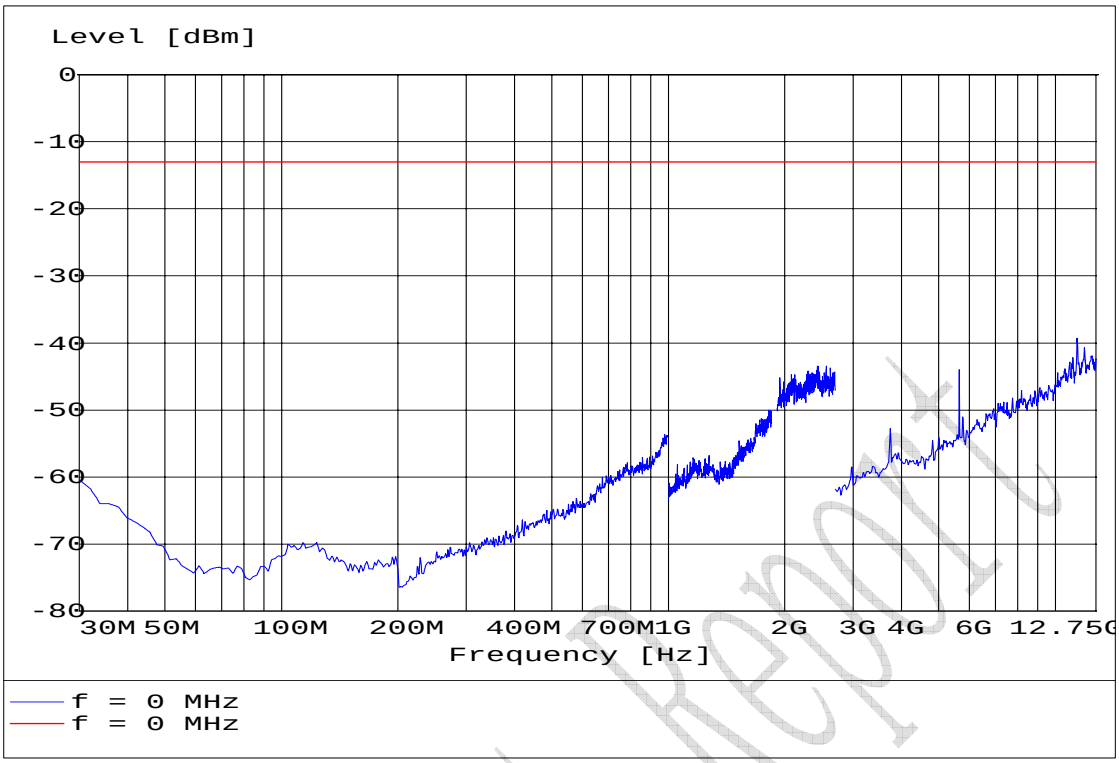
S190HF for GPRS mode



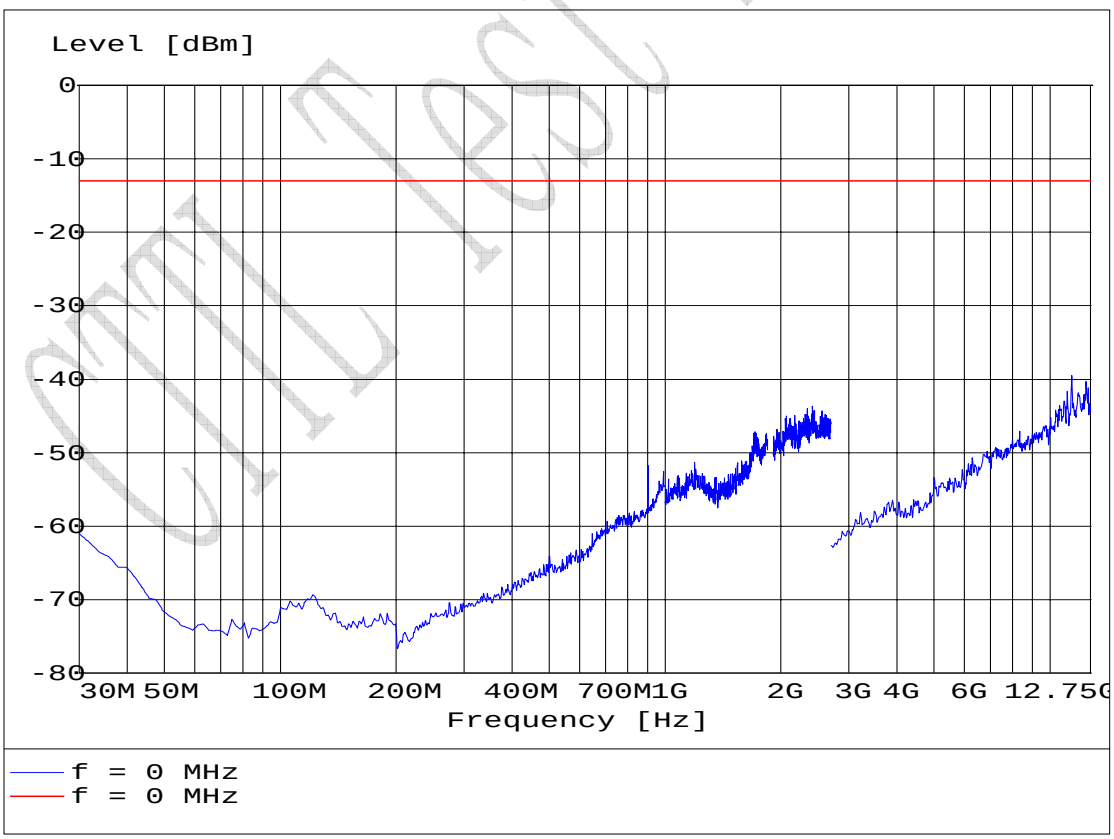
S190VT for GPRS mode



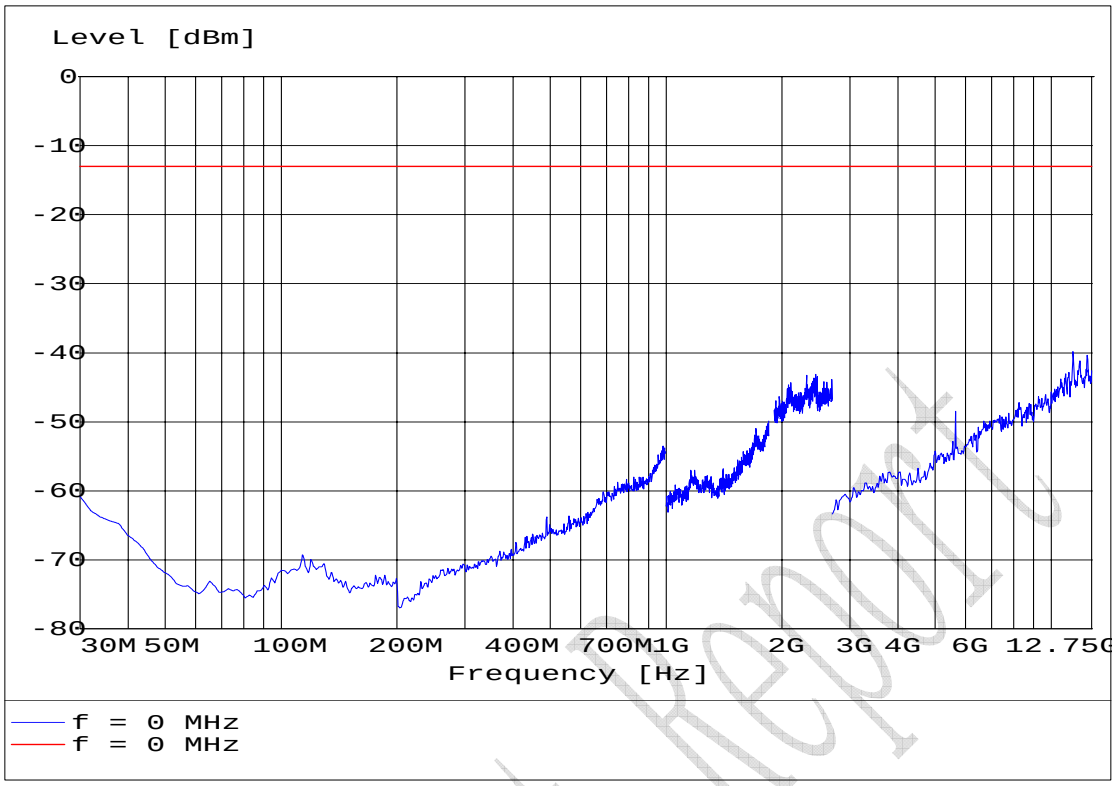
S190HT for GPRS mode



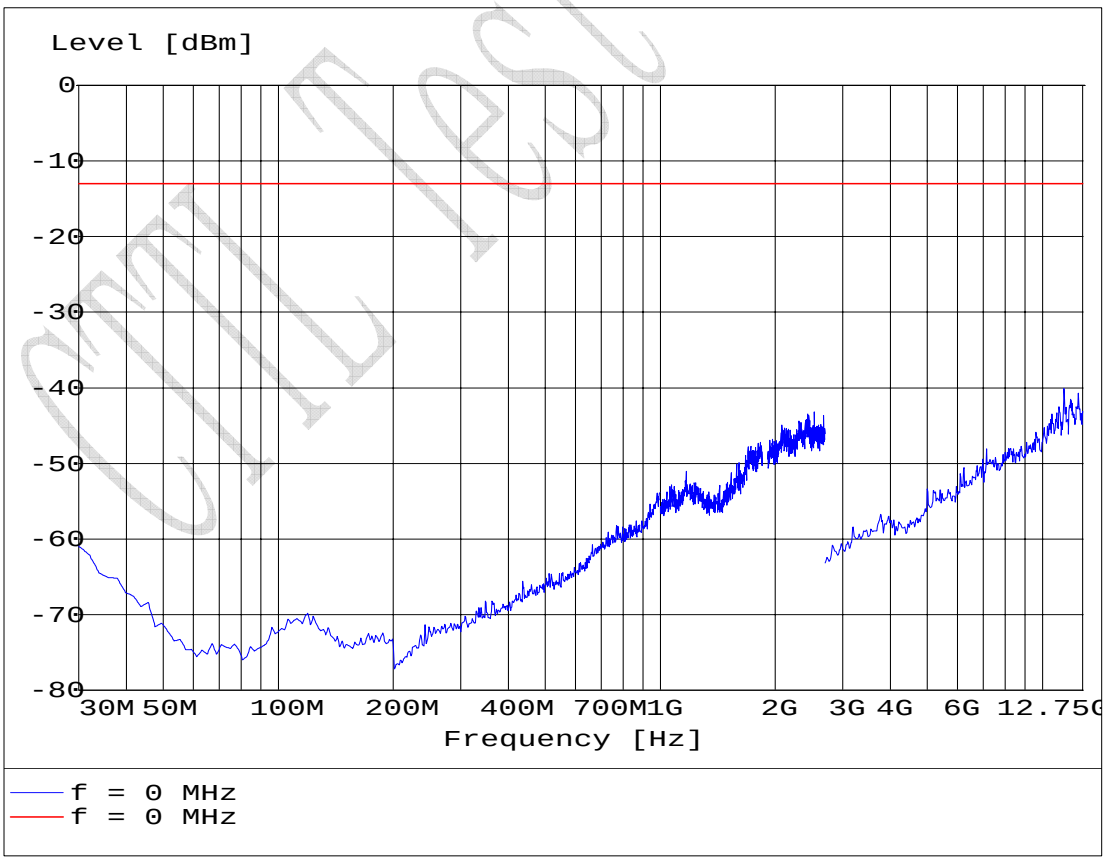
S661VF for GPRS mode



S661HF for GPRS mode

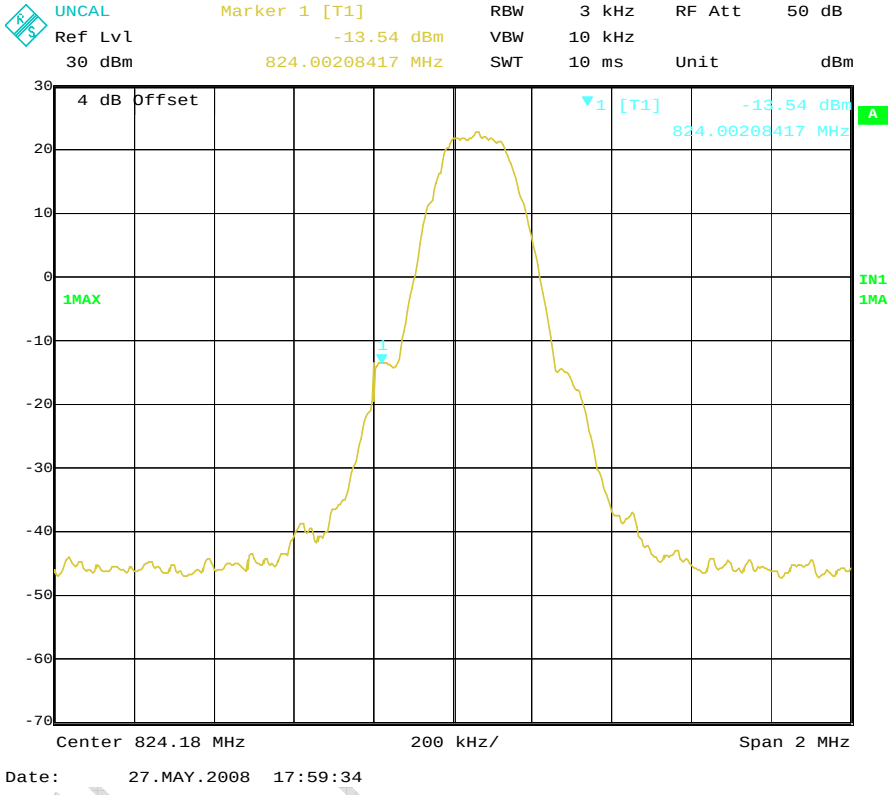


S661VT for GPRS mode

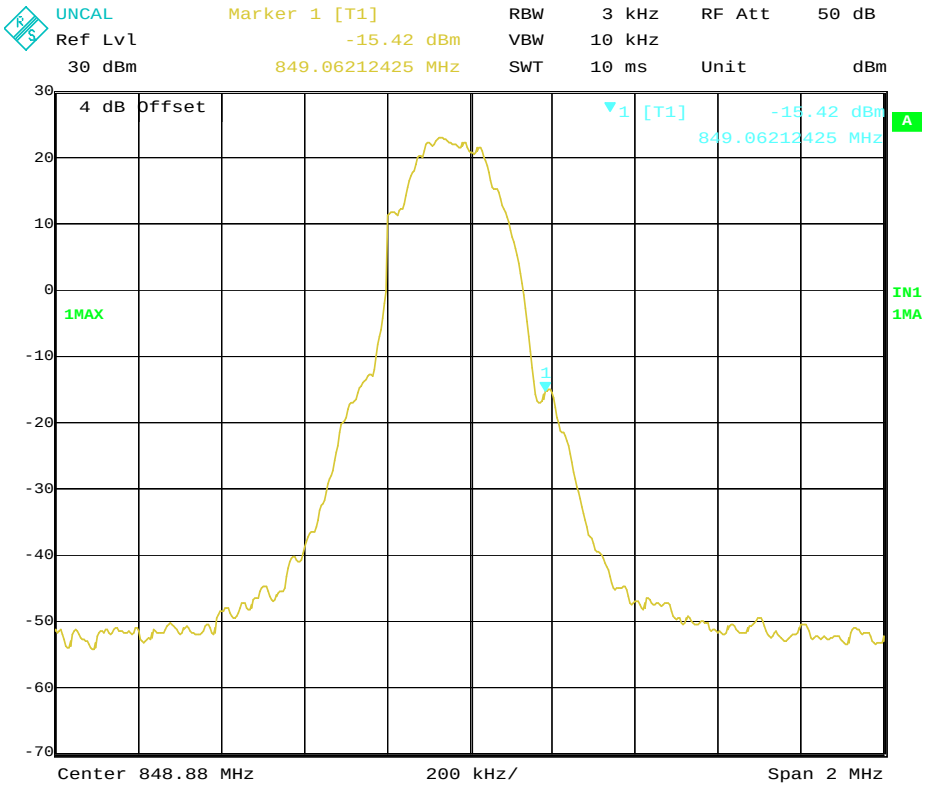


S661HT for GPRS mode

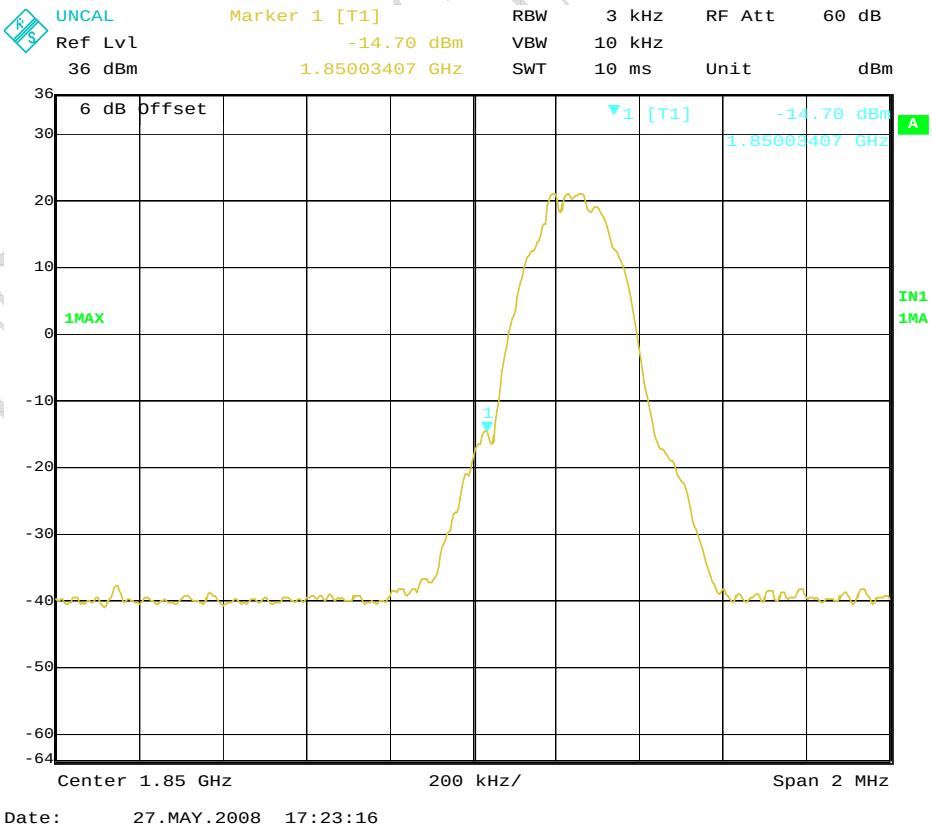
Band-edge emission		
EUT Channel	Frequency [MHz]	Level [dBm]
128 Left band edge	824.002	-13.54
251 Right band edge	849.062	-15.42
512 Left band edge	1850.034	-14.70
810 Right band edge	1910.031	-14.41



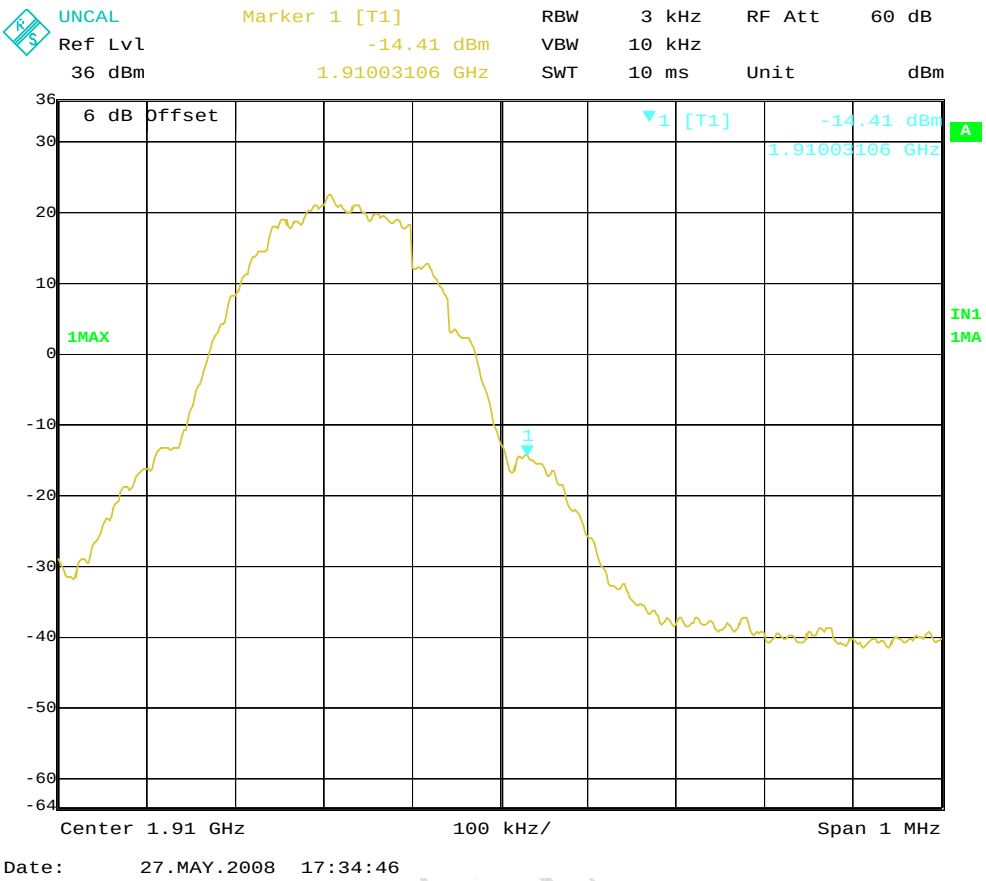
128 Left band edge



251 Right band edge



512 Left band edge



810 Right band edge

4.2 Radiated RF Power Output and ERP

Specifications:	2.1046,24.232,22.913(a)
Date of Tests	2008-05-30
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 128, 190, 251, 512, 661 and 810
Test Results:	Pass

Test equipment Used:

Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-04	Normal
7330	Ultra Broadband Antenna	R/S	HL562	100013	2008-07-24	Normal
7330	Double-Ridged Horn Antenna	R/S	HF906	100037	2009-01-14	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2010-11-17	Normal
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
111835	Wireless Communications Test Set	R&S	CMU200	1100000802	--	Normal

Limit Level Construction:

(a) Radiated RF Power Output

According to Part 24.232(b), i.e., Mobile/portable stations are limited to 2 watts EIRP peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications, so the limit level is 2 W or 33 dBm.

(b) ERP

According to Part 22.913(a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

Limits for Radiated RF Power Output	
Frequency range	**Limit Level (EIRP)/Resolution Bandwidth**
TX channel	33dBm/1MHz
Limits for ERP	
Frequency range	**Limit Level (ERP)**
TX channel	7W

Test Setup:

The EUT was set in an anechoic chamber, which is connected to the Wireless Communications Test Set located outside the chamber over the air. The test was done using an automated test system, where all test equipments were controlled by a computer.

Test Method

The measurement was performed accordance with section 2.2.17 of ANSI/TIA-603-B-2002: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

1 The maximum power was searched by turning the azimuth of the turntable, shifting the polarization of the measuring antenna and changing the pose of the EUT.

2 The measured levels are EIRP values corrected in the automated test system with the correction factors given by a substitution calibration made before the measurement. The calibration is made separately for vertical and horizontal polarization and the system uses different correction factors depending on the measuring antenna polarization.

3 The corrected maximum levels were reported for EIRP values, and ERP values can be calculated from EIRP values.

Note:

ERP dBm = EIRP dBm – 2.15dB.

ERP Value for GPRS 850 band mode:

ARFCN	Frequency [MHz]	ERP [dBm]
128	824.128	22.97
190	836.653	23.52
251	848.778	23.76

EIRP Value for GPRS 1900 band mode:

ARFCN	Frequency [MHz]	EIRP [dBm]
512	1850.261	24.22
661	1879.920	24.92
810	1909.739	24.62

4.3 Occupied bandwidth

Specifications:	2.1049,22.917(b),24.238(b)
Date of Test	2008-05-30
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 128, 190, 251, 512, 661 and 810
Test Results:	--

Test equipment Used:

Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-03	Normal
7330	Ultra Broadband Antenna	R/S	HL562	100013	2008-07-24	Normal
7330	Double-Ridged Horn Antenna	R/S	HF906	100037	2009-01-14	Normal
713	Fully-Anechoic Chamber	ETS	11.8m×6.5m×6.3m	--	2010-11-17	Normal
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
111835	Wireless Communications Test Set	R&S	CMU200	1100000802	--	Normal

Test Setup

The situation under which maximum EIRP values were found in the measurement of the radiated RF power output was used to determine the 99% occupied bandwidth. The Wireless Communications Test Set was used to set the TX channel, power level and modulation.

Test Method

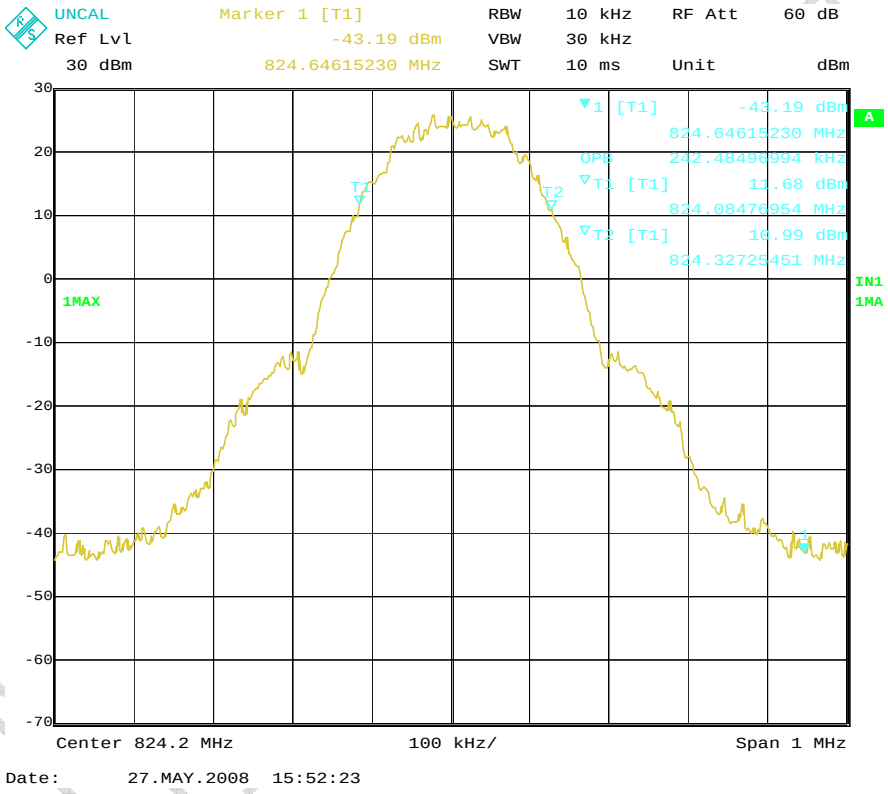
The 99% occupied bandwidth was calculated form the spectrum analyzer. Markers in the spectrum analyzer were then placed between the calculated frequencies to show the calculated 99% power band.

Note: --

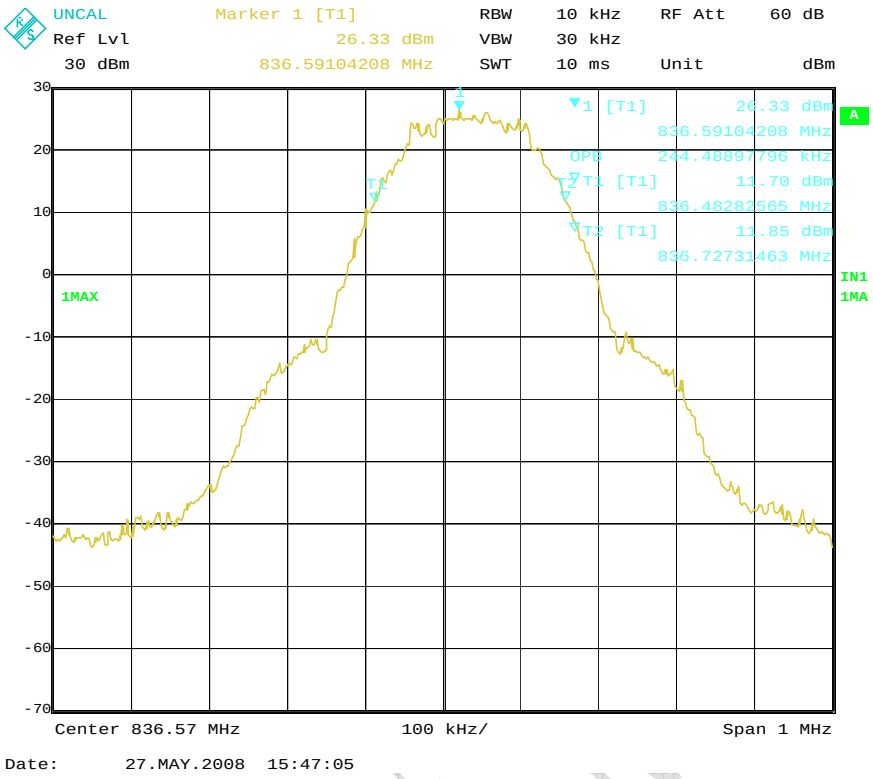
Results data of GPRS mode:

EUT channel	99% occupied bandwidth [kHz]
128	240
190	244
251	238
512	249
661	250
810	243

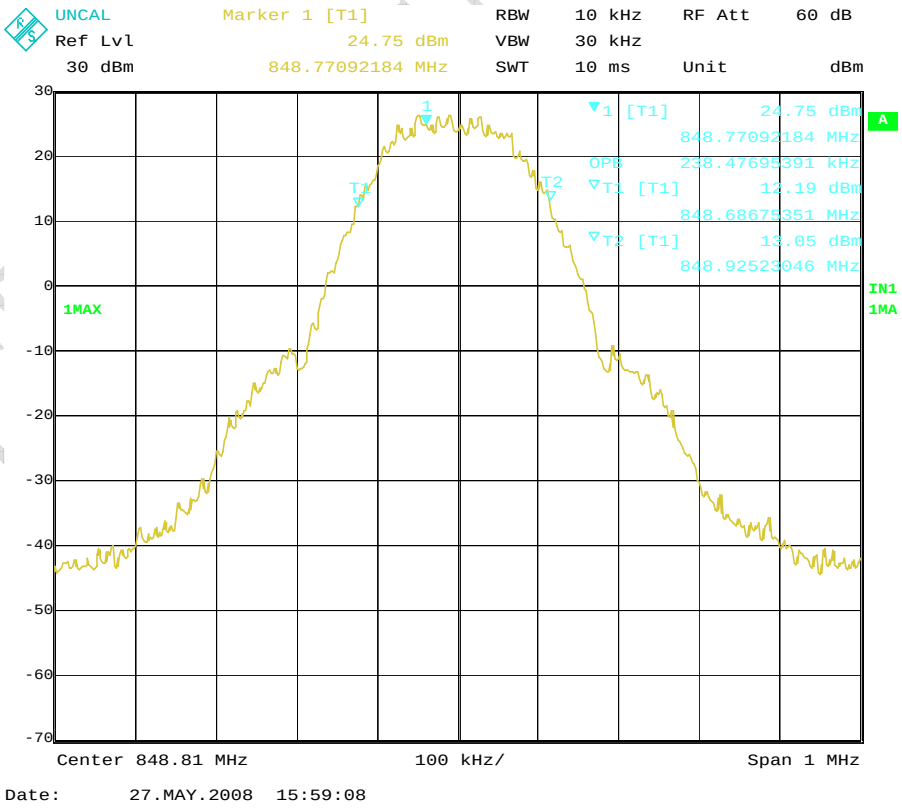
Graphical results for GPRS mode:



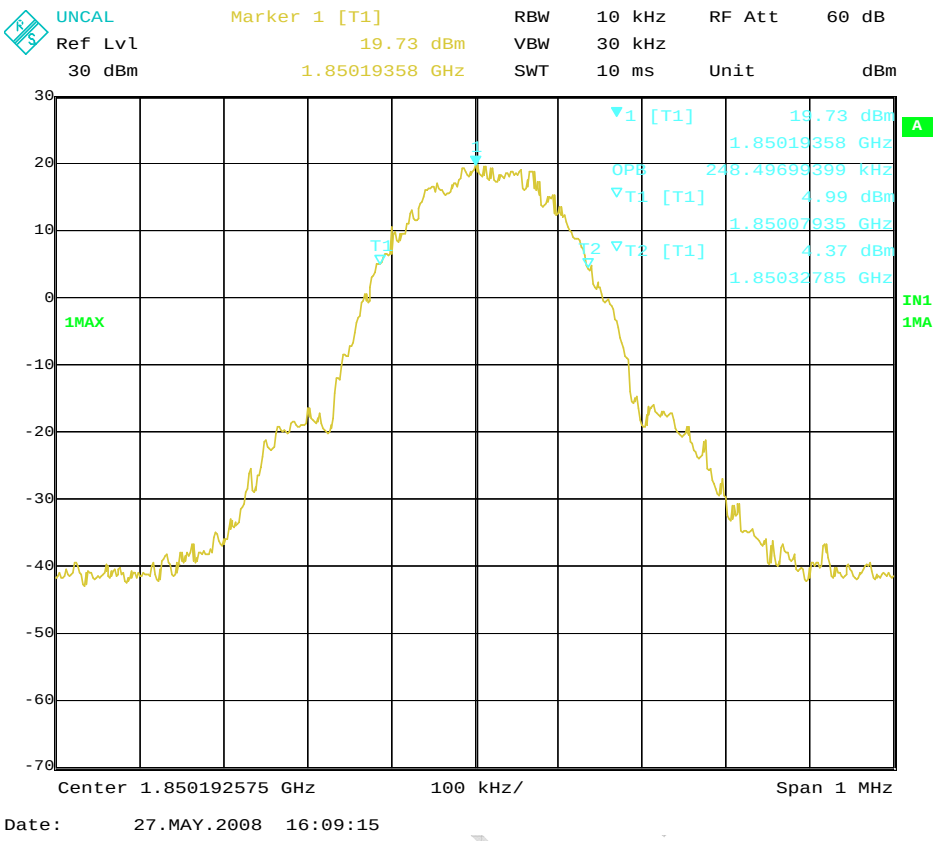
Channel 128



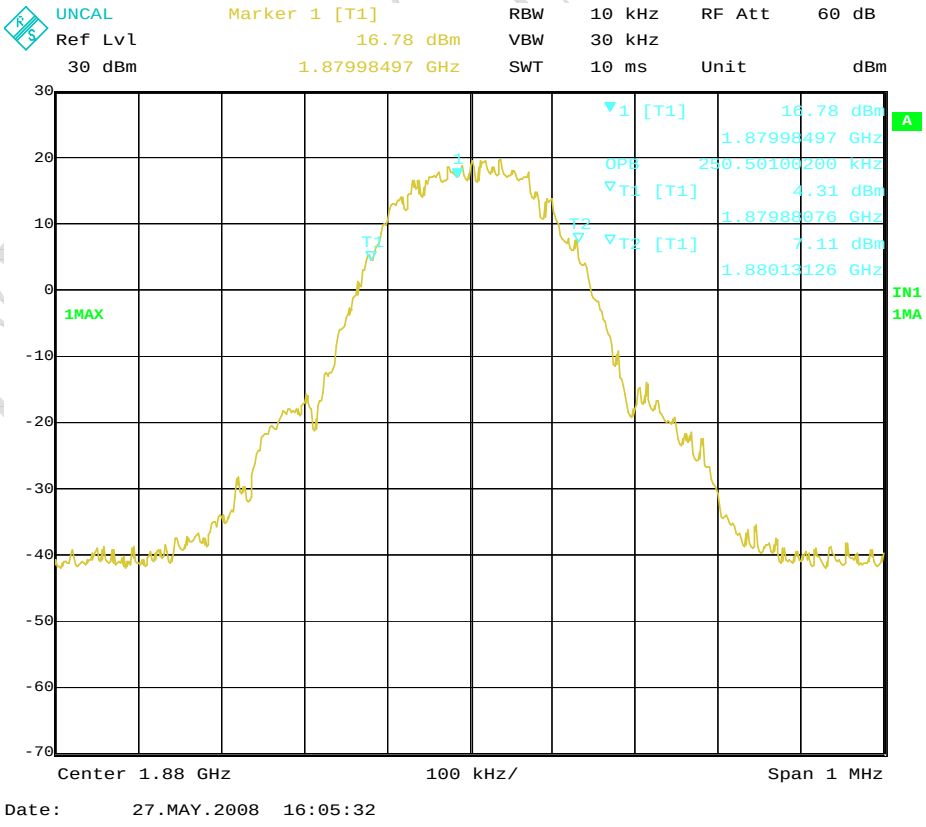
Channel 190



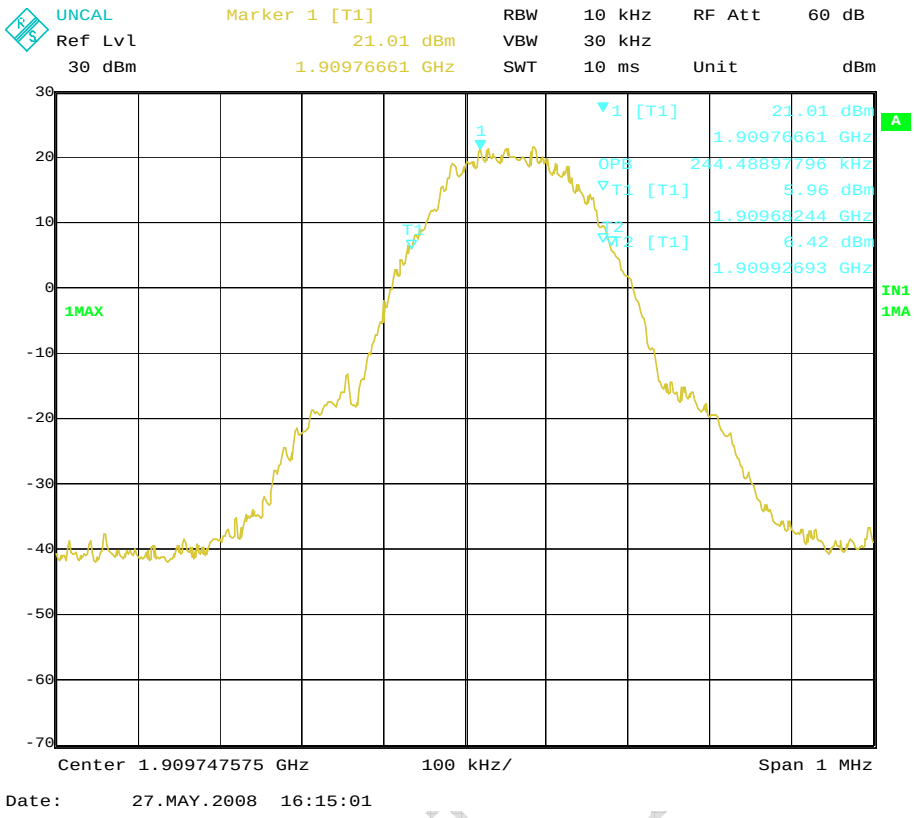
Channel 251



Channel 512



Channel 661


UNCAL
Marker 1 [T1]
RBW 10 kHz
RF Att 60 dB
Ref Lvl
21.01 dBm
VBW 30 kHz
30 dBm
1.90976661 GHz
SWT 10 ms
Unit dBm
1 [T1] 21.01 dBm
1.90976661 GHz
OPB 244.48897796 kHz
T1 [T1] 5.96 dBm
1.90968244 GHz
T2 [T1] 6.42 dBm
1.90992693 GHz
A
IN1
1MA
1MAX
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 1.909747575 GHz
100 kHz/
Span 1 MHz
Date: 27.MAY.2008 16:15:01

Channel 810

4.4 Frequency Stability over Temperature Variation

Specifications:	2.1055,22.355,24.235
Date of Test	2008-05-30
Test conditions:	Ambient Temperature:-30℃-50℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 190 and 661
Test Results:	Pass

Test equipment Used:

Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
561	Temperature Chamber	Terchy Environmental Technology LTD.	MHU-800SR	84121202	2009-05-06	Normal
111835	Wireless Communications Test Set	R&S	CMU200	1100000802	--	Normal

Limit	
Frequency deviation [ppm]	±2.5

Test Setup

The EUT was placed in a temperature chamber, demonstrated as figure T. The wireless communications test set (test simulator) was used to set the TX channel and power levels, modulate the TX signal with different bit patterns and measure the frequency of TX.

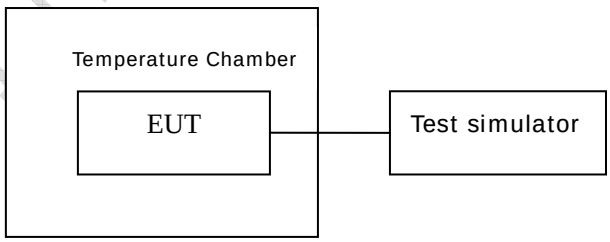


Figure T: setup for measurement of frequency stability over temperature variation

Test Method

1. The EUT was turned off and placed in the temperature chamber.
2. The temperature of the chamber was set to -30℃ and allowed to stabilize.
3. The EUT temperature was allowed to stabilize for 45 minutes.
4. The EUT was turned on and set to transmit with test simulator.
5. The maximum transmit frequency deviation during one minute period was measured by Wireless Communications Test Set.
6. The steps 3-5 were repeated for -20℃, -10℃, 0℃, 10℃, 20℃, 30℃, 40℃ and 50℃.

Test results data for GPRS mode:

Table T1: frequency deviation over temperature variation for channel 190

Temperature[℃]	Deviation[Hz]	Deviation[ppm]	Remarks
-30	-18	-0.022	Pass
-20	-11	-0.013	Pass
-10	-7	-0.008	Pass
0	-9	-0.011	Pass
10	-10	-0.012	Pass
20	-12	-0.014	Pass
30	-16	-0.019	Pass
40	-15	-0.018	Pass
50	-16	-0.019	Pass

Table T2: frequency deviation over temperature variation for channel 661

Temperature[℃]	Deviation[Hz]	Deviation[ppm]	Remarks
-30	-35	-0.019	Pass
-20	-30	-0.016	Pass
-10	-23	-0.012	Pass
0	-22	-0.012	Pass
10	-24	-0.013	Pass
20	-25	-0.013	Pass
30	-26	-0.014	Pass
40	-23	-0.012	Pass
50	-29	-0.015	Pass

4.5 Frequency Stability over Voltage Variation

Specifications:	2.1055,22.355,24.235
Date of Test	2008-05-30
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 190 and 661
Test Results:	Pass

Test equipment Used:

Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
111835	Wireless Communications Test Set	R&S	CMU200	1100000802	--	Normal
7982	DC Power Source	4NIC	DH1715A-3	004224	--	Normal

Limit	
Frequency deviation [ppm]	±2.5

Test Setup

The EUT was placed in a shielding chamber and powered by the dummy battery which is connected to a DC power source, demonstrated as figure V. The wireless communications test set was used to set the TX channel and power level, modulate the TX signal with different bit patterns and measure the frequency of TX.

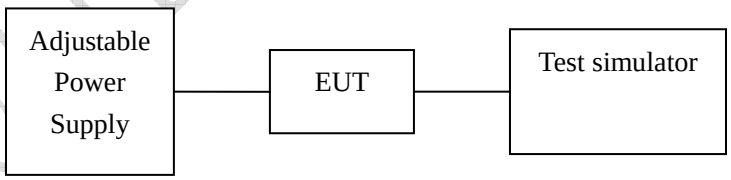


Figure V: test setup for measurement of frequency stability over voltage variation

Test Results data for GPRS mode:

Table V1: frequency deviation over voltage variation for channel 190

Level	Voltage[V]	Deviation[Hz]	Deviation[ppm]	Remarks
Nominal	3.7	-18	-0.022	Pass
Cut-off point	3.5	-18	-0.022	Pass

Table V2: frequency deviation over voltage variation for channel 661

Level	Voltage[V]	Deviation[Hz]	Deviation[ppm]	Remarks
Nominal	3.7	-20	-0.011	Pass
Cut-off point	3.5	-19	-0.010	Pass

4.6 Conducted RF Power Output

Specifications:	2.1046,22.913(a),24.232(c)
Date of Tests	2008-05-30
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 128, 190, 251, 512, 661 and 810
Test Results:	Pass

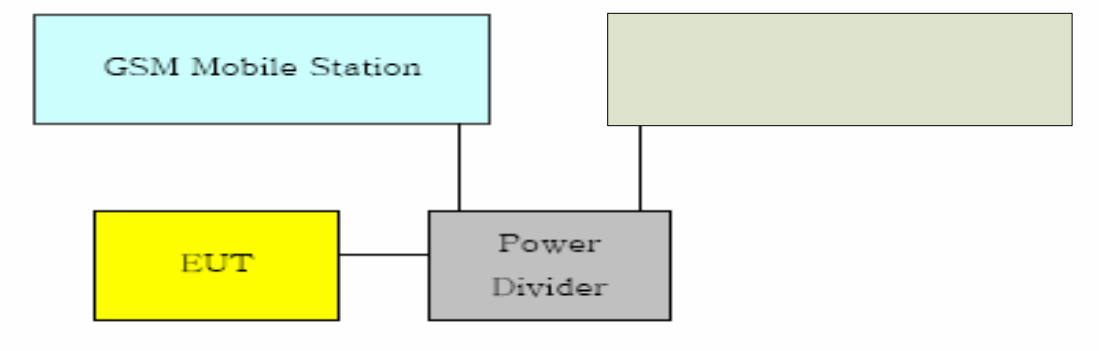
Test equipment Used:

Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-04	Normal
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
---	Power spliter	Jie sai	---	1000132	2009-01-04	Normal
111835	Wireless Communications Test Set	R&S	CMU200	1100000802	--	Normal

Limits for Radiated RF Power Output	
Frequency range	**Limit Level (EIRP) / Resolution Bandwidth**
TX channel	33dBm/1MHz
Limits for ERP	
Frequency range	**Limit Level (ERP)**
TX channel	7W

Test Setup:

During the process of testing, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by Rhode & Schwarz EMI test receiver (ESI26).



Test Method

1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a power divider. The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The lost of the cables the test system is calibrated to correct the readings.
2) The spectrum analyzer was set to Maxpeak Detector function and Maximum hold mode.
3) The resolution bandwidth of the spectrum analyzer was comparable to the emission bandwidth.

Note: --

Test Results for GPRS mode:

EIRP Value for GPRS 850 band:

ARFCN	Peak output power [dBm]
128	28.74
190	28.52
251	30.21

EIRP Value for GPRS 1900 band:

ARFCN	Peak output power [dBm]
512	25.62
661	23.65
810	25.42

4.7 Conducted Spurious Emission

Specifications:	2.1051,22.917,24.238
Date of Tests	2008-05-30
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 190 and 661
Test Results:	Pass

Test equipment Used:

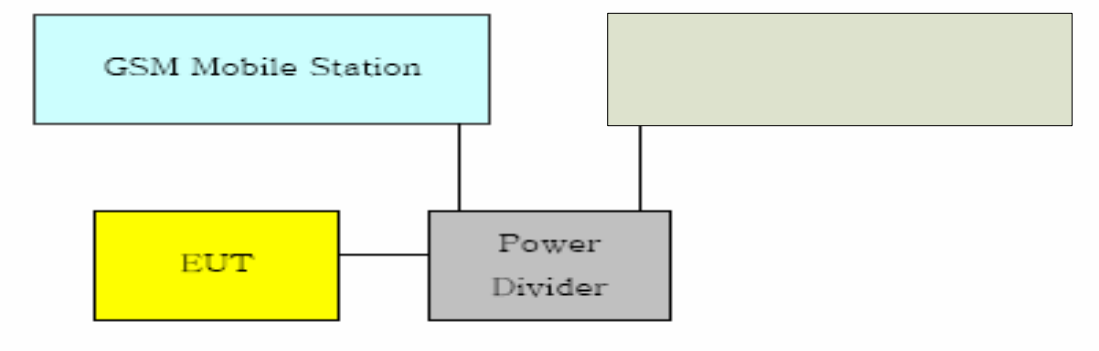
Asset Number	Description	Manufacturer	Model Number	Serial Number	Cal Due	State
7805	EMI Test Receiver	R/S	ESI26	100211	2009-01-04	Normal
023	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2008-06-13	Normal
---	Power spliter	Jie sai	---	1000132	2009-01-04	Normal
111835	Wireless Communications Test Set	R&S	CMU200	1100000802	--	Normal

Limit Level Construction:
According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is:
P(dBm) – (43 + 10 log(P)) dB= -13dBm

Limits for Radiated spurious emissions(UE)	
Frequency range	**Limit Level /Resolution Bandwidth**
30 MHz to 20000 MHz	-13dBm/1MHz

Test Setup:

During the process of testing, the EUT was controlled via Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by Rhode & Schwarz EMI test receiver (ESI26)



Test Method

The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-B-2002: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

The following steps outline the procedure used to measure the conducted emissions from the EUT.

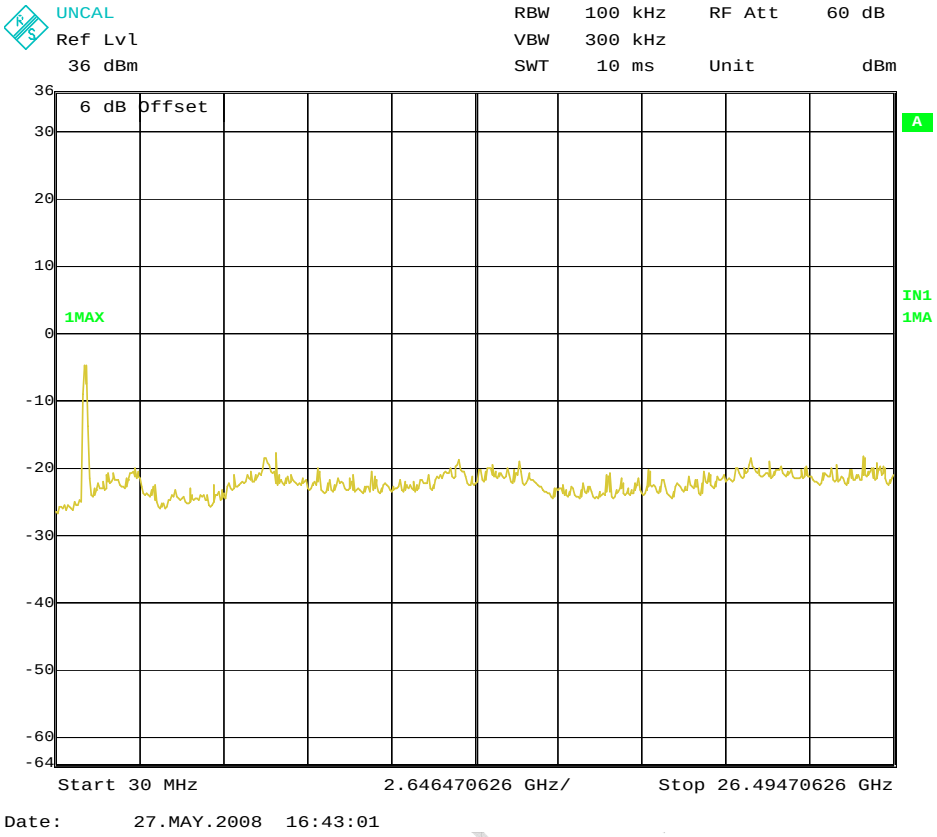
1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the equipment under test, this equates to a frequency range of 30 MHz to 19.1 GHz, data taken from 30 MHz to 20 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

Note: --

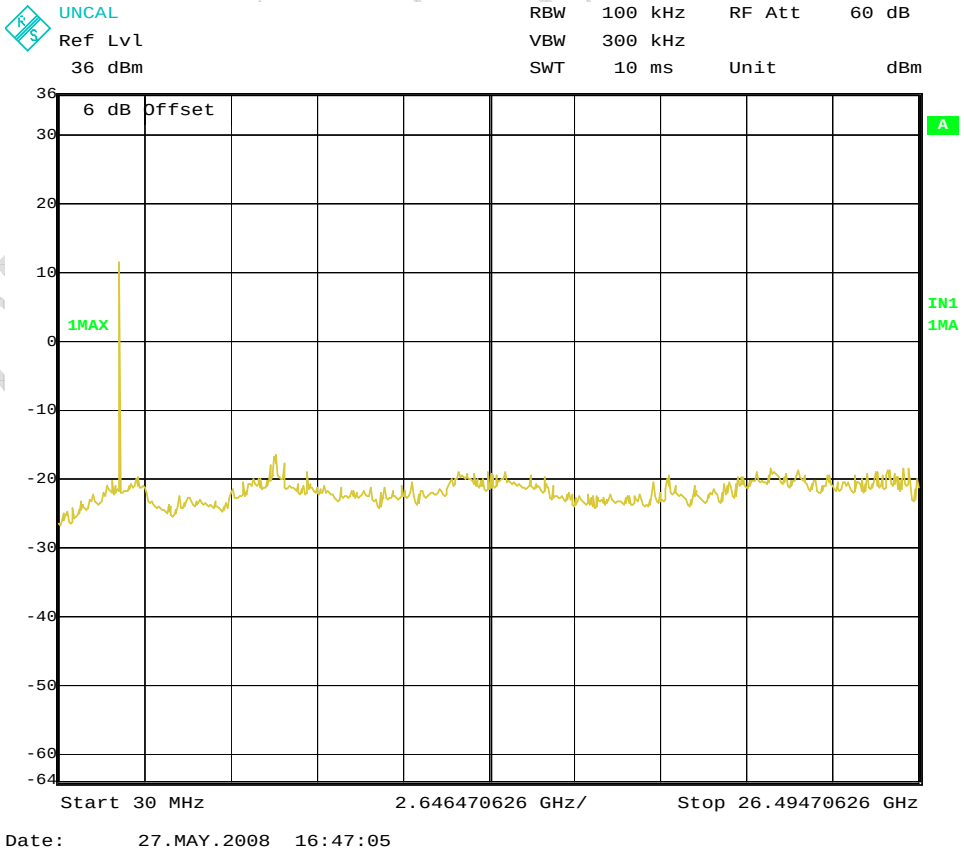
Test Results for GPRS mode:

Out of band emission	
Frequency [MHz]	Level (dBm)
--	--

Graphical results for GPRS mode:



Channel 190



Channel 661

Annex A External Photos

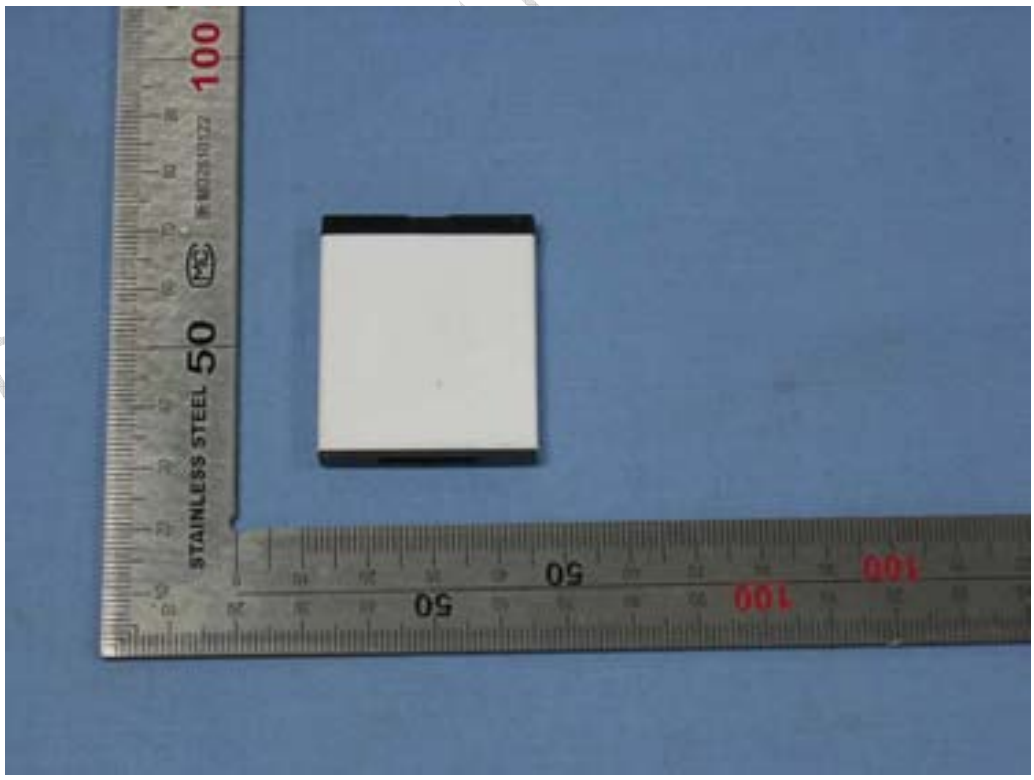
Front

back

Back without battery

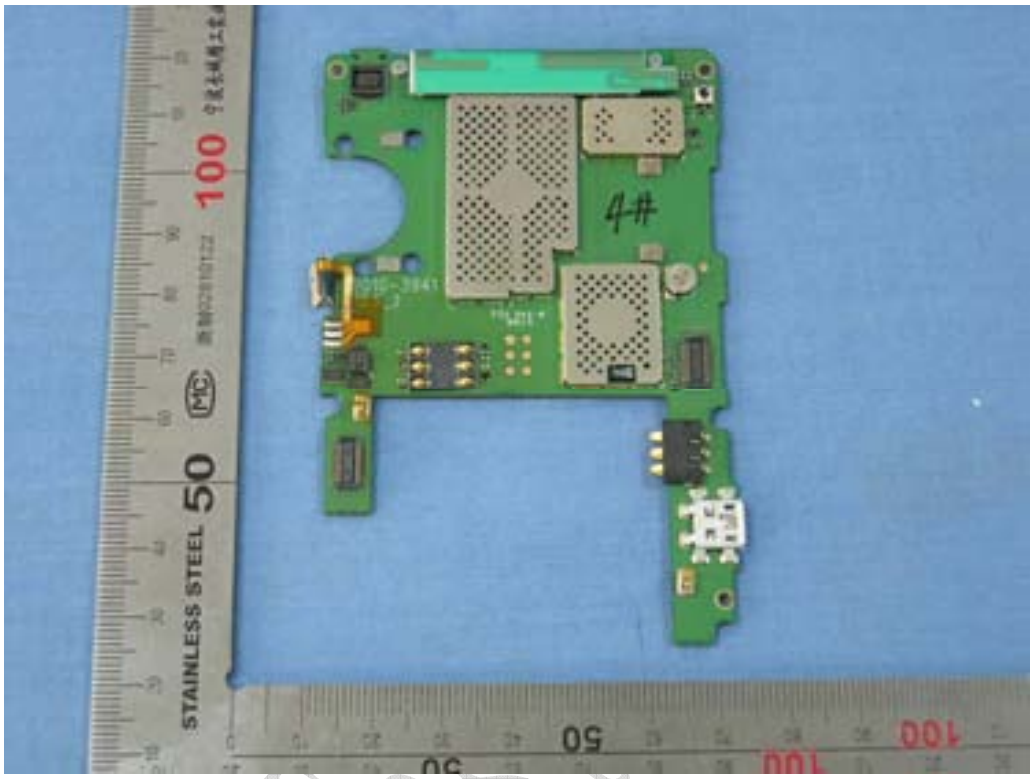
Adaptor and cable

Data cable

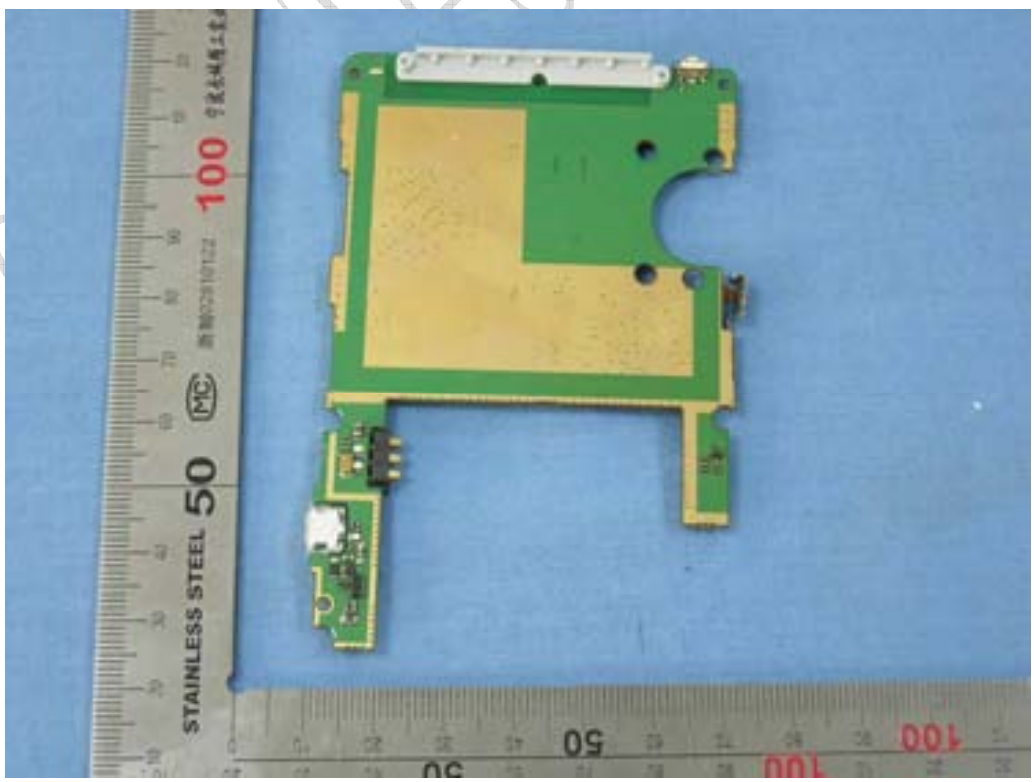


Battery

Annex B Internal Photos



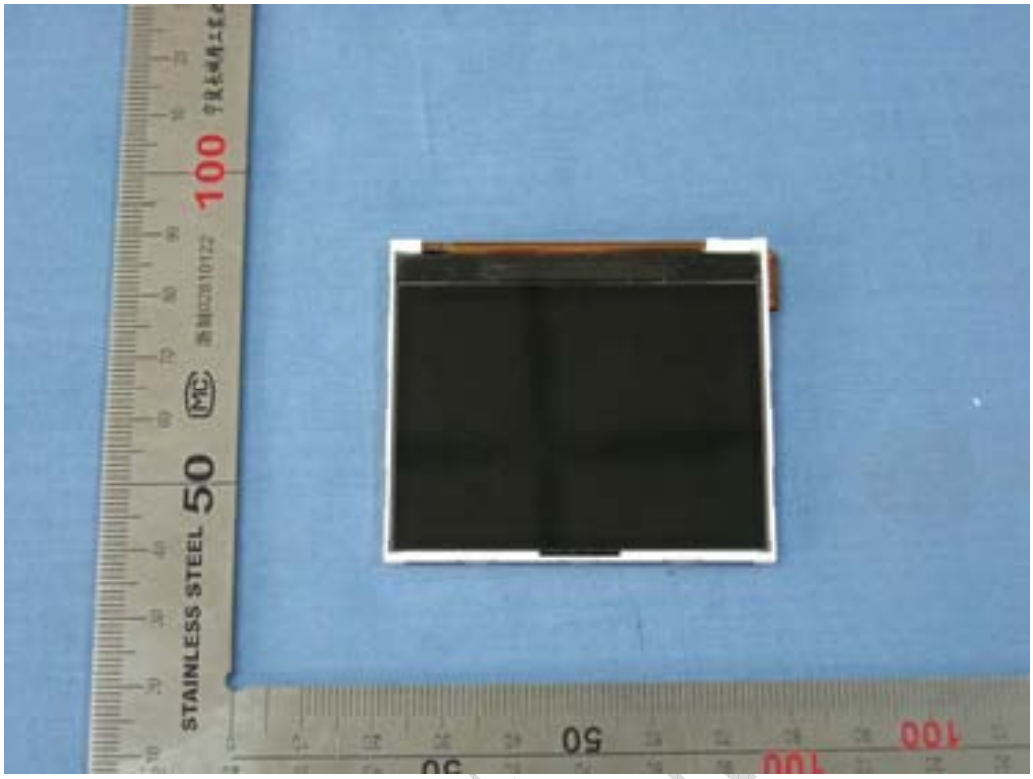
Main board (face)



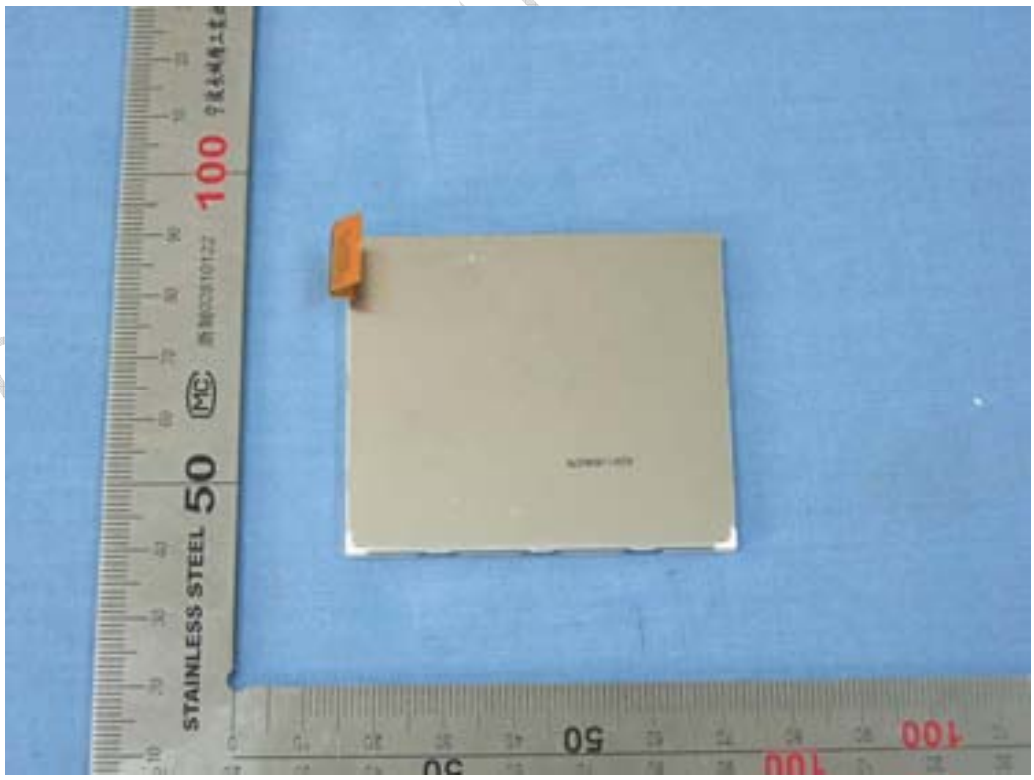
Main borar (back)

Shell internal structure

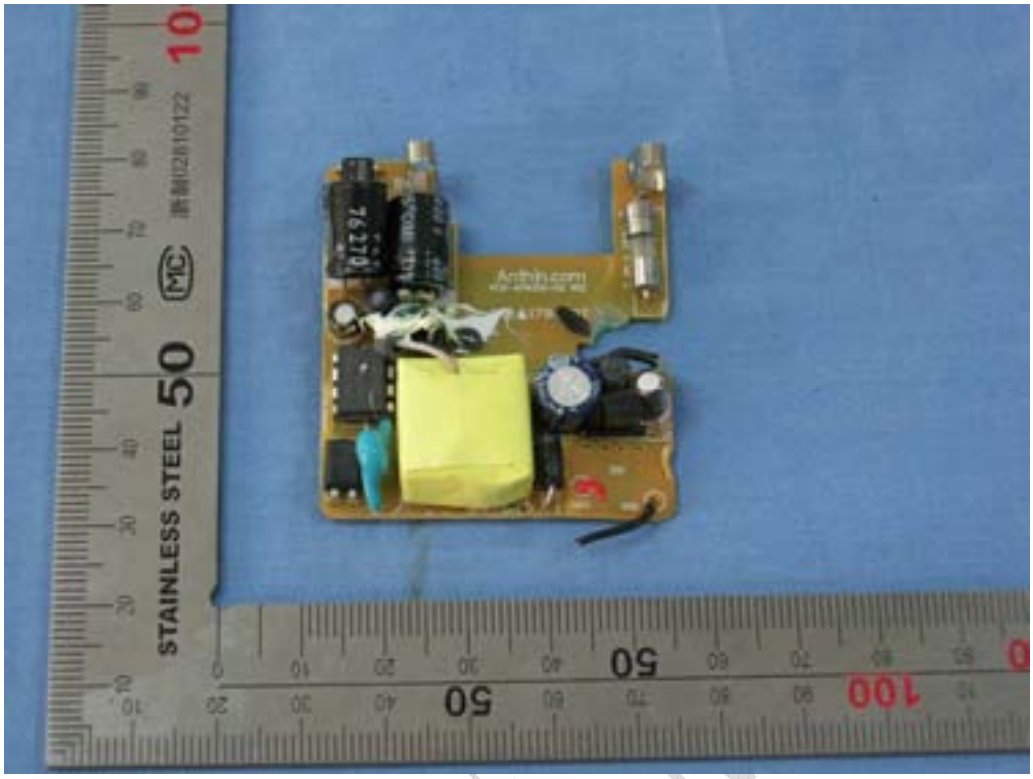
Shell internal structure



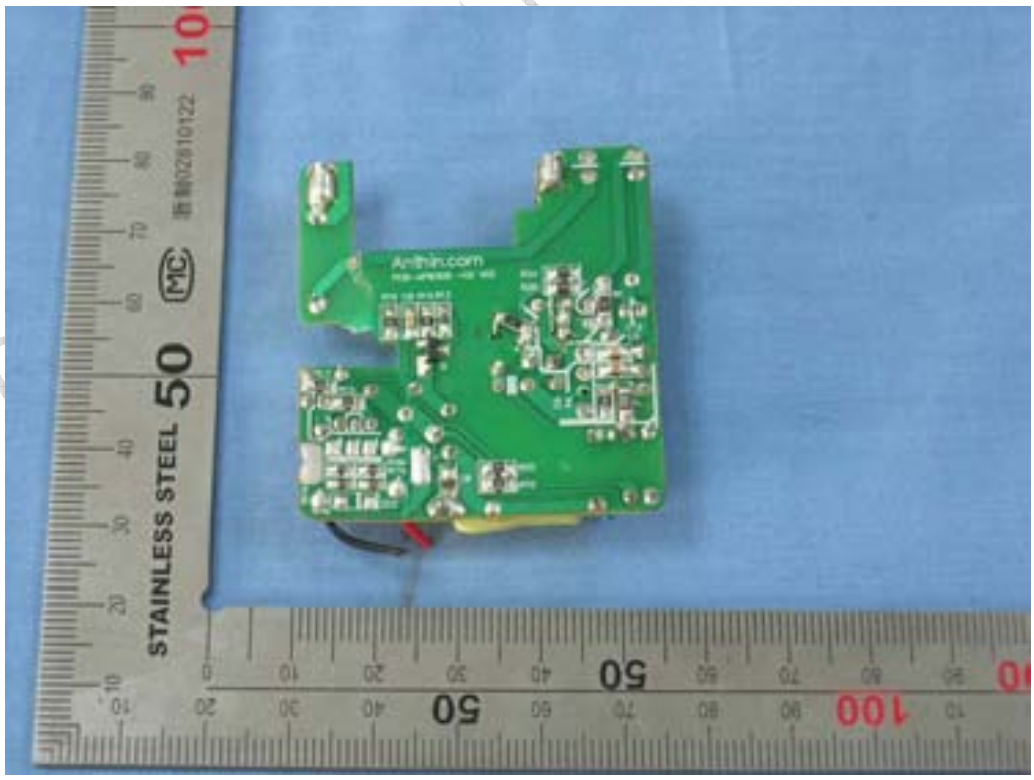
LCD face



LCD back



Adaptor face



Adaptor back

ANNEX C Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

The End of this Report