## 47 CFR PART 15 SUBPART B

# TEST REPORT

of

**Mobile phone**

| | |
|---|---|
| Model Name: | P168C |
| Brand Name: | TCT |
| Report No.: | SZ08050125E01 |
| FCC ID: | WEM0806P168CA0001 |

*prepared for*

**Top Crown Technology Limited**
Unit 1313 Room Hua Lian BUILDING No 2008
Shen Nan Zhong Lu Fu Tian District S.Z

*prepared by:*

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OFTA 電訊管理局 SET GCF Official Observer of Global Certification Forum CNAS GSM GLOBAL SYSTEM FOR MOBILE COMMUNICATIONS

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# 1. TEST CERTIFICATION

| | |
|---|---|
| Equipment under Test: | Mobile phone |
| Brand Name: | TCT |
| Model Name: | P168C |
| FCC ID: | WEM0806P168CA0001 |
| Applicant: | Top Crown Technology Limited<br>Unit 1313 Room Hua Lian BUILDING No 2008 Shen Nan Zhong Lu Fu Tian District S.Z |
| Manufacturer: | Top Crown Technology Limited<br>Unit 1313 Room Hua Lian BUILDING No 2008 Shen Nan Zhong Lu Fu Tian District S.Z |
| Test Standards: | 47 CFR Part 15 Subpart B |
| Test Date(s): | June 19, 2008 – June 26, 2008 |
| Test Result: | PASS |

*** We Hereby Certify That:**

The equipment under test was tested by Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. 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: ..... Dated: 2008.6.28
Luo Biao

Reviewed by: ..... Dated: 2008.6.28
Wei Yanquan

Approved by: ..... Dated: 2008.6.28
Shu Luan

# 2. GENERAL INFORMATION

## 2.1 EUT Description

| | | |
|---|---|---|
| EUT Type..... | : | Mobile Phone |
| Model Name ..... | : | P168C |
| Serial No. ..... | : | (n.a., marked #1 by test site) |
| IMEI ..... | : | 135790246811220 |
| Hardware Version ..... | : | YH718+_V1.3 |
| Software Version ..... | : | YH718-NONE-EN1_850-HW_V1.3-SW_V001 |
| Modulation Type..... | : | GMSK |
| Emission Designator: | | 300KGXW |
| Manufacturer ..... | : | Top Crown Technology Limited |
| Power Supply: ..... | : | Battery |
| | | Brand name: (n.a.) |
| | | Mode No.: P168 |
| | | Capacitance: 1200mAh |
| | | Rated voltage: 3.7V |
| | | Charge limited: 4.2V |
| | | Manufacturer: SHENZHEN ZHIYIN ELECTRONIC CO., LTD |
| Accessory Equipment:..... | | AC Adapter (Charger for Battery) |
| | | Brand Name: (n.a.) |
| | | Model Name: C3013A01 |
| | | Serial No.: (n.a. marked #1 by test site) |
| | | Rated Input: ~ 100V-240V, 50/60Hz, 120mA |
| | | Rated Output: ⎓ 4.2V, 300mA |
| | | Manufacturer: SHENZHEN BMT ELECTRONIC CO., LTD |
| | | Wire Length: 80cm |

NOTE:

1. The MS is a Dual-SIM-Card and Simultaneous-Dual-GSM Mobile phone, i.e. two GSM radios, it support the GSM 850MHz, GSM 1800MHz and GSM 1900MHz bands, only GSM 850MHz and GSM 1900MHz were tested in this report.
2. The EUT provides Bluetooth wireless interface operating at 2.4GHz ISM band. There wideband transmission function was also tested according the standard requirements.
3. For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

## 2.2 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart B:

| No. | Identity | Document Title |
|---|---|---|
| 1 | 47 CFR Part 15 (10-1-05 Edition) | Radio Frequency Devices |

Test detailed items/section required by FCC rules and results are as below:

| No. | Section | Description | Result | Test date |
|---|---|---|---|---|
| 1 | 15.107 | Conducted Emission | PASS | 2008-6-19 |
| 2 | 15.109 | Radiated Emission | PASS | 2008-6-19 |

## 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 518055 CHINA. The test site is 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 Environment Conditions

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

| | |
|---|---|
| Temperature (°C): | 20 - 25 |
| Relative Humidity (%): | 40 - 60 |
| Atmospheric Pressure (kPa): | 86 -106 |

# 3. TEST CONDITIONS SETTING

## 3.1 Test Mode

During the measurement, the two GSM radios (GSM-1 and GSM-2) work together; but the GSM-1(GSM-2) works under Call Mode and the GSM-2(GSM-1) works under Idle Mode. The test modes of the EUT are showed as below:

(1) Call Mode

The EUT configuration of the emission tests is EUT + Battery + Charger+ Bluetooth Headset.

During the measurement, a communication link was established between the EUT and a System Simulator (SS). The EUT operated at GSM 850MHz mid ARFCN (190) and maximum output power (level 5). The Bluetooth function of the EUT was activated. A communication link was established between the MS and Bluetooth headset.

(2) USB Mode

The EUT configuration of the emission tests is TransFlash Card + EUT + Battery + PC.

In this test mode, the EUT with a TransFlash Card embedded is connected with a PC via a special USB cable supplied by applicant. During the measurement, a communication link was established between the EUT and a System Simulator (SS), simultaneity, the date is transmitting between the PC and the TransFlash Card of the EUT.

(3) Web Camera Mode

The EUT configuration of the emission tests is EUT + Battery + PC.

The EUT supports PC Web Camera function. During the measurement, the EUT was connected with a PC via a special USB cable supplied by applicant, and the EUT working by way of the PC Web Camera.

(4) MP3/MP4 Mode

The EUT configuration of the emission tests is EUT + Battery + Charger.

During the measurement, the earphone connected the EUT and the MP3/MP4 function of the MS was activated.

(5) Idle Mode

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

The EUT was synchronized to the BCCH, listening to the CCCH and able to respond to paging message. Periodic location updating was disabled.

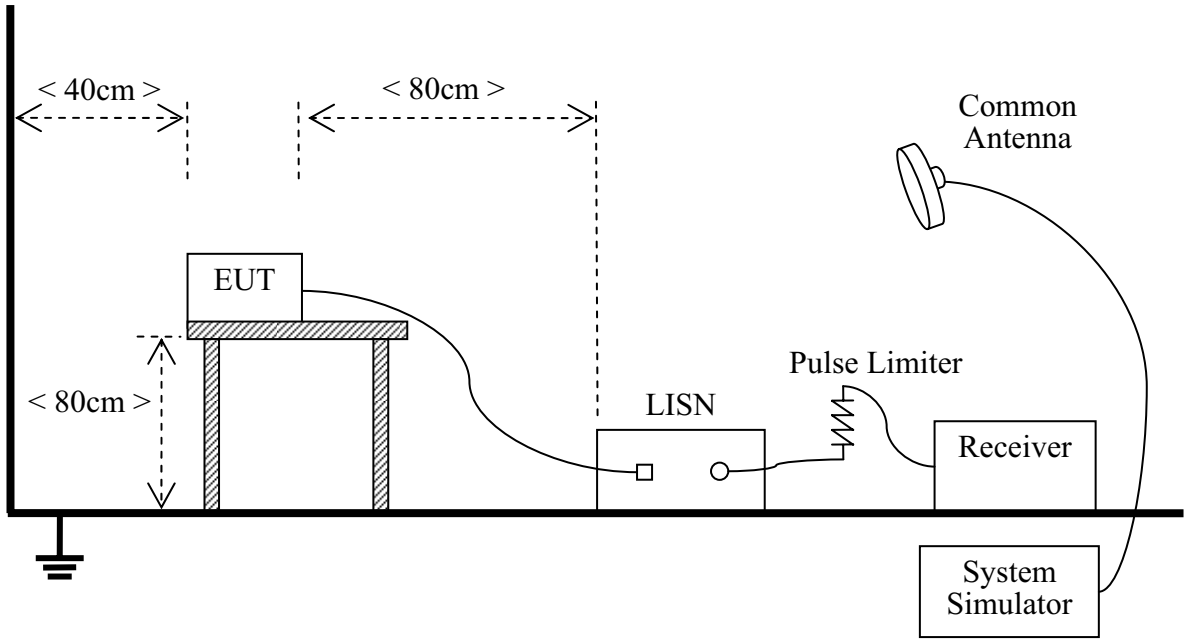
NOTE:

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

## 3.2 Test Setup and Equipments List

### 3.2.1 Conducted Emission

**A. Test Setup:**



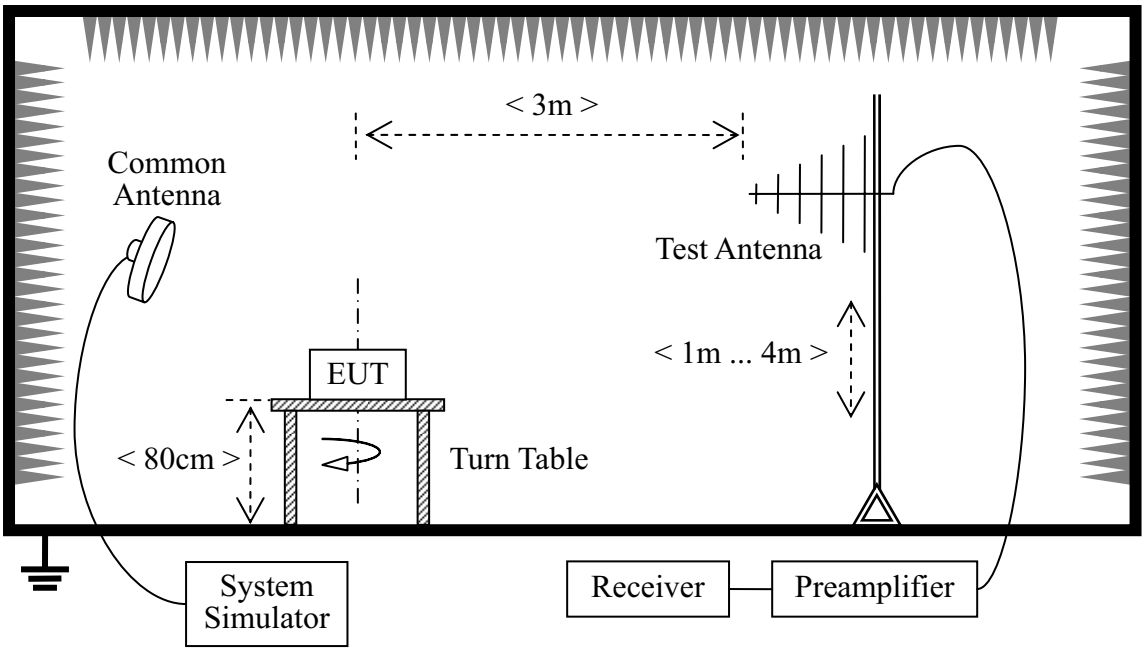

The EUT is placed on a 0.8m high insulating table, which stands on the grounded conducting floor, and keeps 0.4m away from the grounded conducting wall. The EUT is connected to the power mains through a LISN which provides 50Ω/50μH of coupling impedance for the measuring instrument. The Common Antenna is used for the call between the EUT and the System Simulator (SS). A Pulse Limiter is used to protect the measuring instrument. The factors of the whole test system are calibrated to correct the reading.

**B. Equipments List:**

| Description | Manufacturer | Model | Serial No. |
|---|---|---|---|
| Receiver | Agilent | E7405A | US44210471 |
| LISN | Schwarzbeck | NSLK 8127 | 812744 |
| Pulse Limiter (20dB) | Schwarzbeck | VTSD 9561-D | 9391 |
| System Simulator | Agilent | E5515C | GB43130131 |
| Bluetooth-Headset | Nokia | HS-36W | (n.a.) |
| T-Flash Card | SanDisk | 256MB | (n.a.) |

### 3.2.2 Radiated Emission

**A. Test Setup:**




The test is performed in a 3m Semi-Anechoic Chamber; the antenna factor, cable loss and so on of the site (factors) is calculated to correct the reading. The EUT is placed on a 0.8m high insulating Turn Table, and keeps 3m away from the Test Antenna, which is mounted on a variable-height antenna master tower. The Common Antenna is used for the call between the EUT and the System Simulator (SS).

**B. Equipments List:**

| Description | Manufacturer | Model | Serial No. |
|---|---|---|---|
| Receiver | Agilent | E7405A | US44210471 |
| Full-Anechoic Chamber | Albatross | 9m*6m*6m | (n.a.) |
| Test Antenna - Bi-Log | Schwarzbeck | VULB 9163 | 9163-274 |
| Test Antenna - Horn | Schwarzbeck | BBHA 9120C | 9120C-384 |
| System Simulator | Agilent | E5515C | GB43130131 |
| Personal Computer | IBM | T20 | (n.a.) |
| Bluetooth-Headset | Nokia | HS-36W | (n.a.) |
| T-Flash Card | SanDisk | 256MB | (n.a.) |

# 4. 47 CFR PART 15B REQUIREMENTS

## 4.1 Conducted Emission

### 4.1.1 Requirement

According to FCC section 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 50μH/50Ω line impedance stabilization network (LISN).

| Frequency range (MHz) | Conducted Limit (dBμV) | |
|---|---|---|
| | Quai-peak | Average |
| 0.15 - 0.50 | 66 to 56 | 56 to 46 |
| 0.50 - 5 | 56 | 46 |
| 5 - 30 | 60 | 50 |

NOTE:

a) The limit subjects to the Class B digital device.

b) The lower limit shall apply at the band edges.

c) The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

### 4.1.2 Test Description

See section 3.2.1 of this report.

### 4.1.3 Test Result

The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. All test modes are considered, refer to recorded points and plots below.

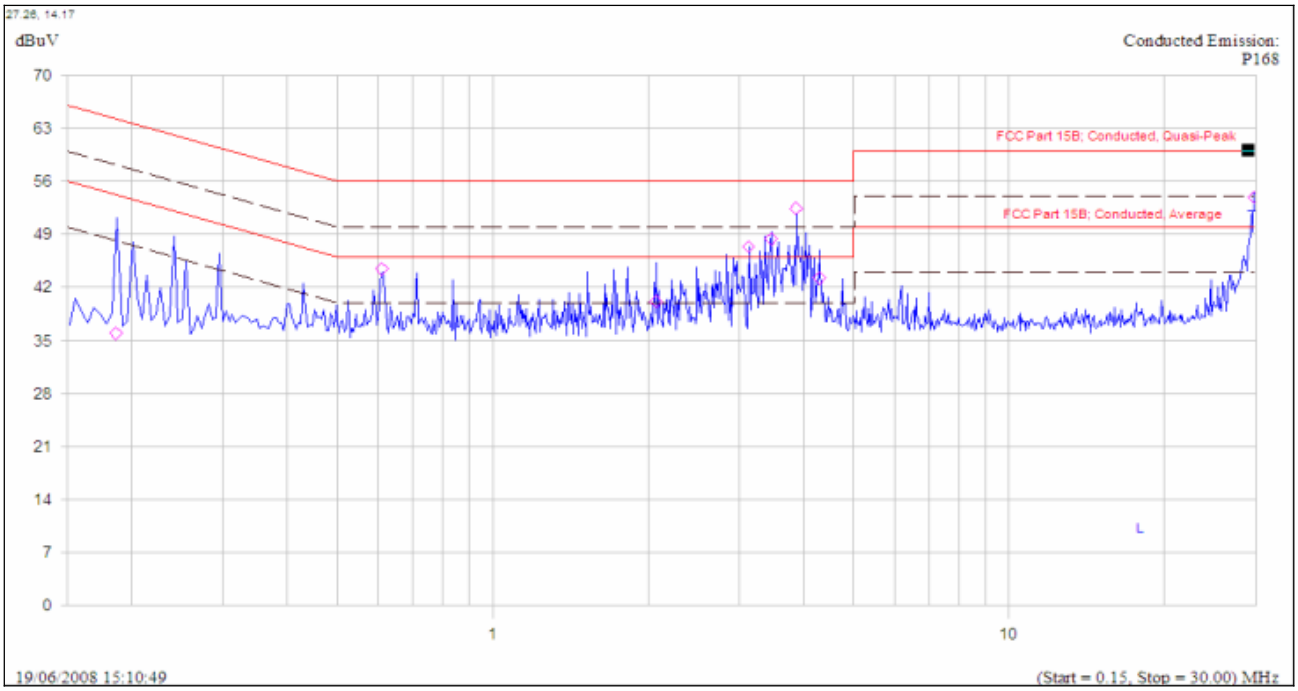
#### 4.1.3.1 Call Mode

The EUT configuration of the emission tests is EUT + Battery + Charger+ Bluetooth Headset.

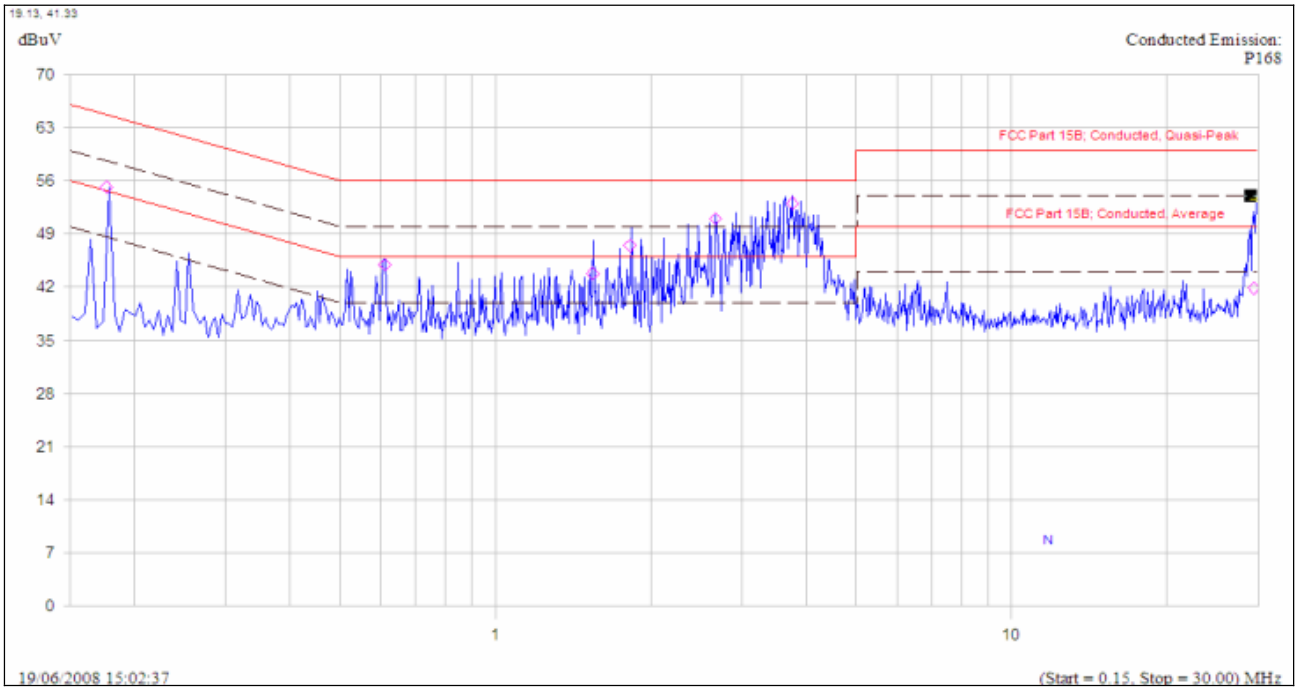
**A. Test Verdict Recorded for Suspicious Points:**

| No. | @Frequency (MHz) | Measured Emission Level (dBµV) | | | | Limit (dBµV) | | Verdict |
|---|---|---|---|---|---|---|---|---|
| | | PK | QP | AV | Phase | QP | AV | |
| 1 | 0.186 | 35.9 | 28.9 | 22.6 | L | 64.2 | 54.2 | PASS |
| 2 | 0.610 | 44.4 | 42.2 | 31.0 | L | 56.0 | 46.0 | PASS |
| 3 | 3.130 | 47.4 | 37.2 | 22.0 | L | 56.0 | 46.0 | PASS |
| 4 | 3.871 | 52.4 | 39.8 | 22.0 | L | 56.0 | 46.0 | PASS |
| 5 | 29.855 | 53.9 | 40.2 | 22.0 | L | 60.0 | 50.0 | PASS |
| 6 | (n.a.) | (n.a.) | (n.a.) | (n.a.) | L | (n.a.) | (n.a.) | (n.a.) |
| 7 | 0.176 | 55.2 | 36.4 | 23.2 | N | 64.6 | 54.6 | PASS |
| 8 | 1.542 | 43.8 | 34.8 | 22.1 | N | 56.0 | 46.0 | PASS |
| 9 | 2.668 | 51.0 | 42.4 | 22.5 | N | 56.0 | 46.0 | PASS |
| 10 | 3.765 | 53.0 | 44.4 | 22.9 | N | 56.0 | 46.0 | PASS |
| 11 | 29.457 | 41.8 | 29.6 | 20.9 | N | 60.0 | 50.0 | PASS |

**B. Test Plot:**




(Plot A: L Phase)




(Plot B: N Phase)

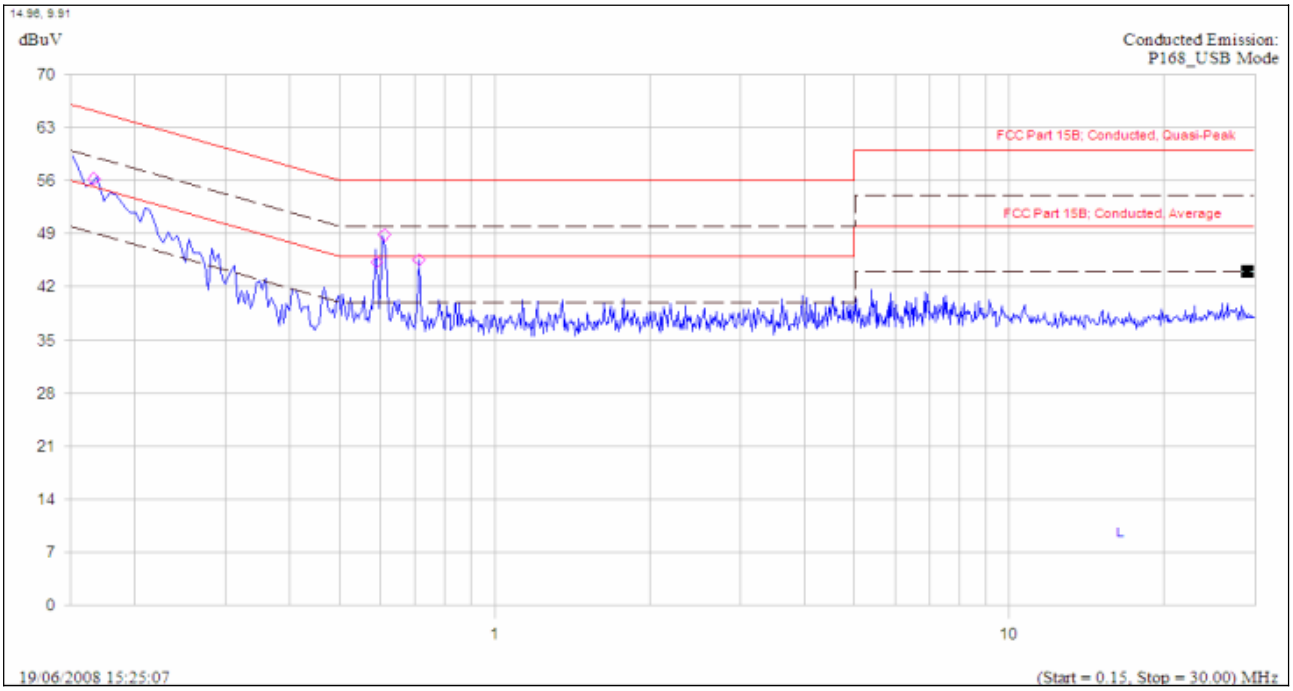
#### 4.1.3.2 USB Mode

The EUT configuration of the emission tests is TransFlash Card + EUT + Battery + PC.

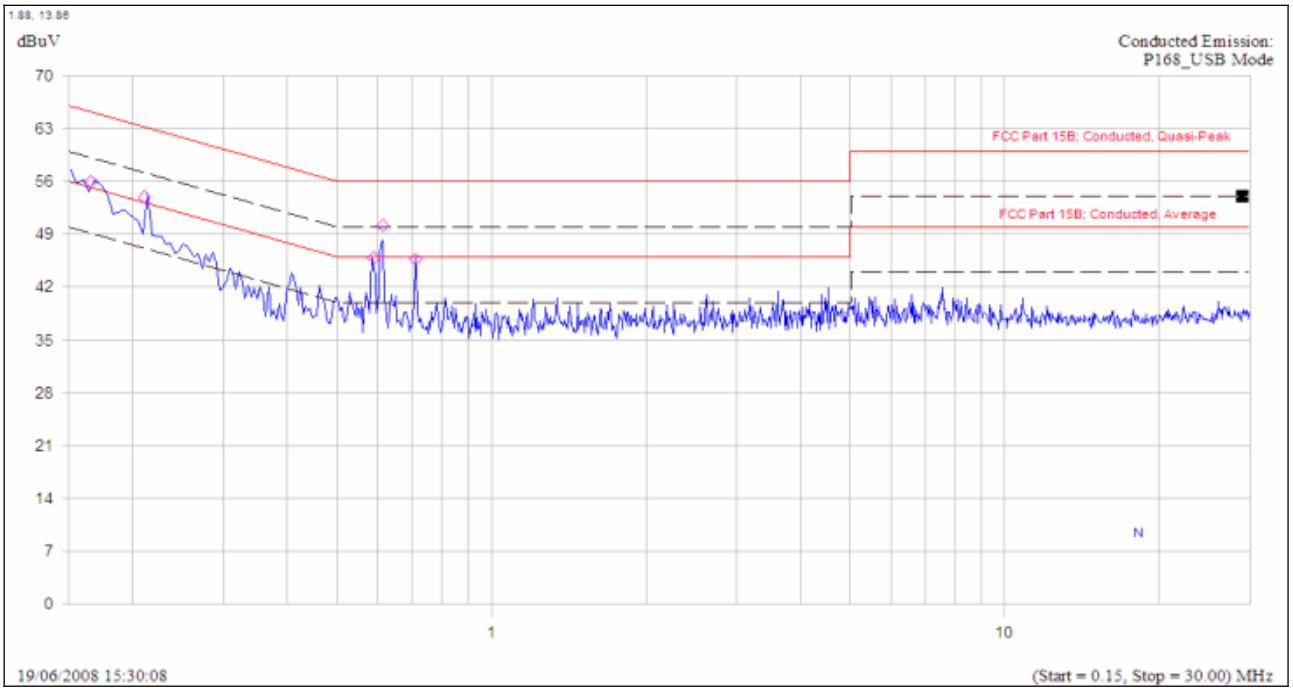
**A. Test Verdict Recorded for Suspicious Points:**

| No. | @Frequency (MHz) | Measured Emission Level (dBμV) | | | | Limit (dBμV) | | Verdict |
|---|---|---|---|---|---|---|---|---|
| | | PK | QP | AV | Phase | QP | AV | |
| 1 | 0.166 | 56.2 | 49.4 | 26.0 | L | 65.1 | 55.1 | PASS |
| 2 | 0.590 | 45.2 | 41.5 | 33.2 | L | 56.0 | 46.0 | PASS |
| 3 | 0.610 | 48.8 | 45.9 | 37.0 | L | 56.0 | 46.0 | PASS |
| 4 | 0.712 | 45.5 | 43.2 | 34.8 | L | 56.0 | 46.0 | PASS |
| 5 | (n.a.) | (n.a.) | (n.a.) | (n.a.) | L | (n.a.) | (n.a.) | (n.a.) |
| 6 | 0.165 | 56.0 | 49.5 | 25.9 | N | 65.2 | 55.2 | PASS |
| 7 | 0.210 | 54.0 | 46.9 | 38.3 | N | 63.2 | 53.2 | PASS |
| 8 | 0.590 | 45.9 | 43.4 | 34.5 | N | 56.0 | 46.0 | PASS |
| 9 | 0.613 | 50.2 | 46.7 | 37.4 | N | 56.0 | 46.0 | PASS |
| 10 | 0.710 | 45.7 | 43.3 | 35.6 | N | 56.0 | 46.0 | PASS |
| 11 | 29.457 | 41.8 | 29.6 | 20.9 | N | 60.0 | 50.0 | PASS |

**B. Test Plot:**




(Plot A: L Phase)




(Plot B: N Phase)

## 4.2 Radiated Emission

### 4.2.1 Requirement

According to FCC section 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 | |
|---|---|---|
| | μV/m | dBμV/m |
| 30 - 88 | 100 | 40.0 |
| 88 - 216 | 150 | 43.5 |
| 216 - 960 | 200 | 46.0 |
| Above 960 | 500 | 54.0 |

NOTE:

a) Field Strength (dBμV/m) = 20*log[Field Strength (μV/m)].

b) In the emission tables above, the tighter limit applies at the band edges.

### 4.2.2 Test Description

See section 3.2.2 of this report.

### 4.2.3 Test Result

The maximum radiated emission is searched using PK, QP and AV detectors; the emission levels more than the limits, and that have narrow margins from the limits will be re-measured with AV and QP detectors. Both the vertical and the horizontal polarizations of the Test Antenna are considered to perform the tests. All test modes are considered, refer to recorded points and plots below.

#### 4.2.3.1 Call Mode

The EUT configuration of the emission tests is EUT + Battery + Charger.

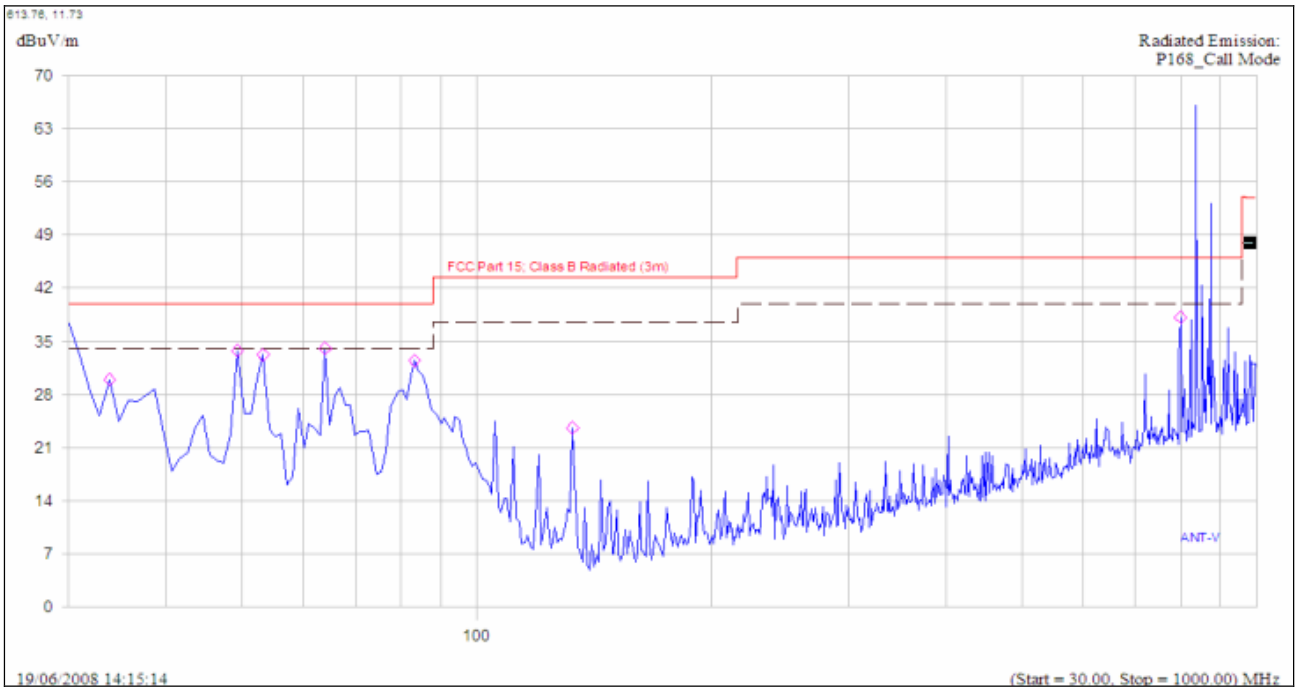
**A. Test Verdict Recorded for Suspicious Points:**

| No. | @Frequency (MHz) | Emission Level (dBμV/m) | | | Quasi-Peak Limit (dBμV/m) | Result |
|---|---|---|---|---|---|---|
| | | PK | QP | Antenna Polarization | | |
| 1 | 49.400 | 33.8 | 30.6 | Vertical | 40.0 | PASS |
| 2 | 53.280 | 33.2 | 29.1 | Vertical | 40.0 | PASS |
| 3 | 63.950 | 34.1 | 30.9 | Vertical | 40.0 | PASS |
| 4 | 83.350 | 32.5 | 28.7 | Vertical | 40.0 | PASS |
| 5 | 800.180 | 38.1 | 36.0 | Vertical | 46.0 | PASS |
| 6 | (n.a) | (n.a) | (n.a) | Vertical | (n.a) | (n.a) |

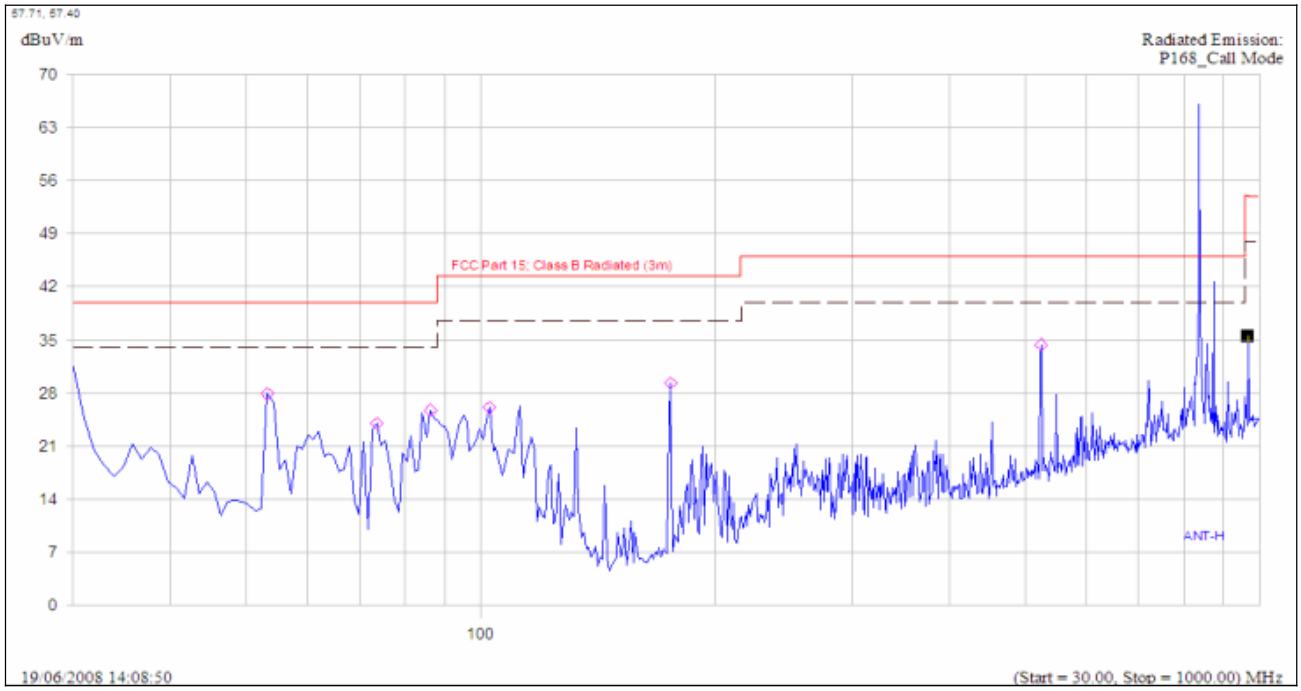
| No. | @Frequency (MHz) | Emission Level (dBμV/m) | | | Quasi-Peak Limit (dBμV/m) | Result |
|---|---|---|---|---|---|---|
| | | PK | QP | Antenna Polarization | | |
| 7 | 55.280 | 27.9 | 25.2 | Horizontal | 40.0 | PASS |
| 8 | 73.650 | 24.0 | 22.1 | Horizontal | 40.0 | PASS |
| 9 | 86.260 | 25.7 | 23.3 | Horizontal | 40.0 | PASS |
| 10 | 102.750 | 26.1 | 24.4 | Horizontal | 43.5 | PASS |
| 11 | 175.500 | 29.3 | 26.5 | Horizontal | 43.5 | PASS |
| 12 | 524.700 | 34.4 | 30.1 | Horizontal | 46.0 | PASS |

**B. Test Plot:**

Note: 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.




(Plot A: Test Antenna Vertical)




(Plot B: Test Antenna Horizontal)

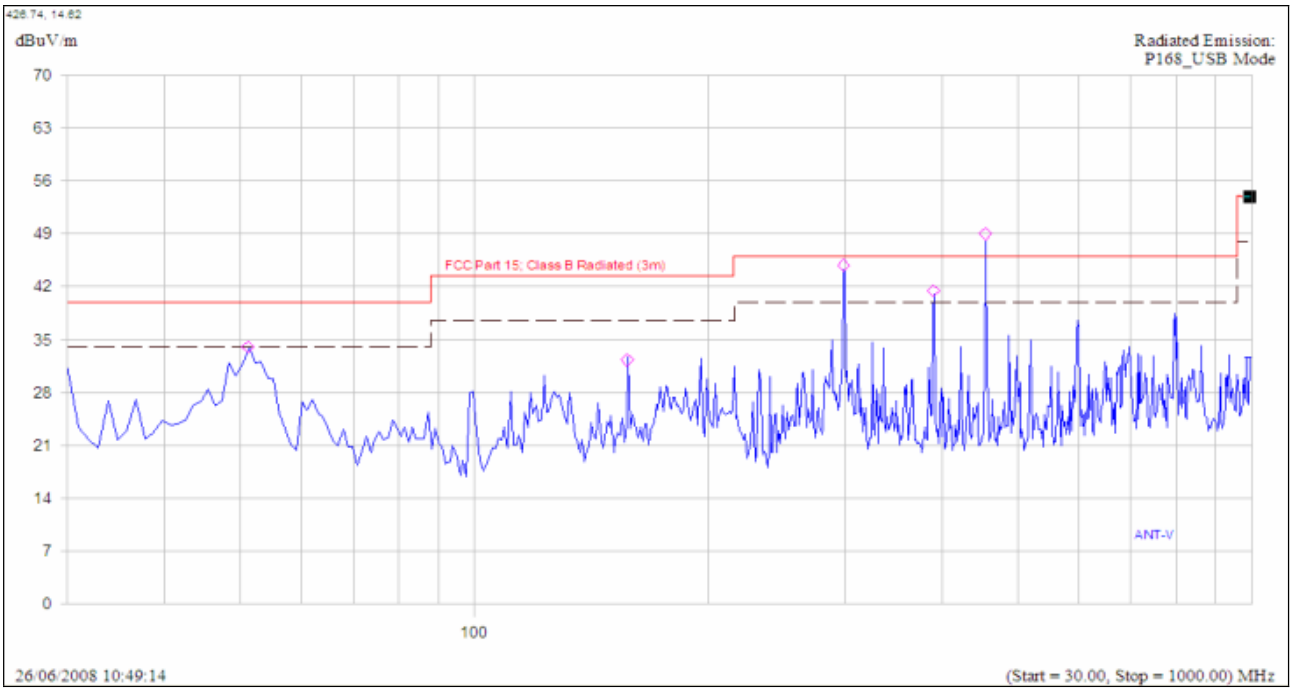
#### 4.2.3.2 USB Mode

The EUT configuration of the emission tests is TransFlash Card + EUT + Battery + PC.

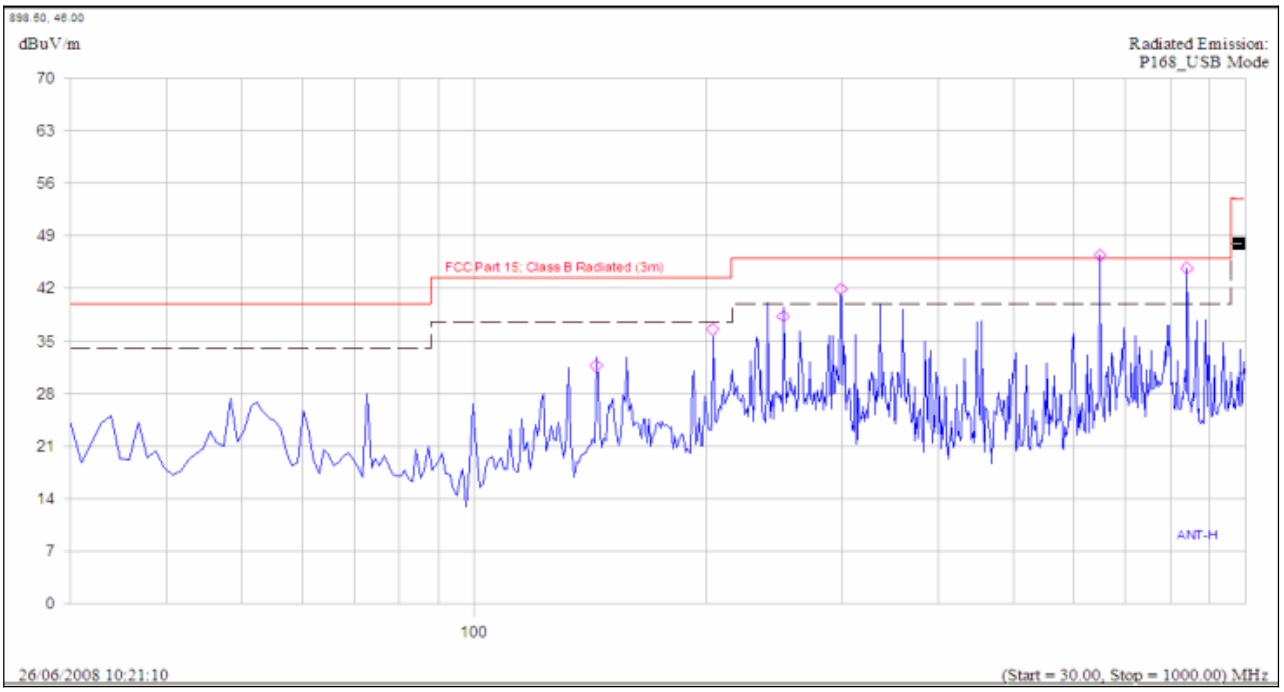
**A. Test Verdict Recorded for Suspicious Points:**

| No. | @Frequency (MHz) | Emission Level (dBμV/m) | | | Quasi-Peak Limit (dBμV/m) | Result |
|---|---|---|---|---|---|---|
| | | PK | QP | Antenna Polarization | | |
| 1 | 51.220 | 34.0 | 27.5 | Vertical | 40.0 | PASS |
| 2 | 157.495 | 32.3 | 29.4 | Vertical | 46.0 | PASS |
| 3 | 298.822 | 44.9 | 41.4 | Vertical | 46.0 | PASS |
| 4 | 389.879 | 41.5 | 39.5 | Vertical | 46.0 | PASS |
| 5 | 454.866 | 48.5 | 45.6 | Vertical | 46.0 | PASS |
| 6 | (n.a) | (n.a) | (n.a) | Vertical | (n.a) | (n.a) |
| 7 | 144.049 | 31.7 | 27.1 | Horizontal | 43.5 | PASS |
| 8 | 203.973 | 36.6 | 30.5 | Horizontal | 40.0 | PASS |
| 9 | 251.937 | 38.3 | 32.7 | Horizontal | 43.5 | PASS |
| 10 | 299.181 | 41.9 | 37.7 | Horizontal | 46.0 | PASS |
| 11 | 648.860 | 46.4 | 44.8 | Horizontal | 46.0 | PASS |
| 12 | 840.920 | 44.7 | 41.0 | Horizontal | 46.0 | PASS |

**B. Test Plot:**




(Plot A: Test Antenna Vertical)




(Plot B: Test Antenna Horizontal)

** END OF REPORT **