



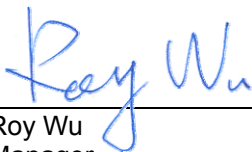
FCC Test Report

for

47 CFR Part 22H, 24E

Equipment : Neo 1973
Trade Name : FIC
Model No. : GTA02E
FCC ID : EUNGTA02E
Tx Frequency Range : PCS1900 : 1850.2 ~1909.8 MHz
Max. ERP/EIRP Power : PCS1900 : 0.83 W
Emission Designator : 300KGXW
Applicant : **FIC (First International Computer, Inc.)**
1-9F., No. 300, Yang Guang, NeiHu, Taipei, Taiwan, 114

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on Jan. 09, 2008 at **Sporton International Inc. LAB.**
- Report No.: FG7O1101-01, Report Version: Rev. 01.



Roy Wu
Manager

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.



Table of Contents

History of this test reportii

1. General Information.....1

 1.1 Applicant.....1

 1.2 Manufacturer1

 1.3 Basic Description of Equipment under Test.....1

 1.4 Feature of Equipment under Test.....2

 1.5 Report Date3

2. Test Configuration of Equipment under Test.....4

 2.1 Test Manner4

 2.2 Test Mode4

 2.3 Radiation Diagram of Test System5

 2.4 Ancillary Equipment List5

3. General Information of Test Site6

 3.1 Test Voltage6

 3.2 Test Compliance6

 3.3 Frequency Range6

 3.4 Test Distance6

4. Test Data and Test Result.....7

 4.1 List of Measurements and Examinations.....7

 4.2 RF Output Power.....8

 4.3 ERP / EIRP Measurement.....9

 4.4 Occupied Bandwidth and Band Edge Measurement12

 4.5 Conducted Emission.....23

 4.6 Field Strength of Spurious Radiation29

 4.7 Frequency Stability (Temperature Variation)35

 4.8 Frequency Stability (Voltage Variation)37

5. List of Measurement Equipments38

6. Uncertainty Evaluation.....39

Appendix A - External Photographs of EUT

Appendix B - Internal Photographs of EUT

Appendix C - Setup Photographs



History of this test report

Report Issue Date: Jan. 10, 2008

| Report No. | Description |
|------------|-------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |



1. General Information

1.1 Applicant

FIC (First International Computer, Inc.)
1-9F., No. 300, Yang Guang, NeiHu, Taipei, Taiwan, 114

1.2 Manufacturer

First International Computer (Suzhou) Inc.
No. 200, Central Suhong Road, SuZhou Industrial Park, China

1.3 Basic Description of Equipment under Test

| | | |
|-------------------|---------------------------|---|
| Equipment | | Neo 1973 |
| Trade Name | | FIC |
| Model Name | | GTA02E |
| FCC ID : | | EUNGTA02E |
| AC Adapter | Manufacture | AKII TECHNOLOGY CO., LTD. |
| | Brand Name | AKII Technology |
| | Model Name | A10P1-05MP |
| | Power Rating | I/P:100-240 Vac, 47-63 Hz, 0.3A; O/P: 5Vdc, 2.0A |
| | AC Power Cord Type | 1.49 meter non-shielded cable without ferrite core |
| Battery | Manufacture | WELLDONE COMPANY |
| | Brand Name | FIC |
| | Model Name | GTC-01 / GTA-01 |
| | Rating | 3.7Vdc, 1200mAh |
| | Type | Li-ion |
| Earphone | Brand Name | Xport |
| | Model Name | Ko-11-1020a |
| | Signal line Type | 1.42 meter non-shielded cable without ferrite core |
| USB Cable | Brand Name | Golden Bridge |
| | Model Name | AS52-0607007 |
| | Signal Line Type | 1.29 meter non-shielded cable without ferrite core |

Remark: Above EUT's information was declared by manufacturer. Please refer to the specifications of manufacturer or User's Manual for more detailed features description.



1.4 Feature of Equipment under Test

| Product Feature & Specification | |
|-------------------------------------|---|
| DUT Type : | Neo 1973 |
| Trade Name : | FIC |
| Model Name : | GTA02E |
| FCC ID : | EUNGTA02E |
| Tx Frequency : | GSM900 : 880 ~ 915 MHz DCS1800 : 1710 ~ 1785 MHz PCS1900 : 1850 ~1910 MHz Bluetooth : 2400 ~ 2483.5 MHz WLAN : 2400 ~ 2483.5 MHz |
| Rx Frequency : | GSM900 : 925 ~ 960 MHz DCS1800 : 1805 ~ 1880 MHz PCS1900 : 1930 ~ 1990 MHz Bluetooth : 2400 ~ 2483.5 MHz WLAN : 2400 ~ 2483.5 MHz GPS : 1575.42 MHz |
| Number of Channels : | Bluetooth : 79 WLAN : 11 |
| Carrier Frequency of Each Channel : | Bluetooth : 2402+n*1 MHz; n=0~78 WLAN : 2412+(n-1)*5 MHz; n=1~11 |
| Channel Spacing | GSM : 200 KHz Bluetooth : 1 MHz WLAN : 5 MHz |
| Maximum Output Power to Antenna : | PCS1900 : 29.27 dBm (GSM) Bluetooth : 2.25 dBm (1Mbps) Bluetooth EDR : 2.4 dBm (2Mbps) / 2.53 dBm (3Mbps) WLAN : 14.02 dBm (802.11b) / 14.89 dBm (802.11g) |
| Maximum ERP/EIRP : | PCS1900 : 0.83 W (29.18 dBm) |
| Type of Antenna Connector | N/A |
| Antenna Type : | GSM : Monopole Antenna GPS : Ceramic Antenna Bluetooth : Chip Antenna WLAN : Chip Antenna |
| Antenna Gain : | GSM : 0.07 dBi GPS : 0.5 dBi Bluetooth : -4.84 dBi WLAN : -3 dBi |
| HW Version : | A5 |
| SW Version : | Moko5 |
| Power Rating : | DC 3.4V |
| Type of Modulation : | GSM : GMSK Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK WLAN : DSSS / OFDM |
| Type of Emission : | GSM : 300KGXW |
| DUT Stage : | Identical Prototype |



1.5 Report Date

EUT Received : Oct. 11, 2007

Report Date : Jan. 10, 2008



2. Test Configuration of Equipment under Test

2.1 Test Manner

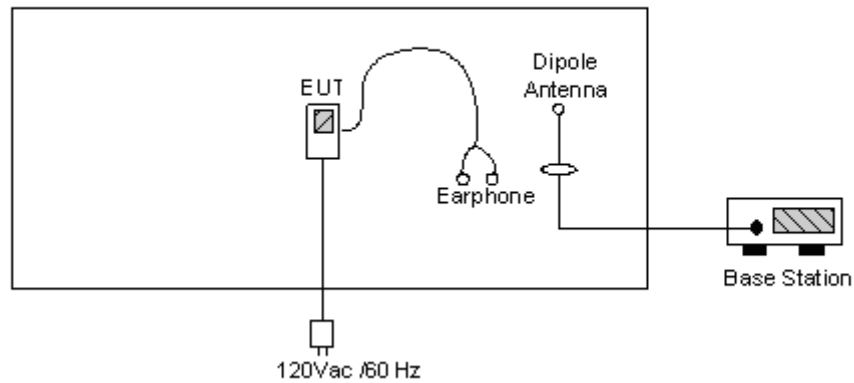
1. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.
2. During all testings, EUT is in link mode with base station emulator at maximum power level.
3. Frequency range investigated: radiated emission 30 MHz to 19000 MHz for PCS1900.

2.2 Test Mode

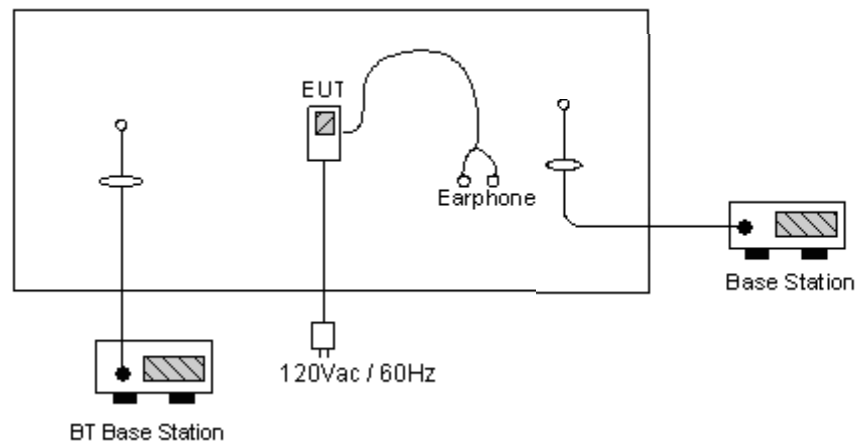
| | |
|------------------------------|--|
| Application | PCS1900 |
| Radiated Emission | <input checked="" type="checkbox"/> Mode 1: GSM Link |
| | <input checked="" type="checkbox"/> Mode 2: GSM Link + BT Link |
| Conducted Measurement | <input checked="" type="checkbox"/> Mode 1: GSM Link |

2.3 Radiation Diagram of Test System

<GSM Link>



<GSM Link + BT Link>



2.4 Ancillary Equipment List

| Item | Equipment | Trade Name | Model No. | FCC ID | Cable Cord / Power Code |
|------|-----------------|------------|-----------|--------|-------------------------|
| 1. | Base Station | R&S | CMU200 | N/A | Unshielded, 1.8m |
| 2. | BT Base Station | Anritus | 8852A | N/A | Unshielded, 1.8m |



3. General Information of Test Site

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-328-4978
Test Site No : 03CH06-HY, TH02-HY

The chamber meets the characteristics of ANSI C63.4-2003. This site is on file with the FCC.

3.1 Test Voltage

AC 120V / 60Hz

3.2 Test Compliance

47 CFR Part 22H, 24E, Part 2

3.3 Frequency Range

a. Radiation: from 30 MHz to 19000 MHz for PCS1900.

3.4 Test Distance

The test distance of radiated emission from antenna to EUT is 3 m.



4. Test Data and Test Result

4.1 List of Measurements and Examinations

| FCC Rule | Description of Test | Result | Section |
|--------------------------------------|--|--------|---------|
| §2.1046 | RF Output Power | Passed | 4.2 |
| § 22.913 §24.232 | ERP / EIRP | Passed | 4.3 |
| §2.1049, § 22.917, § 24.238(b) | Occupied Bandwidth & Band Edge Measurement | Passed | 4.4 |
| §2.1051 | Conducted Emission | Passed | 4.5 |
| §2.1053 | Field Strength of Spurious Radiation | Passed | 4.6 |
| §2.1055, § 22.355, §24.235 | Frequency Stability vs. Temperature | Passed | 4.7 |
| §2.1055, §22.355, §24.235 | Frequency Stability vs. Voltage | Passed | 4.8 |

4.2 RF Output Power

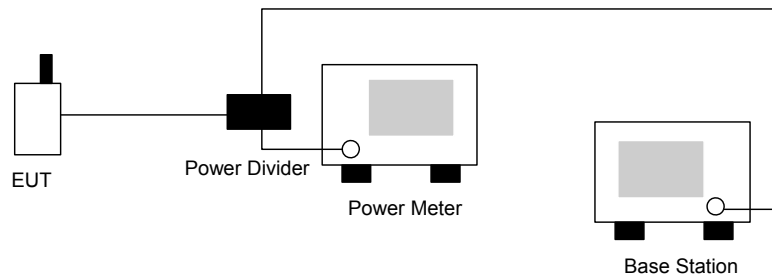
4.2.1 Measurement Instruments

As described in chapter 5 of this test report.

4.2.2 Test Procedure

- a. The transmitter output was connected to power meter and base station through power divider.
- b. Set EUT at PCL=0 for PCS1900 maximum power through base station.
- c. Select lowest, middle, and highest channels for each band.

4.2.3 Test Setup Layout



4.2.4 Test Result

| Bands | Channel | Frequency (MHz) | Conducted Power (dBm) | Conducted Power (Watts) |
|---------|---------|-----------------|-----------------------|-------------------------|
| PCS1900 | 512 | 1850.2 (Low) | 28.85 | 0.767 |
| | 661 | 1880.0 (Mid) | 29.27 | 0.845 |
| | 810 | 1909.8 (High) | 29.25 | 0.841 |



4.3 ERP / EIRP Measurement

Equivalent isotropic radiated power measurements by substitution method according to ANSI/TIA/EIA-603-C.

4.3.1 Measurement Instruments

As described in chapter 5 of this test report.

4.3.2 Test Procedure

- a. The EUT was placed on a table with 1.0 meter height in an fully anechoic chamber.
- b. The EUT was set 1.2 meters from the receiving antenna which was mounted on the antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiated power.
- d. The height of the receiving antenna is also kept at 1.0M height.
- e. Taking the record of maximum ERP/EIRP.
- f. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
- g. The conducted power at the terminal of the dipole antenna is measured.
- h. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
- i. $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$

P_s (dBm) : Input power to substitution antenna.

G_s (dBi or dBd) : Substitution antenna Gain.

$E_t = R_t + AF$

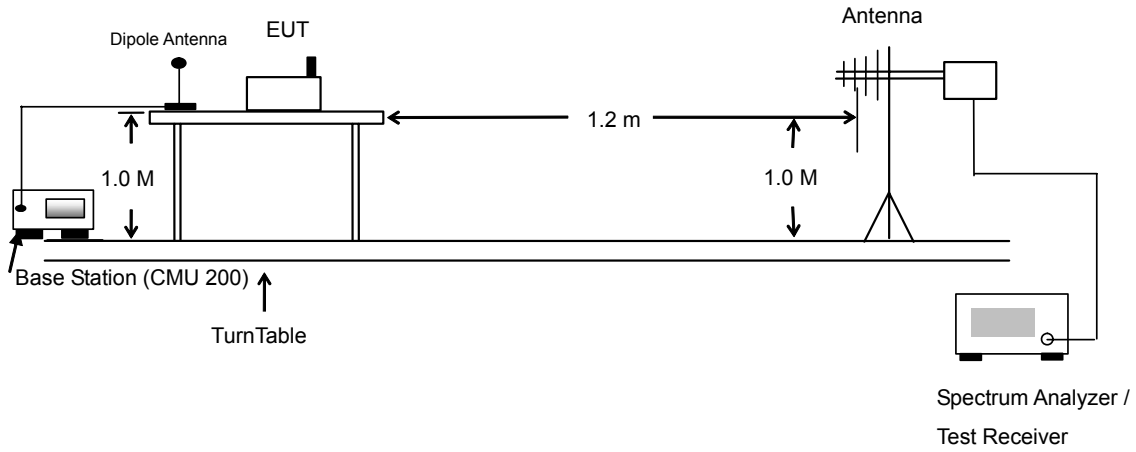
$E_s = R_s + AF$

AF (dB/m) : Receive antenna factor

R_t : The highest received signal in Spectrum Analyzer for EUT.

R_s : The highest received signal in spectrum analyzer for substitution antenna.

4.3.3 Test Setup Layout of ERP/EIRP





4.3.4 Test Result

| PCS1900 Radiated Power EIRP | | | | | | |
|-----------------------------|----------|----------|----------|----------|------------|----------|
| Horizontal Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBi) | EIRP (dBm) | EIRP (W) |
| 824.20 | -24.71 | -51.88 | 0.00 | 1.96 | 29.13 | 0.82 |
| 836.40 | -25.81 | -52.99 | 0.00 | 2.00 | 29.18 | 0.83 |
| 848.80 | -28.19 | -54.28 | 0.00 | 1.98 | 28.07 | 0.64 |
| Vertical Polarization | | | | | | |
| Frequency (MHz) | Rt (dBm) | Rs (dBm) | Ps (dBm) | Gs (dBi) | EIRP (dBm) | EIRP (W) |
| 824.20 | -27.29 | -52.13 | 0.00 | 1.96 | 26.80 | 0.48 |
| 836.40 | -28.10 | -53.17 | 0.00 | 2.00 | 27.07 | 0.51 |
| 848.80 | -30.25 | -54.13 | 0.00 | 1.98 | 25.86 | 0.39 |

4.4 Occupied Bandwidth and Band Edge Measurement

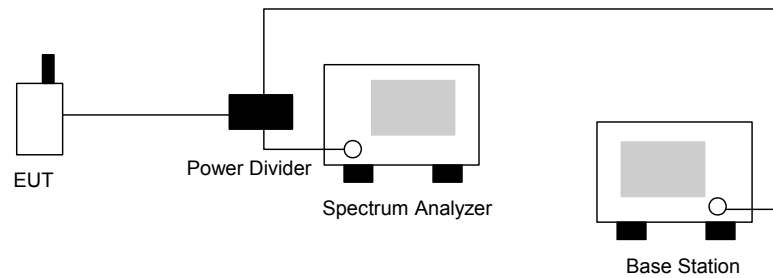
4.4.1 Measurement Instruments

As described in chapter 5 of this test report.

4.4.2 Test Procedure

- a. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
- b. The 99% occupied bandwidth of middle channel for the highest and lowest RF powers were measured.
- c. The bandedge of low and high channels for the highest RF powers within the transmitting frequency band were measured. Setting RBW as roughly $BW/100$.

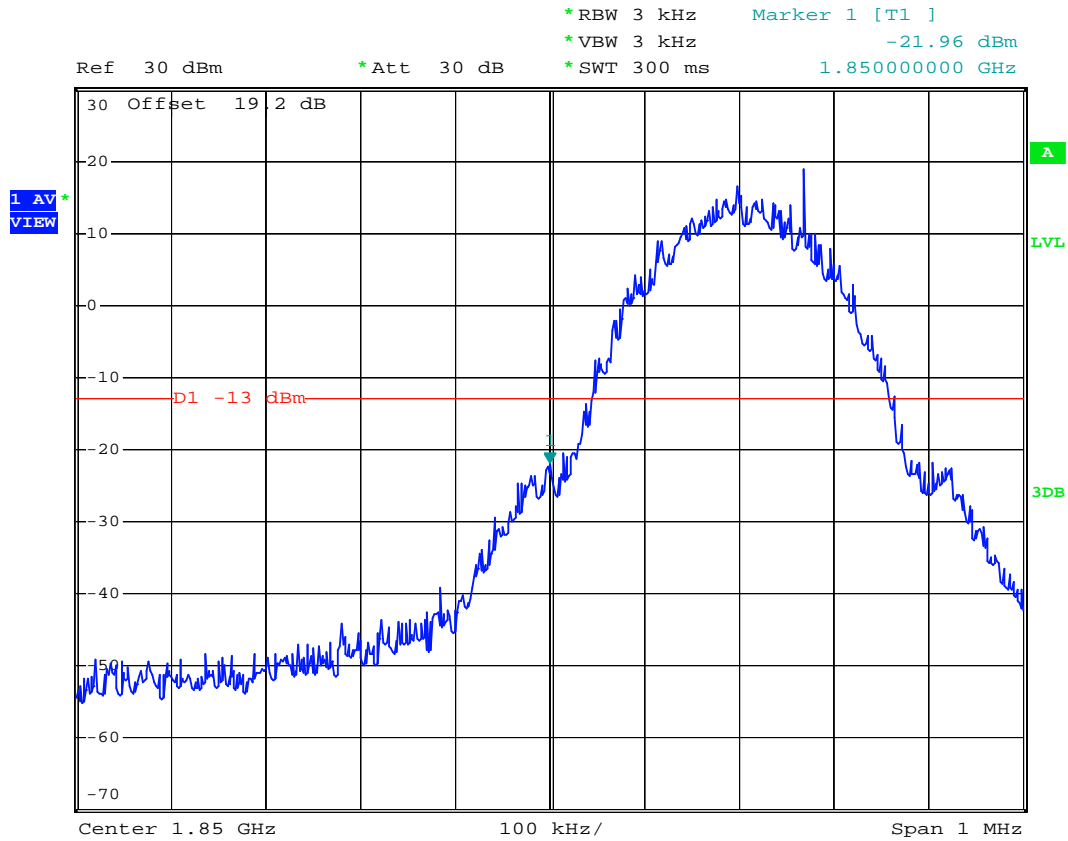
4.4.3 Test Setup Layout



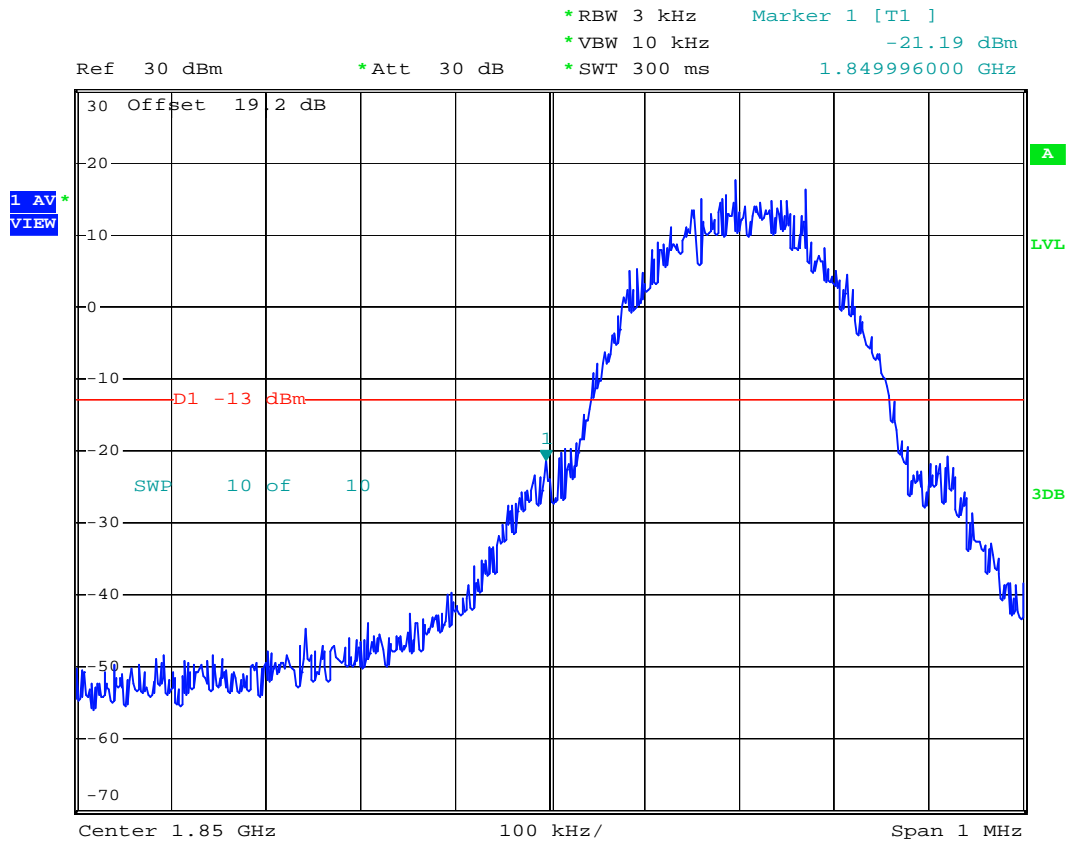


4.4.4 Test Result

- Mode 1
- Test Mode : PCS1900 CH512 Lower Band Edge
- Power State : High



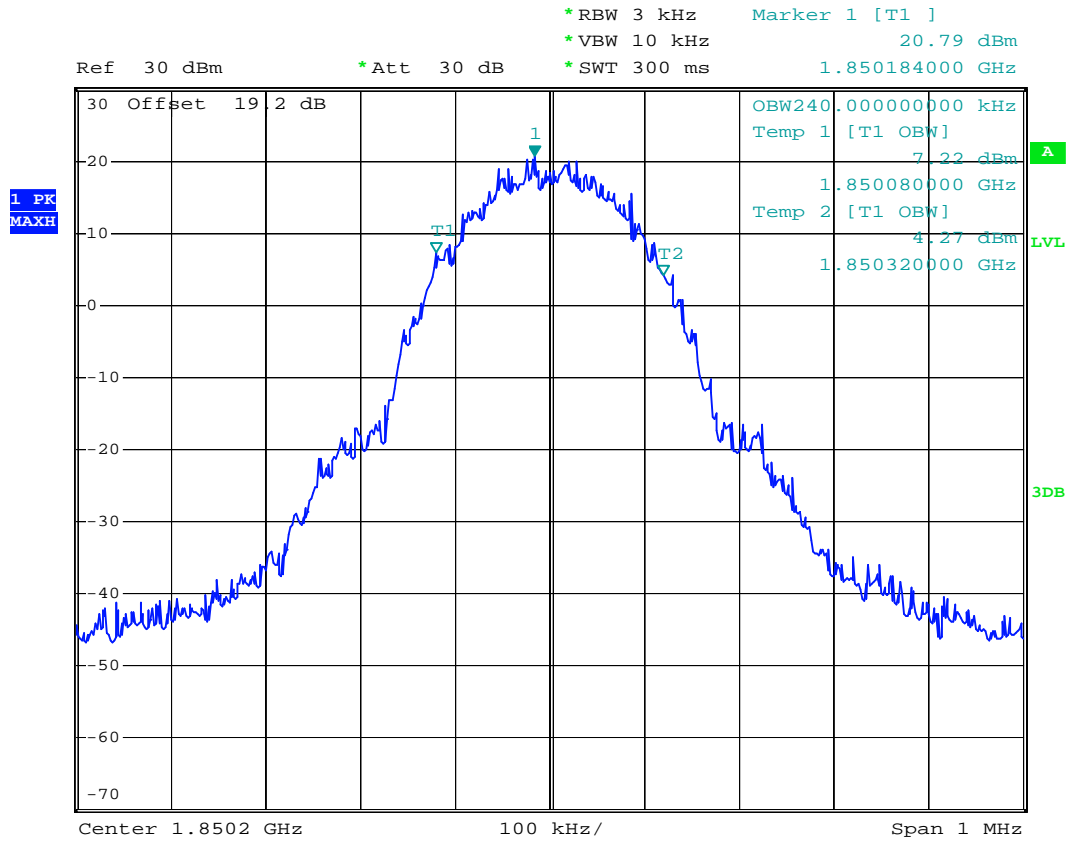
Date: 13.DEC.2007 01:59:19



Date: 13.DEC.2007 02:00:31



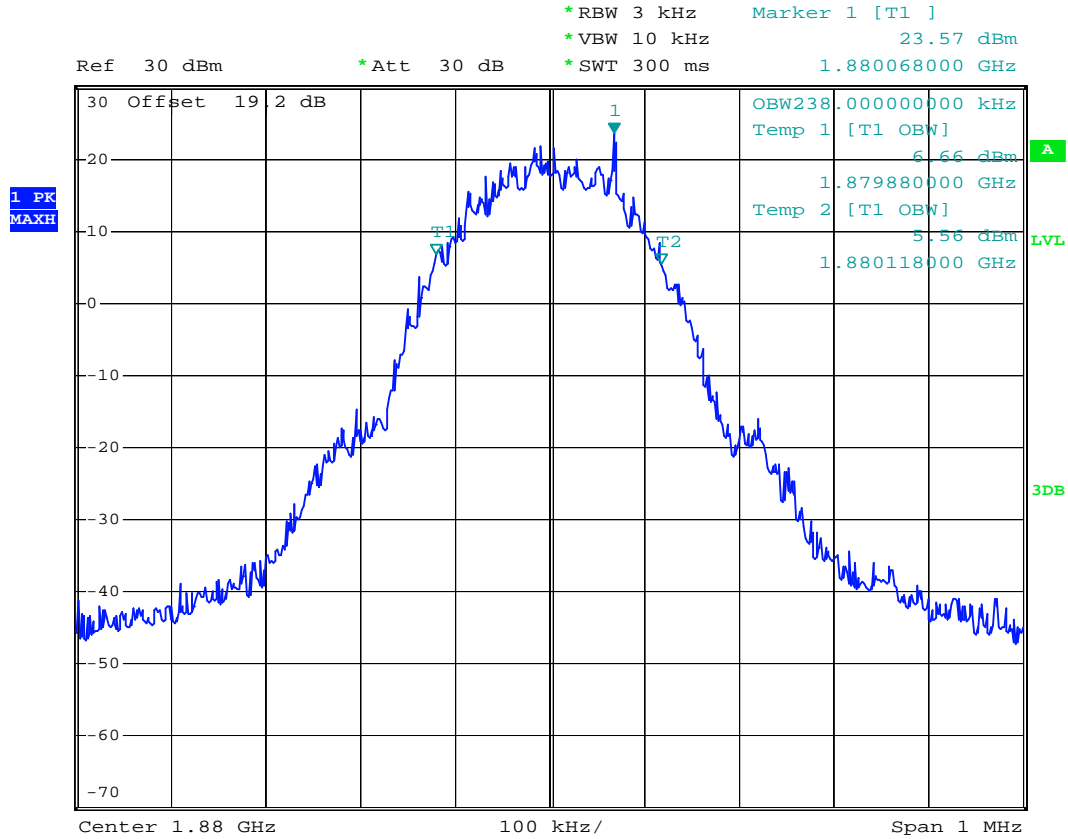
- Test Mode : PCS1900 CH512 99% Occupied Bandwidth
- Power State : High



Date: 13.DEC.2007 01:55:29



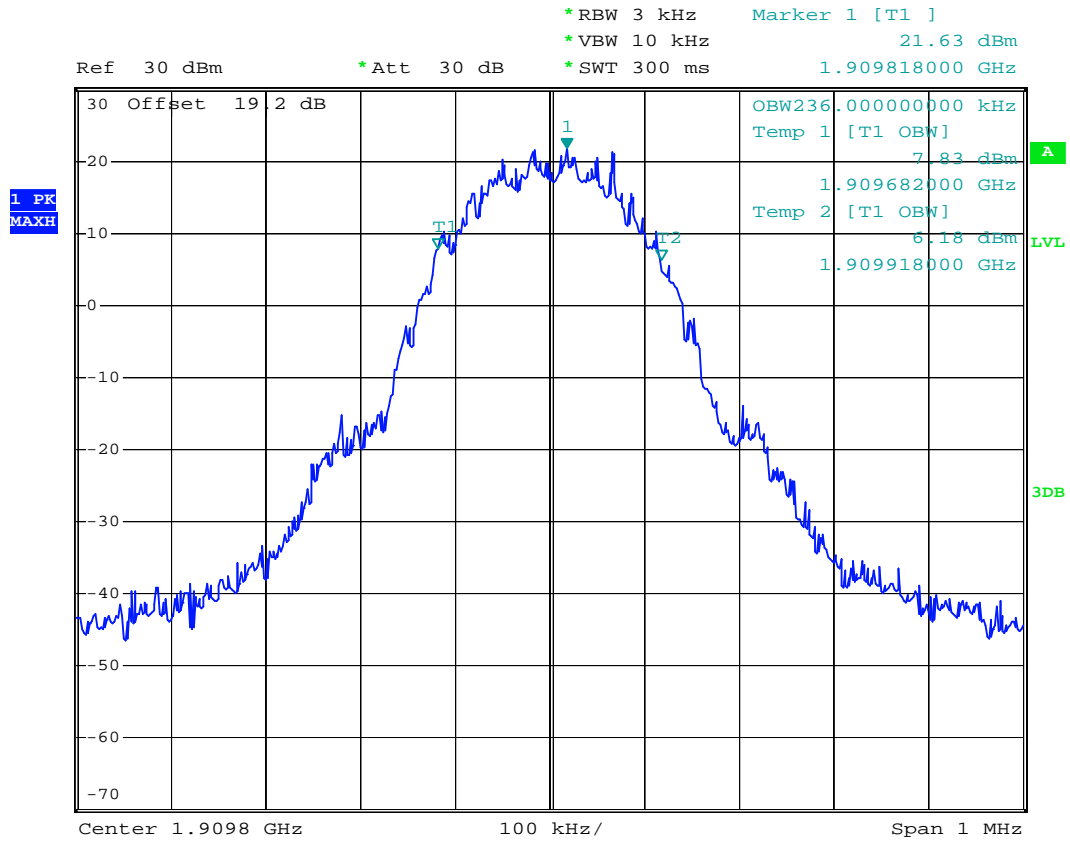
- Test Mode : PCS1900 CH661 99% Occupied Bandwidth
- Power State : High



Date: 13.DEC.2007 01:55:57



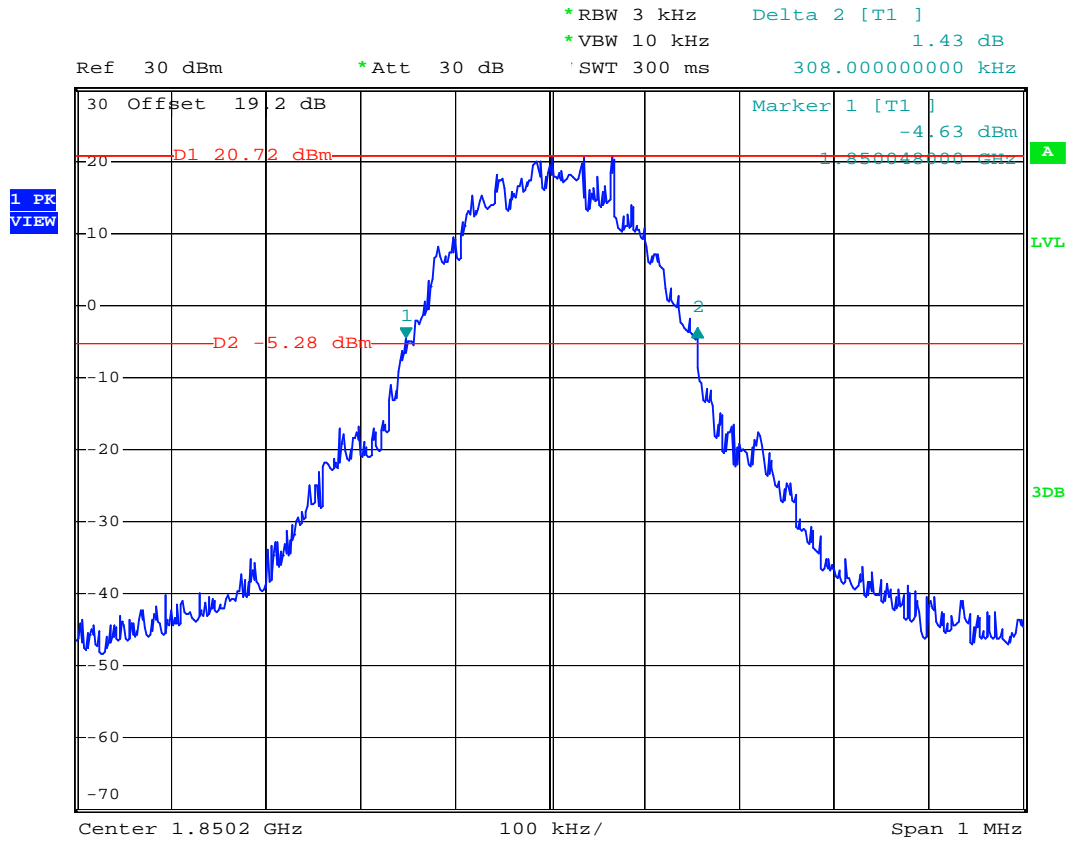
- Test Mode : PCS1900 CH810 99% Occupied Bandwidth
- Power State : High



Date: 13.DEC.2007 01:54:49



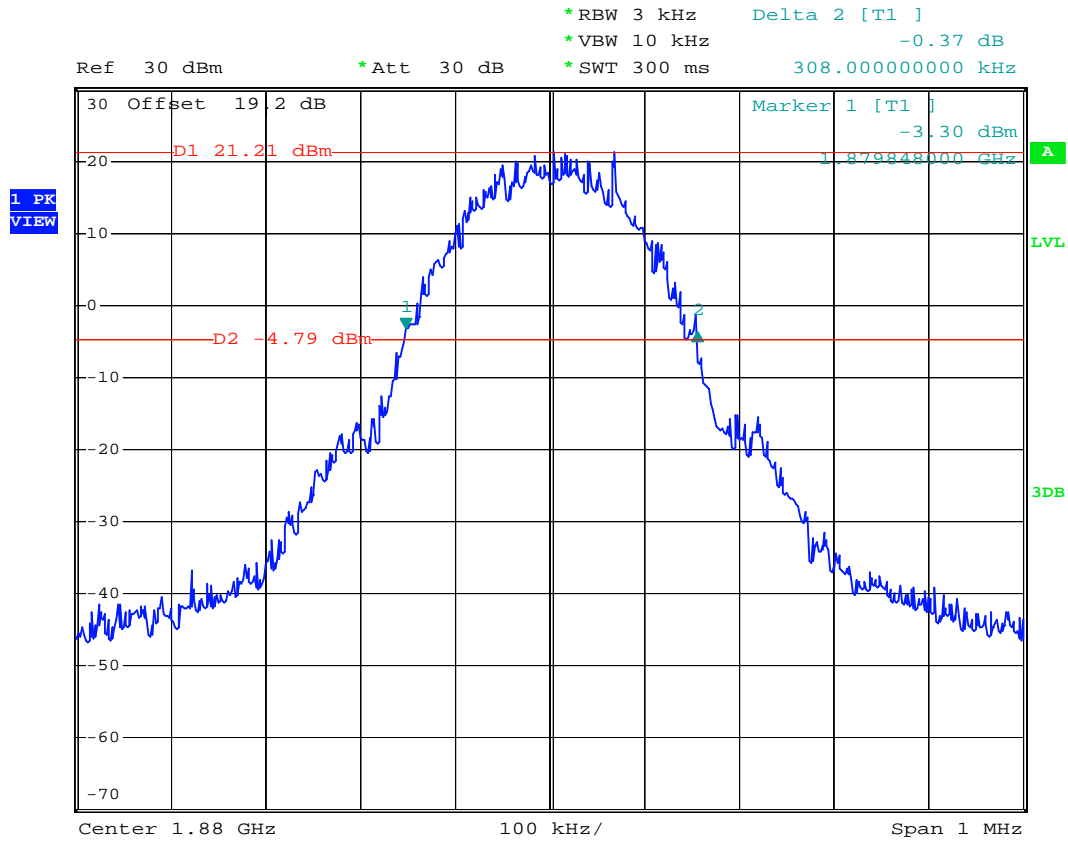
- Test Mode : PCS1900 CH512 26dB Bandwidth
- Power State : High



Date: 13.DEC.2007 01:51:03



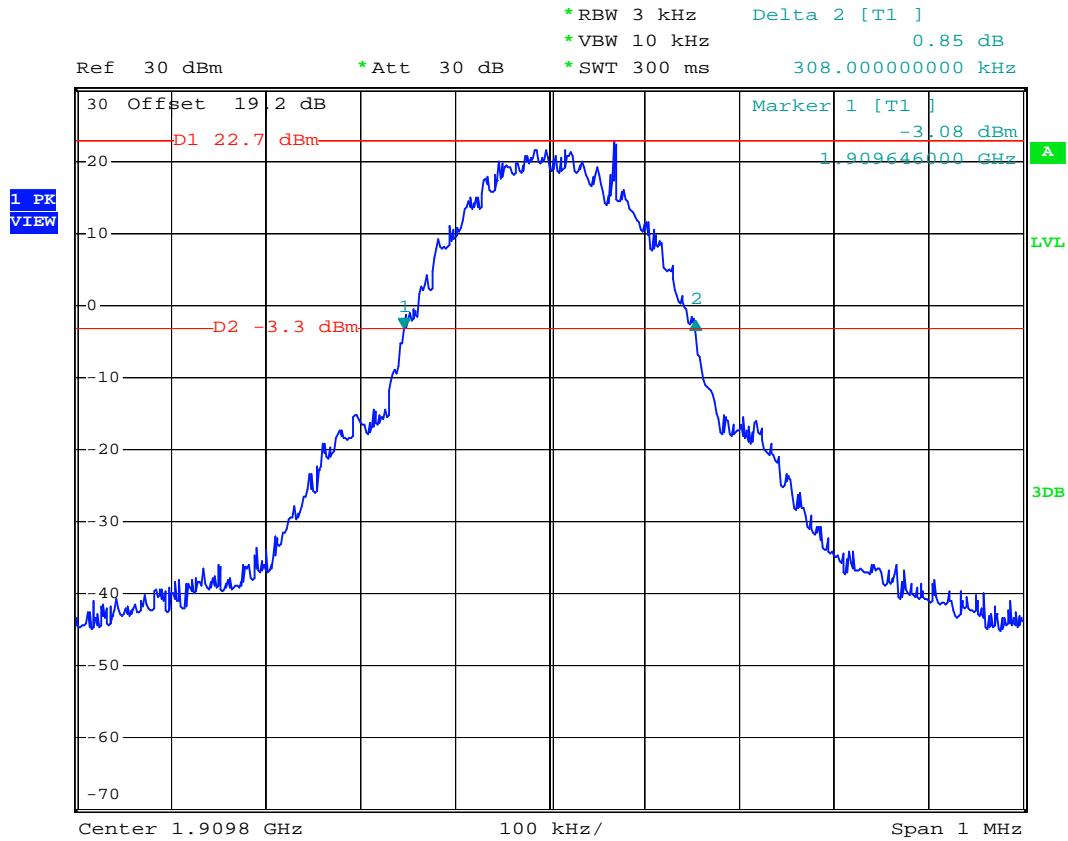
- Test Mode : PCS1900 CH661 26dB Bandwidth
- Power State : High



Date: 13.DEC.2007 01:51:59



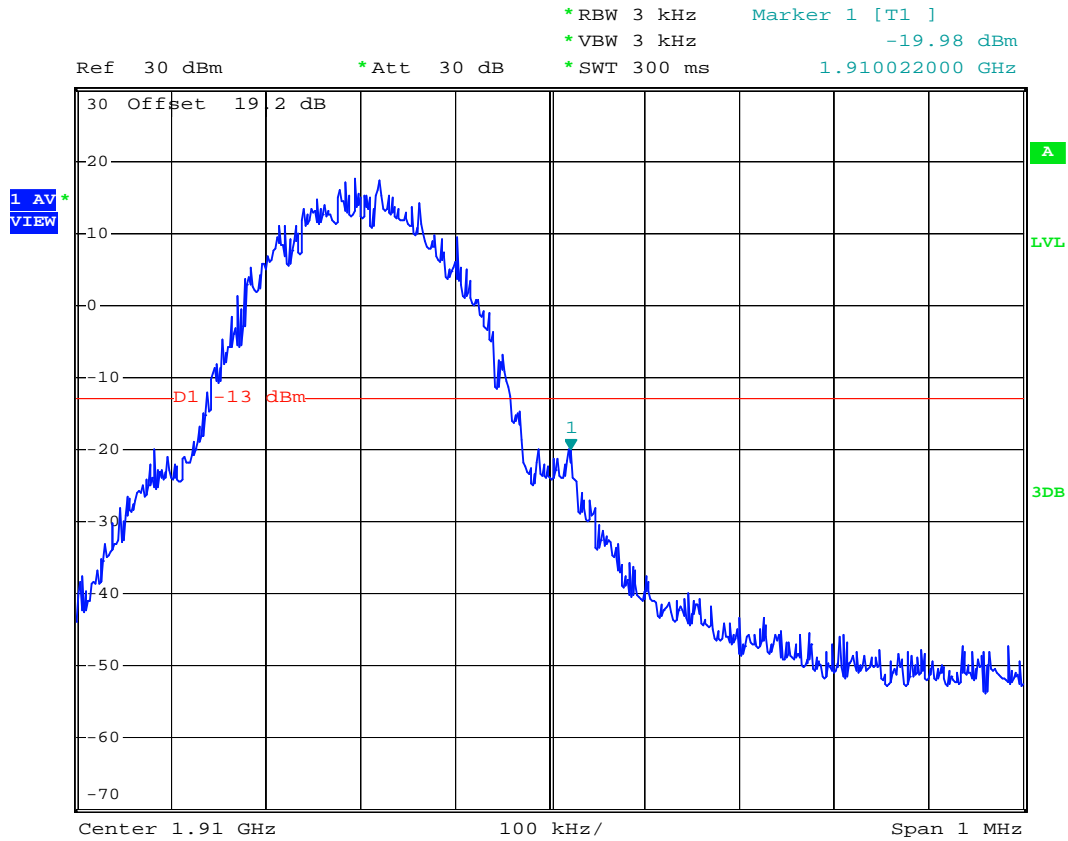
- Test Mode : PCS1900 CH810 26dB Bandwidth
- Power State : High



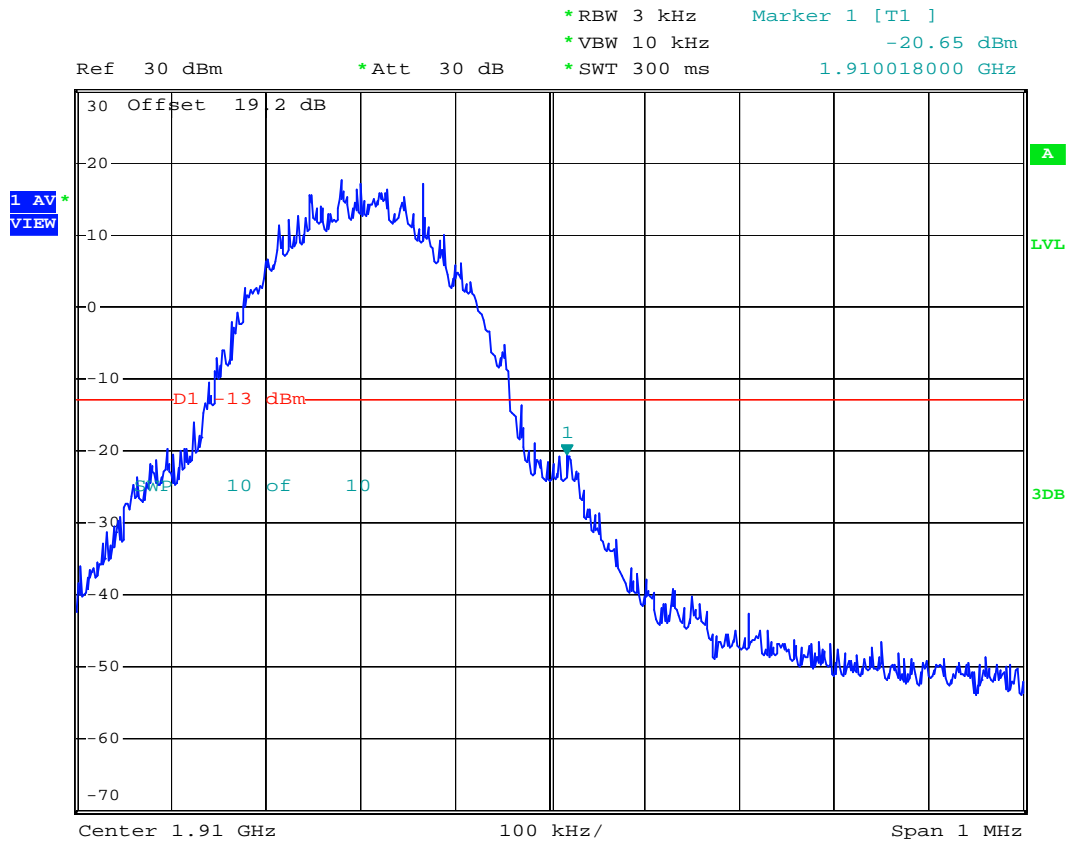
Date: 13.DEC.2007 01:53:46



- Test Mode : PCS1900 CH810 Higher Band Edge
- Power State : High



Date: 13.DEC.2007 02:02:28



Date: 13.DEC.2007 02:01:28

4.5 Conducted Emission

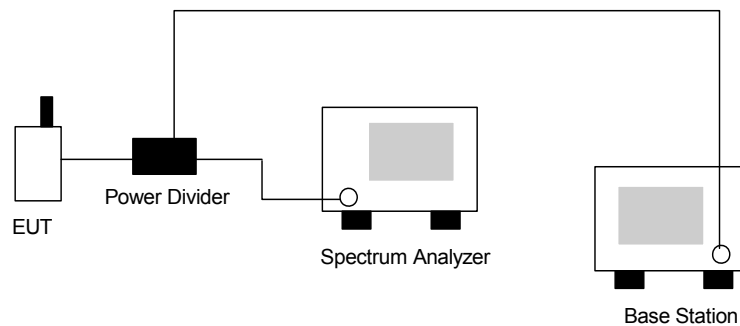
4.5.1 Measurement Instruments

As described in chapter 5 of this test report.

4.5.2 Test Procedure

- a. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
- b. The middle channel for the highest RF power within the transmitting frequency was measured.
- c. The conducted spurious emission for the whole frequency range was taken.

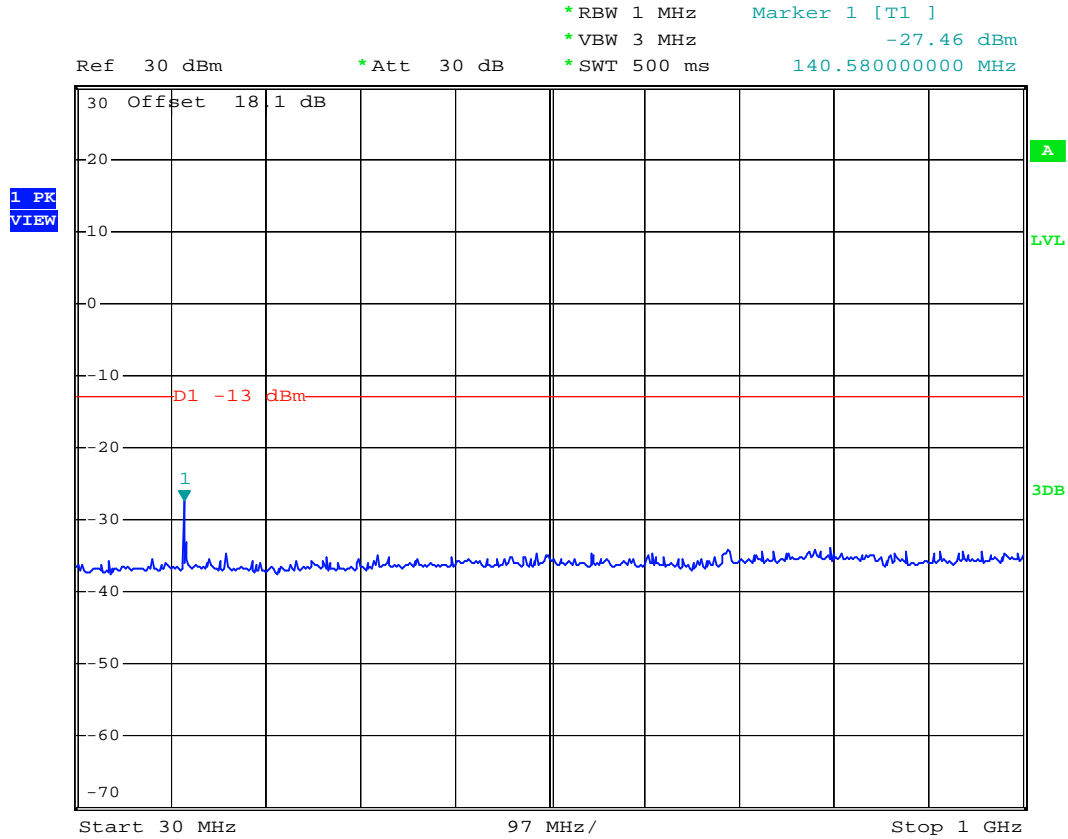
4.5.3 Test Setup Layout





4.5.4 Test Result

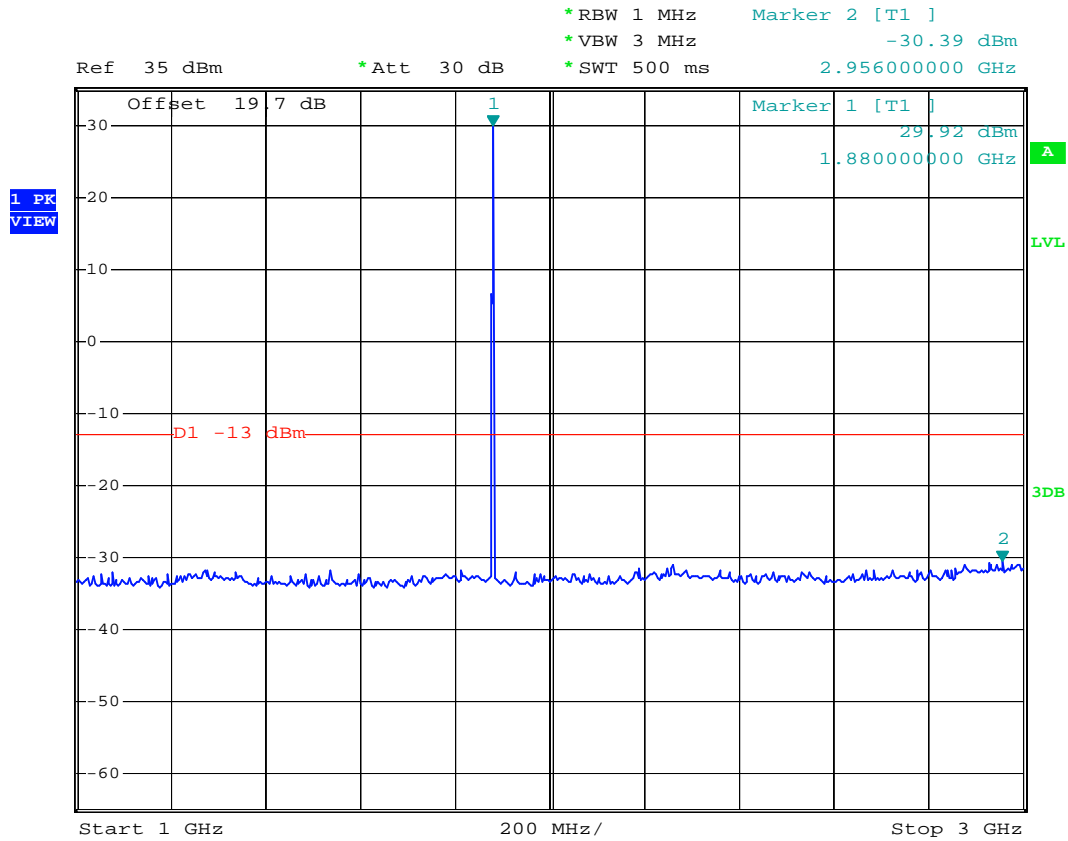
- Mode 1
- Test Mode : PCS1900 CH661
- Frequency Range : 30M-1G



Date: 13.DEC.2007 02:23:46



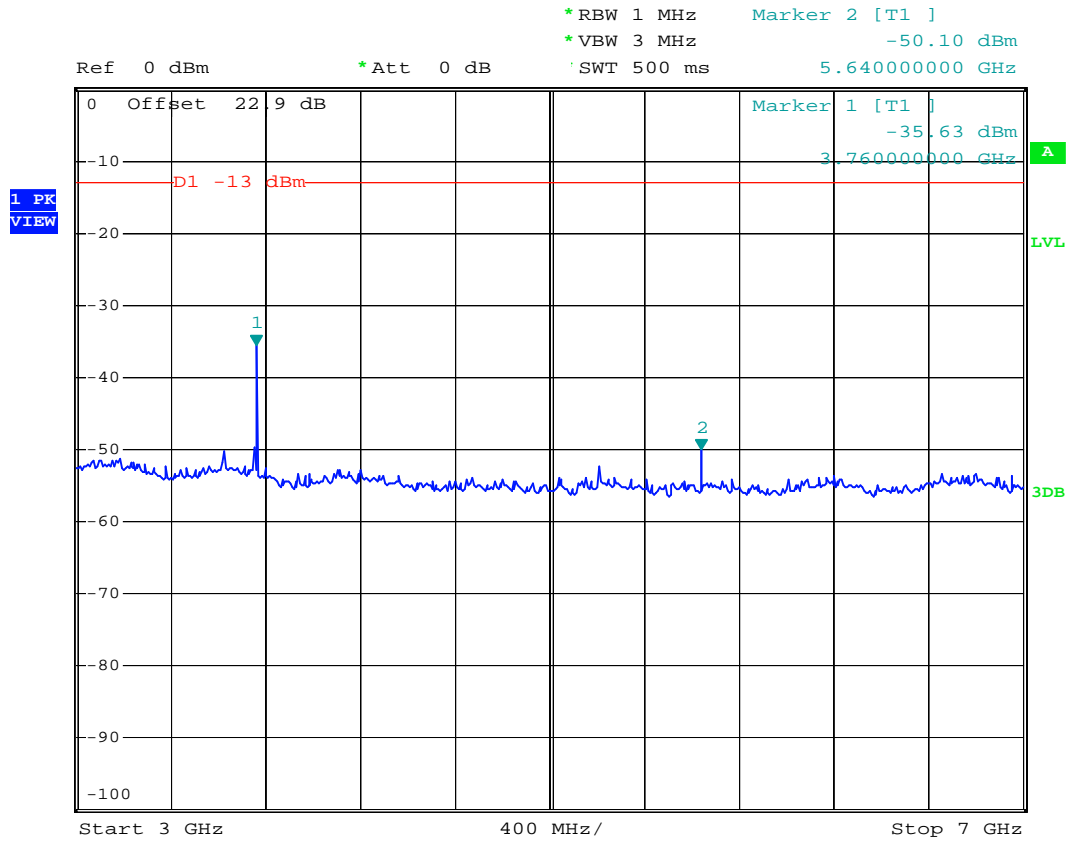
- Test Mode : PCS1900 CH661
- Frequency Range : 1G-3G



Date: 13.DEC.2007 02:13:53



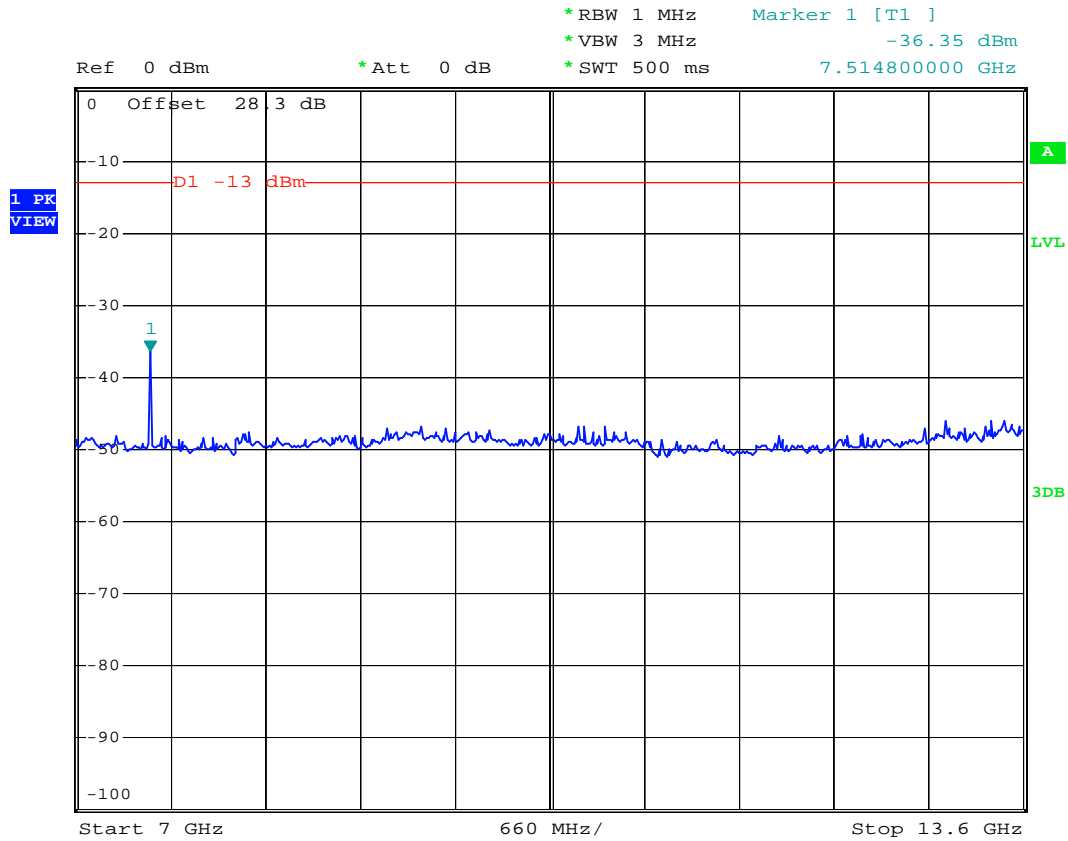
- Test Mode : PCS1900 CH661
- Frequency Range : 3G-7G



Date: 13.DEC.2007 02:17:38



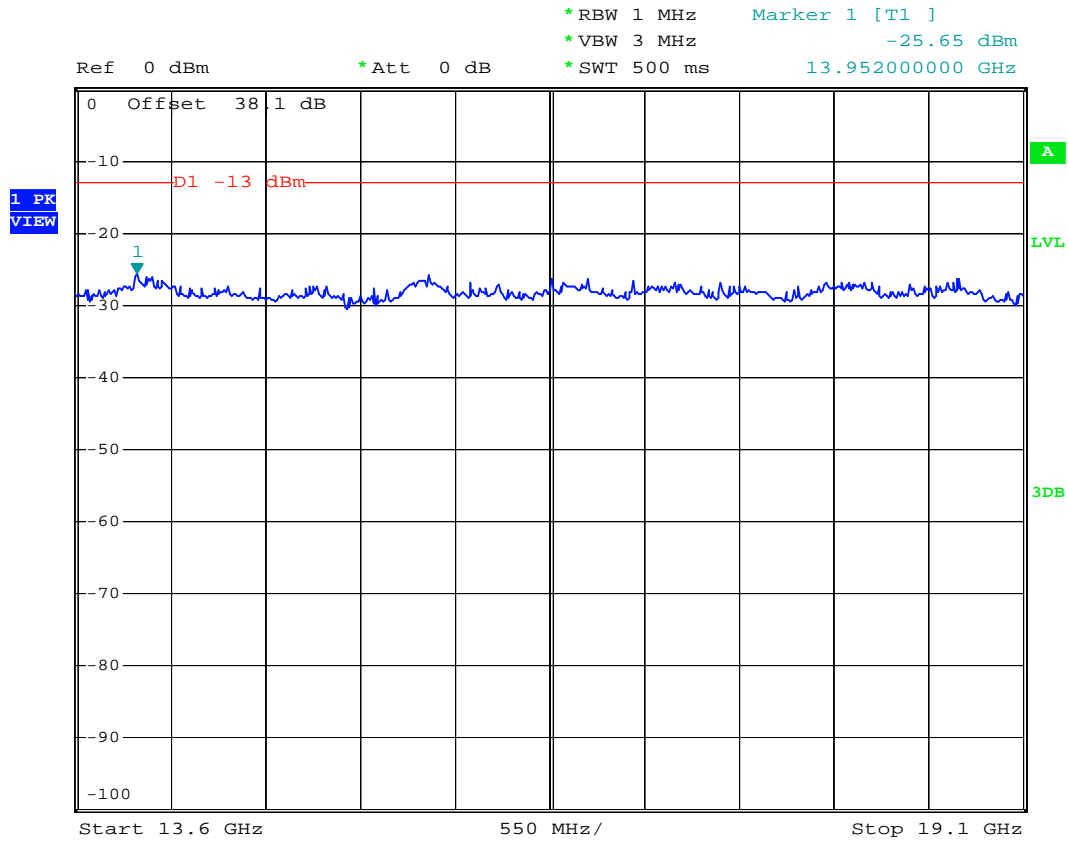
- Test Mode : PCS1900 CH661
- Frequency Range : 7G-13.6G



Date: 13.DEC.2007 02:18:52



- Test Mode : PCS1900 CH661
- Frequency Range : 13.6G-19.1G



Date: 13.DEC.2007 02:19:38

4.6 Field Strength of Spurious Radiation

Equivalent isotropic radiated Power Measurements by substitution method according to ANSI/TIA/EIA-603-C.

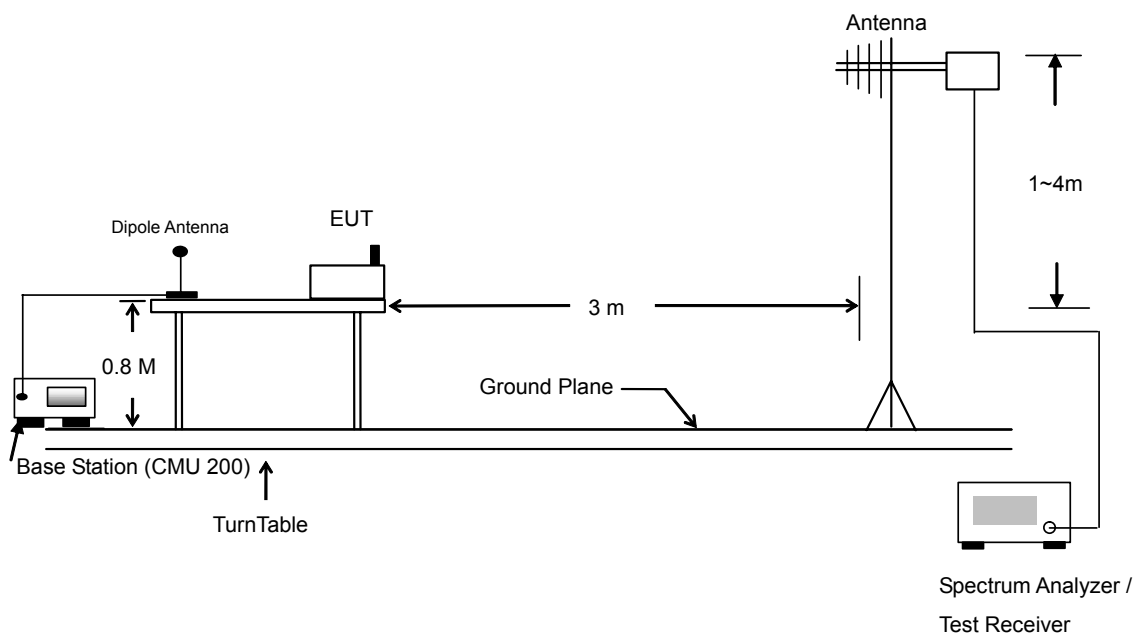
4.6.1 Measurement Instruments

As described in chapter 5 of this test report.

4.6.2 Test Procedure

- a. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
- b. The EUT was set 3 meters from the receiving antenna which was mounted on the antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- d. The height of the receiving antenna is varied between one meter and four meters to reach the maximum spurious emission for both horizontal and vertical polarizations.
- e. Taking the record of maximum spurious emission.
- f. A Horn antenna was substituted in place of the EUT and was driven by a signal generator.
- g. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- h. Taking the record of output power at antenna port.
- i. Repeat step 7 to step 8 for another polarization.
- j. Emission level (dBm) = output power + substitution Gain.

4.6.3 Test Setup Layout

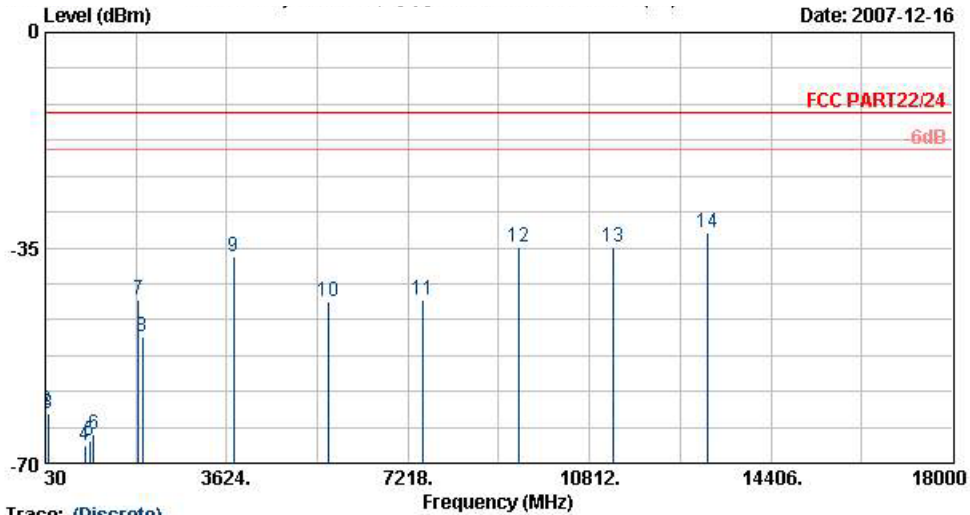




4.6.4 Test Data

4.6.4.1 Mode 1

Horizontal Polarization



Trace: (Discrete)

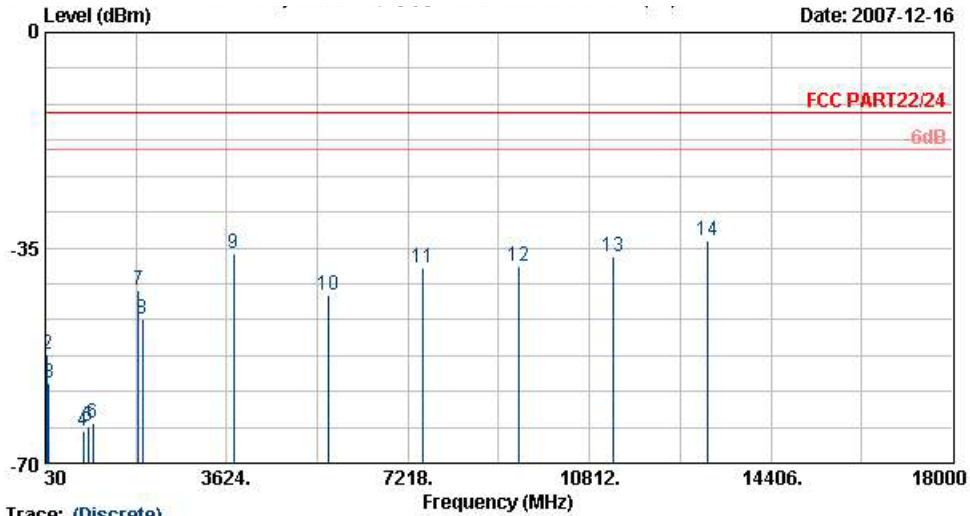
Site : 03CH06-HY
 Condition : FCC PART22/24 ETRP-071107 HORIZONTAL
 EUT : Smart Phone
 Power : 120Vac/60Hz
 Model : FG 701101
 Mode : PCS1900 Link ; Ch661 +Adaptor + Earphone
 Plane : H

| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Remark |
|------|----------|--------|------------|------------|------------|----------------|------------|---------------|---------|-----------|--------|
| | MHz | dBm | dB | dBm | dBm | dB | dB | dB | cm | deg | |
| 1 | 30.00 | -53.45 | -40.45 | -13.00 | -53.81 | 0.36 | 0.00 | 0.00 | --- | --- | Peak |
| 2 | 44.04 | -61.32 | -48.32 | -13.00 | -53.16 | -8.17 | 0.00 | 0.00 | --- | --- | Peak |
| 3 | 91.83 | -62.05 | -49.05 | -13.00 | -49.78 | -12.27 | 0.00 | 0.00 | --- | --- | Peak |
| 4 | 819.40 | -67.23 | -54.23 | -13.00 | -65.73 | -1.50 | 0.00 | 0.00 | --- | --- | Peak |
| 5 | 904.80 | -66.33 | -53.33 | -13.00 | -65.66 | -0.68 | 0.00 | 0.00 | --- | --- | Peak |
| 6 | 994.40 | -65.39 | -52.39 | -13.00 | -65.58 | 0.18 | 0.00 | 0.00 | --- | --- | Peak |
| 7 | 1878.00 | -43.46 | -30.46 | -13.00 | -50.47 | 7.01 | 0.00 | 0.00 | --- | --- | Peak |
| 8 | 1958.00 | -49.32 | -36.32 | -13.00 | -56.85 | 7.54 | 0.00 | 0.00 | --- | --- | Peak |
| 9 | 3760.00 | -36.43 | -23.43 | -13.00 | -49.75 | 13.32 | 0.00 | 0.00 | --- | --- | Peak |
| 10 | 5640.00 | -43.73 | -30.73 | -13.00 | -60.76 | 17.03 | 0.00 | 0.00 | --- | --- | Peak |
| 11 | 7520.00 | -43.46 | -30.46 | -13.00 | -60.88 | 17.42 | 0.00 | 0.00 | --- | --- | Peak |
| 12 | 9400.00 | -34.96 | -21.96 | -13.00 | -53.75 | 18.79 | 0.00 | 0.00 | --- | --- | Peak |
| 13 | 11280.00 | -34.77 | -21.77 | -13.00 | -56.59 | 21.82 | 0.00 | 0.00 | --- | --- | Peak |
| 14 @ | 13160.00 | -32.40 | -19.40 | -13.00 | -56.48 | 24.08 | 0.00 | 0.00 | --- | --- | Peak |

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -41.77 | -13 | -49.75 | -45.7 | 7.17 | 11.1 | H | Pass |
| 5640 | -53.31 | -13 | -60.76 | -55.1 | 8.77 | 10.56 | H | Pass |
| 7520 | -53.11 | -13 | -60.88 | -50.3 | 10.21 | 7.4 | H | Pass |
| 9400 | -37.85 | -13 | -53.75 | -36 | 11.61 | 9.76 | H | Pass |
| 11280 | -38.79 | -13 | -56.59 | -35.8 | 13.32 | 10.33 | H | Pass |
| 13160 | -32.74 | -13 | -56.48 | -29.7 | 13.81 | 10.77 | H | Pass |



Vertical Polarization



Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC PART22/24 ETRP-071107 VERTICAL
 EUT : Smart Phone
 Power : 120Vac/60Hz
 Model : FG 701101
 Mode : PCS1900 Link ; Ch661 +Adaptor + Earphone
 Plane : H

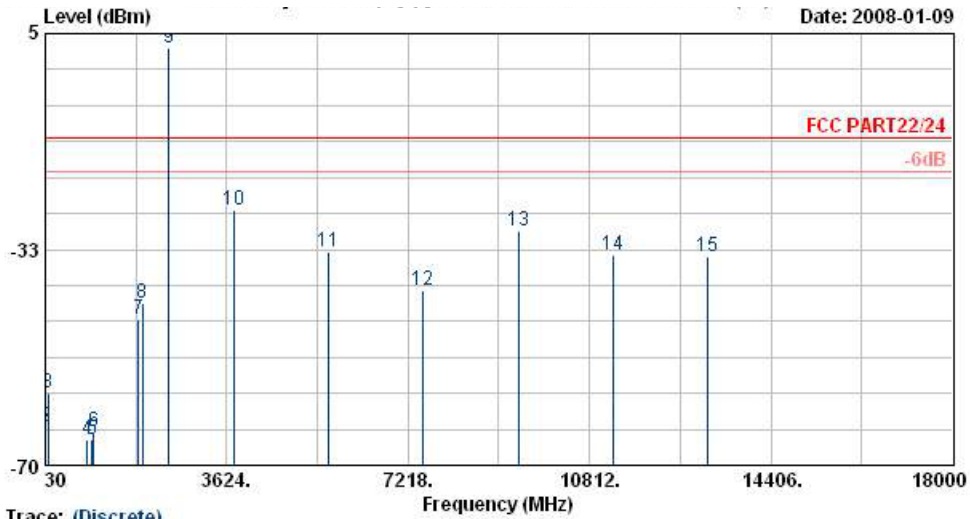
| | Freq | Level | Over Limit | Limit Line | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Ant Pos | Table Pos | Remark |
|------|----------|--------|------------|------------|------------|----------------|------------|---------------|---------|-----------|--------|
| | MHz | dBm | dB | dBm | dBm | dB | dB | dB | cm | deg | |
| 1 | 30.00 | -55.99 | -42.99 | -13.00 | -46.92 | -9.07 | 0.00 | 0.00 | --- | --- | Peak |
| 2 | 75.09 | -52.21 | -39.21 | -13.00 | -40.89 | -11.32 | 0.00 | 0.00 | --- | --- | Peak |
| 3 | 106.68 | -57.06 | -44.06 | -13.00 | -49.31 | -7.75 | 0.00 | 0.00 | --- | --- | Peak |
| 4 | 780.90 | -64.91 | -51.91 | -13.00 | -65.69 | 0.78 | 0.00 | 0.00 | --- | --- | Peak |
| 5 | 878.90 | -64.04 | -51.04 | -13.00 | -65.73 | 1.70 | 0.00 | 0.00 | --- | --- | Peak |
| 6 | 974.80 | -63.44 | -50.44 | -13.00 | -65.90 | 2.46 | 0.00 | 0.00 | --- | --- | Peak |
| 7 | 1878.00 | -41.96 | -28.96 | -13.00 | -48.97 | 7.01 | 0.00 | 0.00 | --- | --- | Peak |
| 8 | 1958.00 | -46.49 | -33.49 | -13.00 | -54.03 | 7.54 | 0.00 | 0.00 | --- | --- | Peak |
| 9 | 3760.00 | -35.87 | -22.87 | -13.00 | -49.19 | 13.32 | 0.00 | 0.00 | --- | --- | Peak |
| 10 | 5640.00 | -42.66 | -29.66 | -13.00 | -59.69 | 17.03 | 0.00 | 0.00 | --- | --- | Peak |
| 11 | 7520.00 | -38.34 | -25.34 | -13.00 | -55.76 | 17.42 | 0.00 | 0.00 | --- | --- | Peak |
| 12 | 9400.00 | -37.91 | -24.91 | -13.00 | -56.70 | 18.79 | 0.00 | 0.00 | --- | --- | Peak |
| 13 | 11280.00 | -36.38 | -23.38 | -13.00 | -58.20 | 21.82 | 0.00 | 0.00 | --- | --- | Peak |
| 14 @ | 13160.00 | -33.72 | -20.72 | -13.00 | -57.80 | 24.08 | 0.00 | 0.00 | --- | --- | Peak |

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|-----------------|-----------|-------------|-------------------|------------------|--------------------|-----------------------|--------------------|--------|
| 3760 | -38.07 | -13 | -49.19 | -42 | 7.17 | 11.1 | V | Pass |
| 5640 | -51.91 | -13 | -59.69 | -53.7 | 8.77 | 10.56 | V | Pass |
| 7520 | -44.11 | -13 | -55.76 | -41.3 | 10.21 | 7.4 | V | Pass |
| 9400 | -43.65 | -13 | -56.7 | -41.8 | 11.61 | 9.76 | V | Pass |
| 11280 | -42.49 | -13 | -58.2 | -39.5 | 13.32 | 10.33 | V | Pass |
| 13160 | -37.54 | -13 | -57.8 | -34.5 | 13.81 | 10.77 | V | Pass |



4.6.4.2 Mode 2

Horizontal Polarization



Date: 2008-01-09

Trace: (Discrete)

Site : D3CH06-HY
 Condition : FCC PART22/24 ETRP-071107 HORIZONTAL
 EUT : Smart Phone
 Power : 120Vac/60Hz
 Model : FG 701101
 Memo : PCS 1900 Link ; Ch661 + Adaptor +
 Memo : Earphone + BT Tx_Ch76;2460MHz
 Plane : H

| | Freq | Level | Over | Limit | Read | Factor | Remark |
|-----|----------|--------|--------|--------|--------|--------|--------|
| | MHz | dBm | Limit | Line | Level | dB | |
| | | | dB | dBm | dBm | | |
| 1 | 30.00 | -54.69 | -41.69 | -13.00 | -55.05 | 0.36 | Peak |
| 2 | 44.04 | -63.40 | -50.40 | -13.00 | -55.23 | -8.17 | Peak |
| 3 | 81.03 | -57.51 | -44.51 | -13.00 | -45.20 | -12.31 | Peak |
| 4 | 868.40 | -65.62 | -52.62 | -13.00 | -64.58 | -1.03 | Peak |
| 5 | 953.80 | -65.55 | -52.55 | -13.00 | -65.34 | -0.21 | Peak |
| 6 | 994.40 | -64.16 | -51.16 | -13.00 | -64.34 | 0.18 | Peak |
| 7 | 1878.00 | -44.59 | | | -51.60 | 7.01 | Peak |
| 8 | 1958.00 | -41.84 | | | -49.37 | 7.54 | Peak |
| 9 @ | 2478.00 | 2.43 | | | -7.68 | 10.11 | Peak |
| 10 | 3756.00 | -25.61 | -12.61 | -13.00 | -38.93 | 13.32 | Peak |
| 11 | 5636.00 | -32.79 | -19.79 | -13.00 | -49.83 | 17.03 | Peak |
| 12 | 7516.00 | -39.49 | -26.49 | -13.00 | -56.80 | 17.31 | Peak |
| 13 | 9396.00 | -29.36 | -16.36 | -13.00 | -48.15 | 18.79 | Peak |
| 14 | 11276.00 | -33.46 | -20.46 | -13.00 | -55.29 | 21.83 | Peak |
| 15 | 13156.00 | -33.76 | -20.76 | -13.00 | -57.83 | 24.08 | Peak |

Remark :

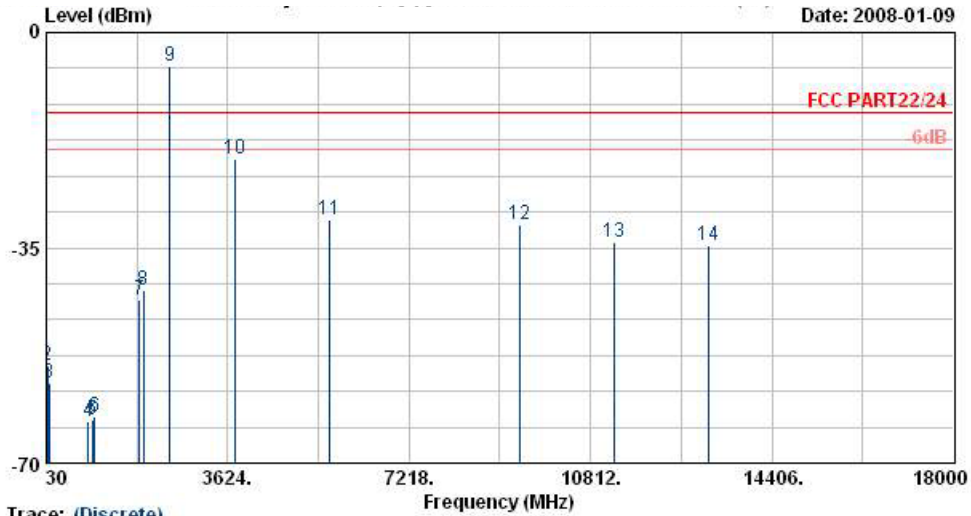
- #7 MS Signal
- #8 BS Signal
- #9 BT Signal



| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|----------------------|----------------|------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3756 | -28.27 | -13 | -38.93 | -32.2 | 7.17 | 11.1 | H | Pass |
| 5636 | -37.41 | -13 | -49.83 | -39.2 | 8.77 | 10.56 | H | Pass |
| 7516 | -44.61 | -13 | -56.8 | -41.8 | 10.21 | 7.4 | H | Pass |
| 9396 | -31.65 | -13 | -48.15 | -29.8 | 11.61 | 9.76 | H | Pass |
| 11276 | -38.19 | -13 | -55.29 | -35.2 | 13.32 | 10.33 | H | Pass |
| 13156 | -38.74 | -13 | -57.83 | -35.7 | 13.81 | 10.77 | H | Pass |



Vertical Polarization



Trace: (Discrete)
 Site : 03CH06-HY
 Condition : FCC PART22/24 ETRP-071107 VERTICAL
 EUT : Smart Phone
 Power : 120Vac/60Hz
 Model : FG 701101
 Memo : PCS 1900 Link ; Ch661 + Adaptor +
 Memo : Earphone + BT Tx_Ch76;2480MHz
 Plane : H

| | Freq | Level | Over | Limit | Read | Factor | Remark |
|-----|----------|--------|--------|--------|--------|--------|--------|
| | MHz | dBm | Limit | Line | Level | dB | |
| | | | dB | dBm | dBm | | |
| 1 | 30.00 | -58.10 | -45.10 | -13.00 | -49.03 | -9.07 | Peak |
| 2 | 58.08 | -54.23 | -41.23 | -13.00 | -40.53 | -13.70 | Peak |
| 3 | 81.03 | -56.89 | -43.89 | -13.00 | -46.54 | -10.35 | Peak |
| 4 | 861.40 | -63.14 | -50.14 | -13.00 | -64.69 | 1.56 | Peak |
| 5 | 934.90 | -63.07 | -50.07 | -13.00 | -65.21 | 2.14 | Peak |
| 6 | 987.40 | -62.55 | -49.55 | -13.00 | -65.11 | 2.56 | Peak |
| 7 | 1884.00 | -43.49 | | | -50.50 | 7.01 | Peak |
| 8 | 1958.00 | -41.79 | | | -49.32 | 7.54 | Peak |
| 9 @ | 2478.00 | -5.46 | | | -15.57 | 10.11 | Peak |
| 10 | 3756.00 | -20.44 | -7.44 | -13.00 | -33.76 | 13.32 | Peak |
| 11 | 5636.00 | -30.51 | -17.51 | -13.00 | -47.55 | 17.03 | Peak |
| 12 | 9396.00 | -31.19 | -18.19 | -13.00 | -49.99 | 18.79 | Peak |
| 13 | 11276.00 | -34.15 | -21.15 | -13.00 | -55.98 | 21.83 | Peak |
| 14 | 13156.00 | -34.52 | -21.52 | -13.00 | -58.59 | 24.08 | Peak |

Remark :

- #7 MS Signal
- #8 BS Signal
- #9 BT Signal

| Frequency (MHz) | ERP (dBm) | Limit (dBm) | SPA Reading (dBm) | S.G. Power (dBm) | TX Cable loss (dB) | TX Antenna Gain (dBi) | Polarization (H/V) | Result |
|----------------------|----------------|------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 3756 | -20.57 | -13 | -33.76 | -24.5 | 7.17 | 11.1 | V | Pass |
| 5636 | -35.31 | -13 | -47.55 | -37.1 | 8.77 | 10.56 | V | Pass |
| 9396 | -34.75 | -13 | -49.99 | -32.9 | 11.61 | 9.76 | V | Pass |
| 11276 | -39.89 | -13 | -55.98 | -36.9 | 13.32 | 10.33 | V | Pass |
| 13156 | -42.44 | -13 | -58.59 | -39.4 | 13.81 | 10.77 | V | Pass |

4.7 Frequency Stability (Temperature Variation)

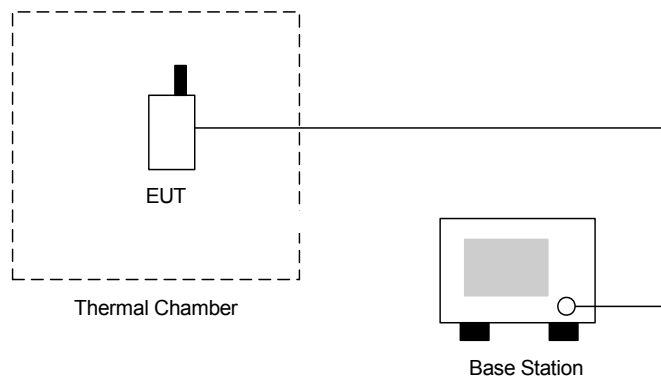
4.7.1 Measurement Instrument

As described in chapter 5 of this test report.

4.7.2 Test Procedure

- a. The EUT and test equipment were set up as shown on the following section.
- b. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.
- c. With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
- d. The temperature tests were performed for the worst case.
- e. Test data was recorded.

4.7.3 Test Setup Layout





4.7.4 Test Result

• Test Mode : PCS1900 CH661

| Temperature(°C) | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|-----------------|-------------|--------------|-------------|--------|
| -30 | 38 | 0.02 | 2.5 | Passed |
| -20 | 49 | 0.03 | | |
| -10 | 28 | 0.01 | | |
| 0 | 37 | 0.02 | | |
| 10 | 44 | 0.02 | | |
| 20 | 43 | 0.02 | | |
| 30 | 46 | 0.02 | | |
| 40 | 45 | 0.02 | | |
| 50 | 41 | 0.02 | | |

4.8 Frequency Stability (Voltage Variation)

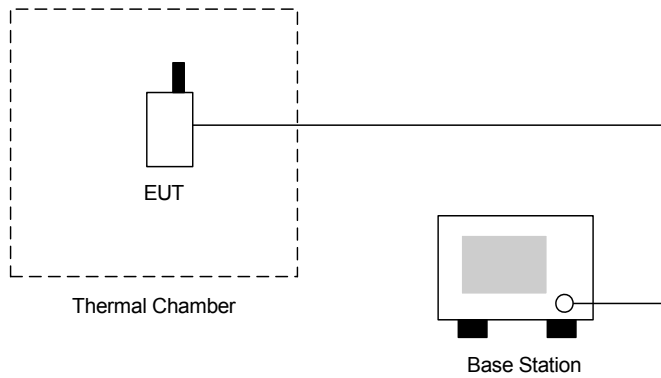
4.8.1 Measurement Instrument

As described in chapter 5 of this test report.

4.8.2 Test Procedure

- a. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected as the following section.
- b. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
- c. The variation in frequency was measured for the worst case.

4.8.3 Test Setup Layout



4.8.4 Test Result

- Test Mode : PCS1900 CH661

| Voltage(Volt) | Change (Hz) | Change (ppm) | Limit (ppm) | Result |
|---------------|-------------|--------------|-------------|--------|
| 3.7 | -39.0 | -0.02 | 2.5 | Passed |
| BEP | -37.0 | -0.02 | | |
| 4.2 | 38.0 | 0.02 | | |

Remark:

- 1. Normal Voltage=3.7V.
- 2. Battery End Point (BEP)= 3.3V.



5. List of Measurement Equipments

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Due Date | Remark |
|---------------------------|------------------|-----------|------------|-----------------|------------------|---------------|-----------------------|
| Spectrum Analyzer | Agilent | E4408B | MY44211028 | 9KHz-26.5GHz | Oct. 17, 2007 | Oct. 16, 2008 | Radiation (03CH06-HY) |
| EMI Test Receiver | R&S | ESCS30 | 100356 | 9KHz-2.75GHz | Jul. 26, 2007 | Jul. 25, 2008 | Radiation (03CH06-HY) |
| Bilog Antenna | SCHAFFNER | CBL6112B | 2885 | 30MHz -2GHz | Dec. 01, 2007 | Nov. 30, 2008 | Radiation (03CH06-HY) |
| Double Ridge Horn Antenna | Com-Power | AH118 | 071025 | 1G~18G | Jun. 04, 2007 | Jun. 03, 2008 | Radiation (03CH06-HY) |
| SHF-EHF Horn | SCHWARZBECK | BBHA 9170 | 9170-249 | 14G - 40G | Nov. 20, 2006 | Nov. 19, 2008 | Radiation (03CH06-HY) |
| Thermal Chamber | Tenyi technology | TTH-D35P | TBN-930701 | N/A | Aug. 02, 2007 | Aug. 01, 2008 | Conduction (TH02-HY) |
| Spectrum | R&S | FSP40 | 100055 | 9KHz~40GHz | Jun. 25, 2007 | Jun. 24, 2008 | Conduction (TH02-HY) |
| Bluetooth Test | ANRITSU | MT8852A | 6K00003939 | N/A | N/A | N/A | Conduction (TH02-HY) |
| Power Divider | ARRA | 5200-1 | 3871 | N/A | Oct. 01, 2007 | Sep. 30, 2008 | Conduction (TH02-HY) |
| DC Power Supply | TOPWARD | 3303D | 740889 | N/A | May 25, 2007 | May 24, 2009 | Conduction (TH02-HY) |
| Power Meter | Agilent | E4416A | GB41292344 | N/A | Feb. 08, 2007 | Feb. 07, 2008 | Conduction (TH02-HY) |
| Power Sensor | Agilent | E9327A | US40441548 | N/A | Feb. 08, 2007 | Feb. 07, 2008 | Conduction (TH02-HY) |



6. Uncertainty Evaluation

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

| Contribution | Uncertainty of x_i | | $u(x_i)$ |
|--|----------------------|--------------------------|----------|
| | dB | Probability Distribution | |
| Receiver reading | 0.41 | Normal(k=2) | 0.21 |
| Antenna factor calibration | 0.83 | Normal(k=2) | 0.42 |
| Cable loss calibration | 0.25 | Normal(k=2) | 0.13 |
| Pre Amplifier Gain calibration | 0.27 | Normal(k=2) | 0.14 |
| RCV/SPA specification | 2.50 | Rectangular | 0.72 |
| Antenna Factor Interpolation for Frequency | 1.00 | Rectangular | 0.29 |
| Site imperfection | 1.43 | Rectangular | 0.83 |
| Mismatch | +0.39/-0.41 | U-shaped | 0.28 |
| Combined standard uncertainty Uc(y) | 1.27 | | |
| Measuring uncertainty for a level of confidence of 95% U=2Uc(y) | 2.54 | | |

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

| Contribution | Uncertainty of x_i | | $u(x_i)$ | C_i | $C_i * u(x_i)$ |
|--|----------------------|--------------------------|----------|-------|----------------|
| | dB | Probability Distribution | | | |
| Receiver reading | ±0.10 | Normal(k=1) | 0.10 | 1 | 0.10 |
| Antenna factor calibration | ±1.70 | Normal(k=2) | 0.85 | 1 | 0.85 |
| Cable loss calibration | ±0.50 | Normal(k=2) | 0.25 | 1 | 0.25 |
| Receiver Correction | ±2.00 | Rectangular | 1.15 | 1 | 1.15 |
| Antenna Factor Directional | ±1.50 | Rectangular | 0.87 | 1 | 0.87 |
| Site imperfection | ±2.80 | Triangular | 1.14 | 1 | 1.14 |
| Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20 \log(1 - \Gamma_1 * \Gamma_2 * \Gamma_3)$ | +0.34/-0.35 | U-shaped | 0.244 | 1 | 0.244 |
| Combined standard uncertainty Uc(y) | 2.36 | | | | |
| Measuring uncertainty for a level of confidence of 95% U=2Uc(y) | 4.72 | | | | |

END OF TEST REPORT



























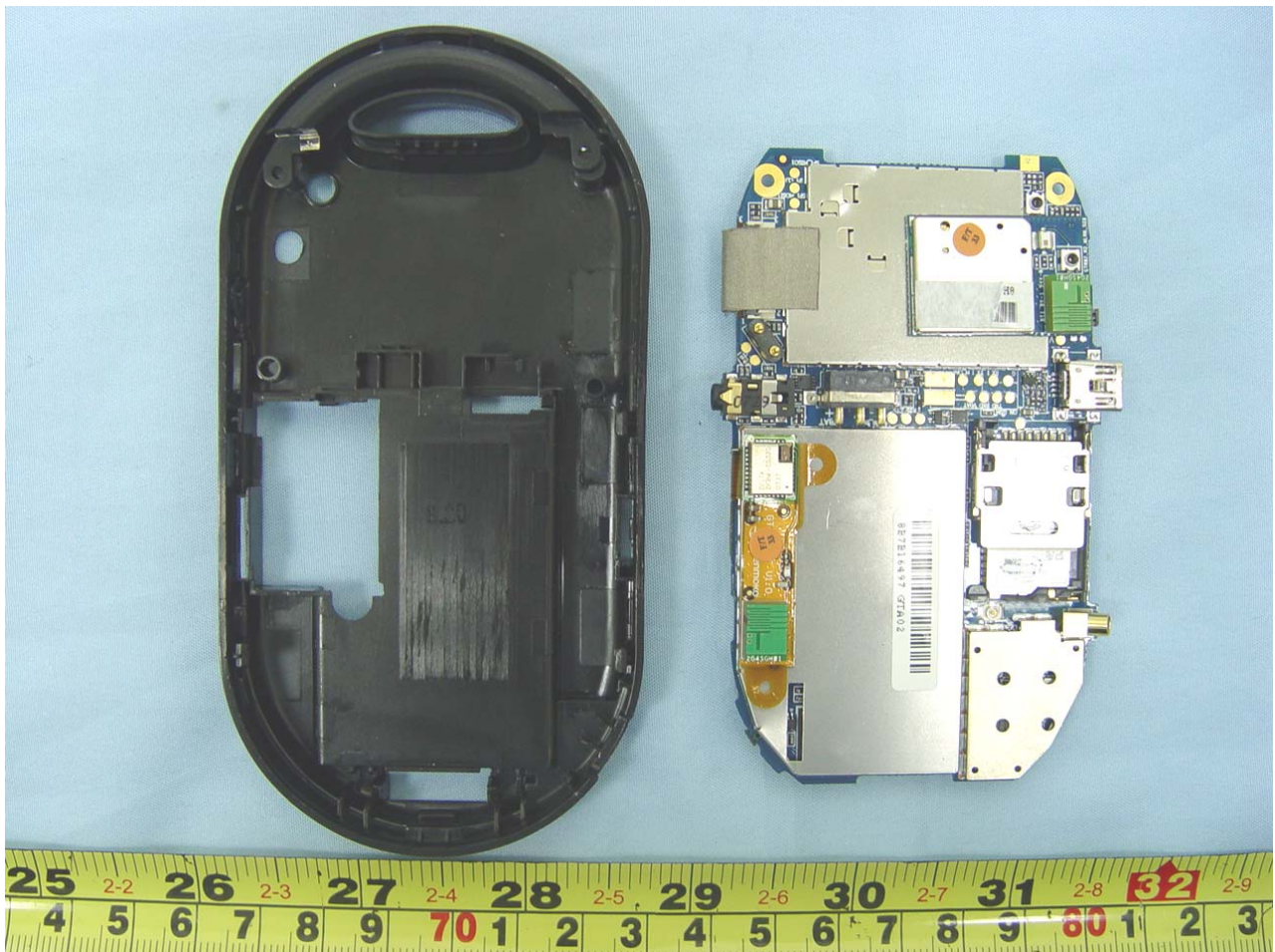


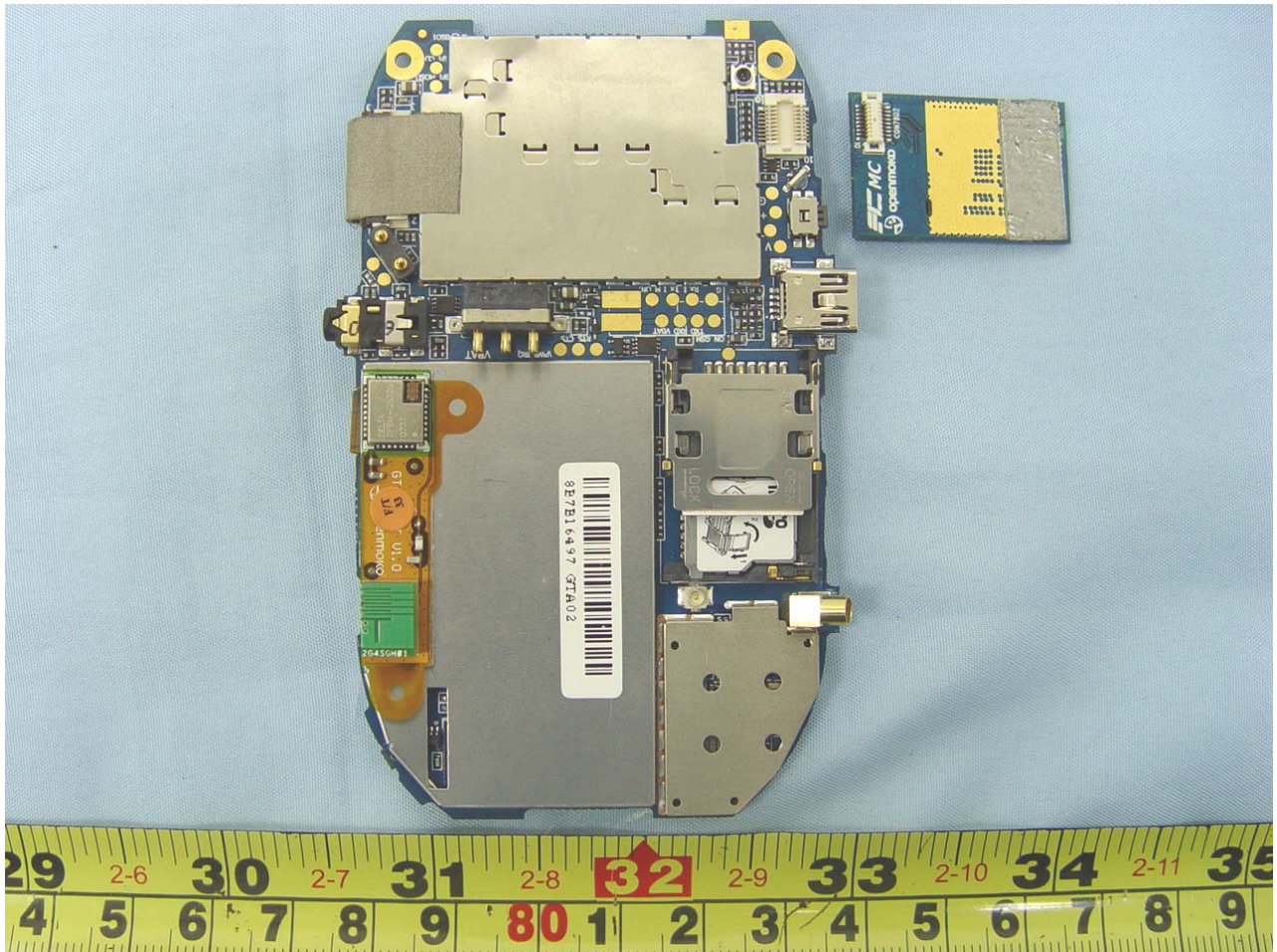


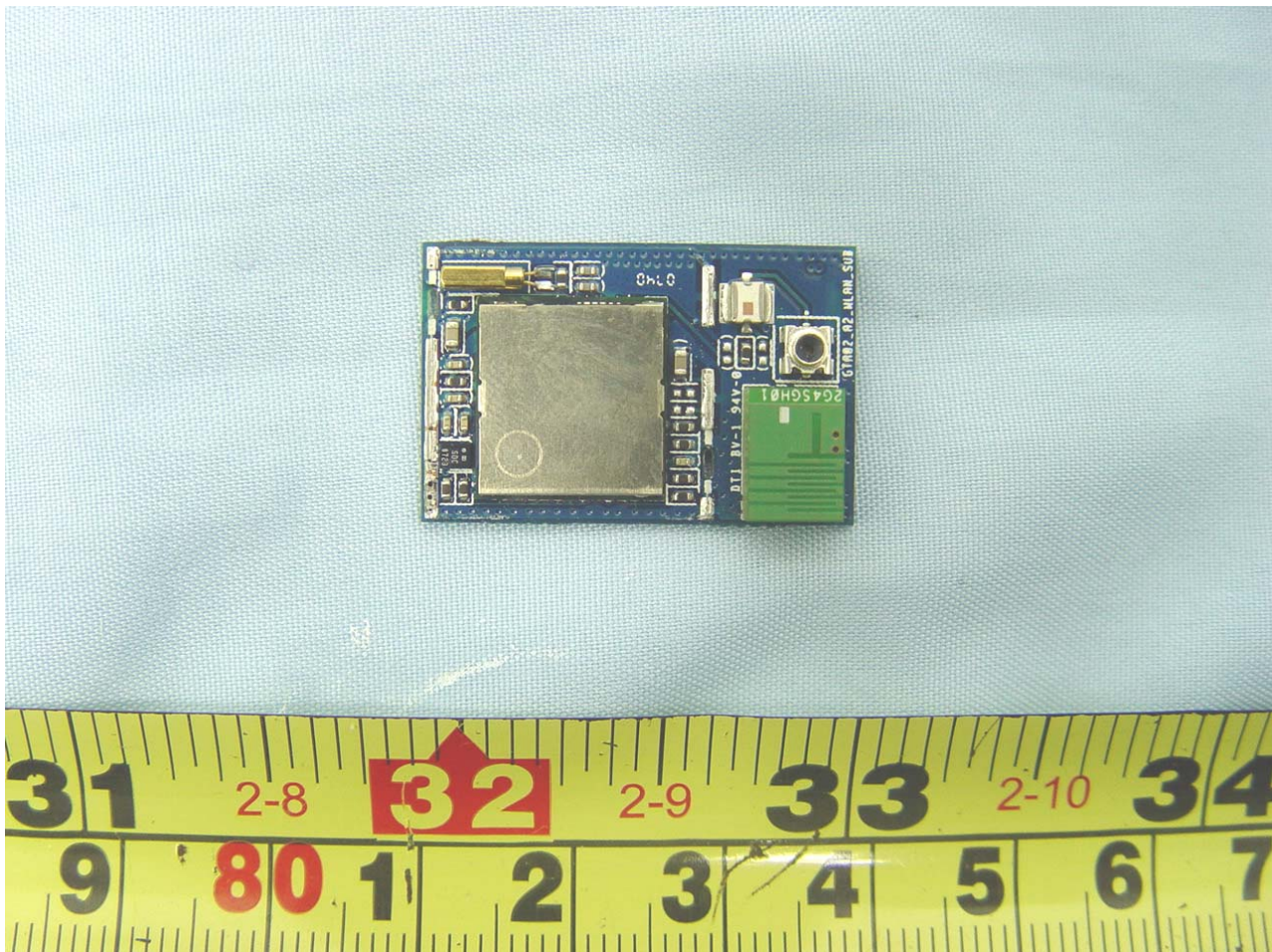
Appendix B. Internal Photographs of EUT

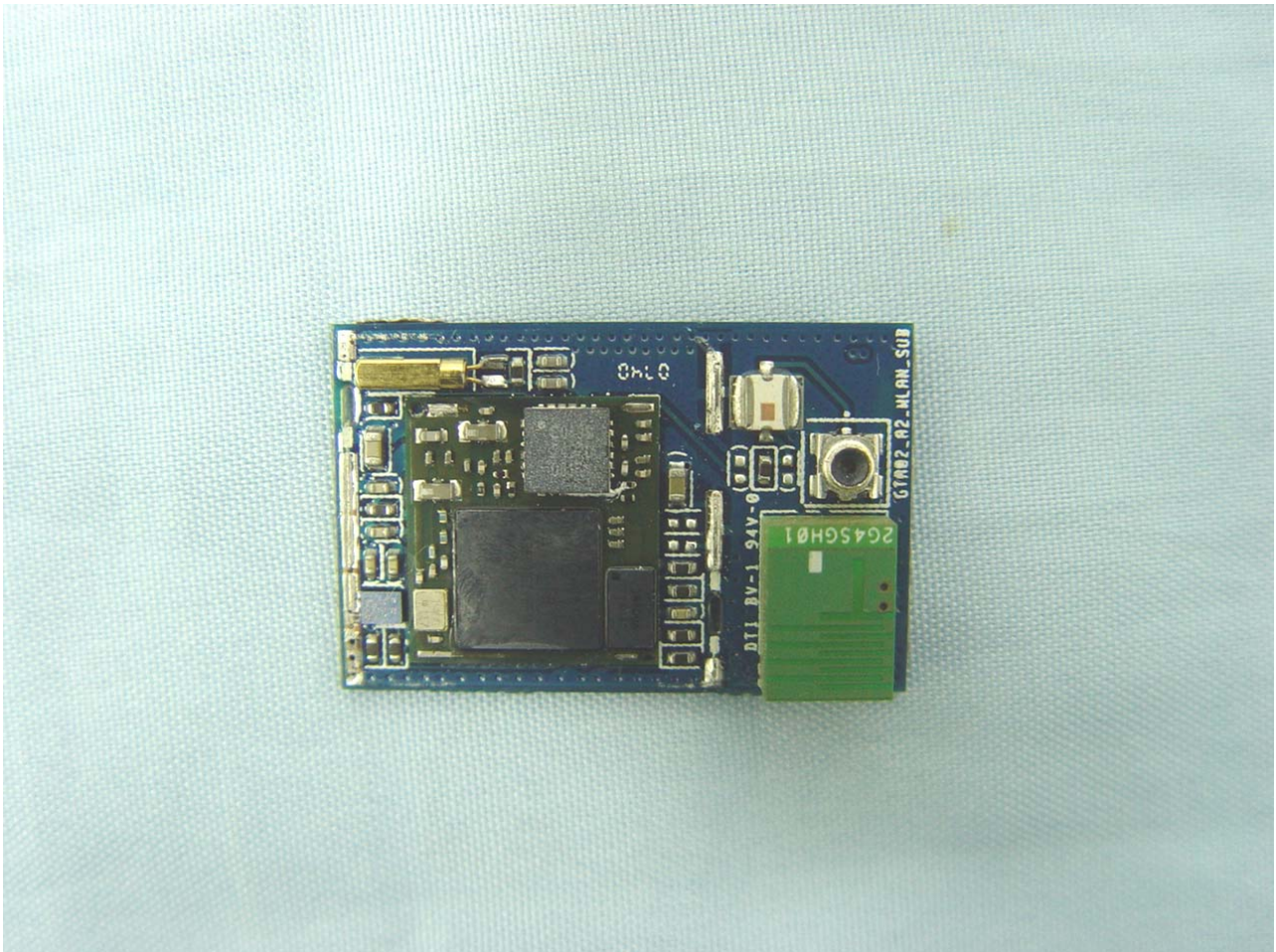


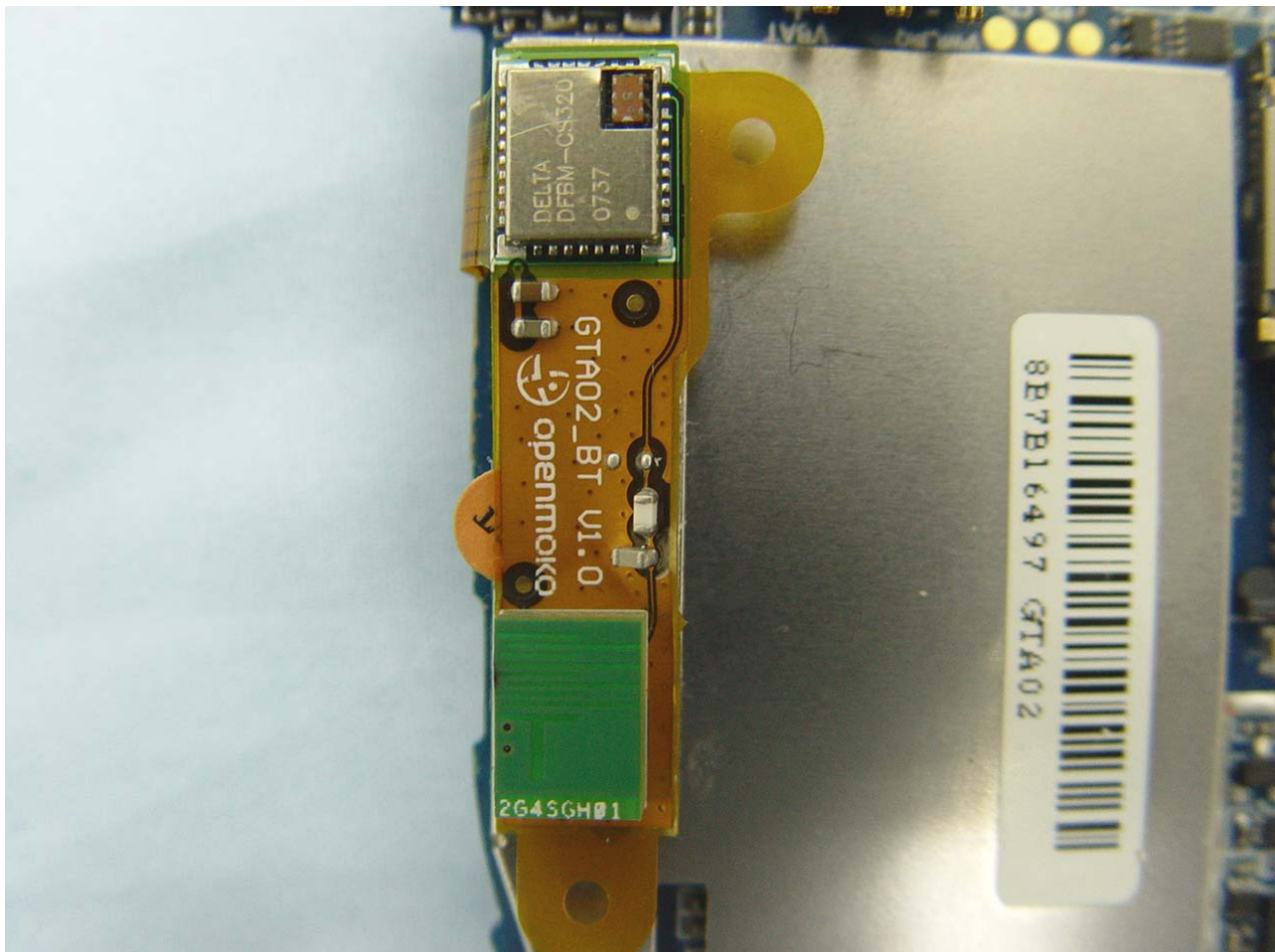


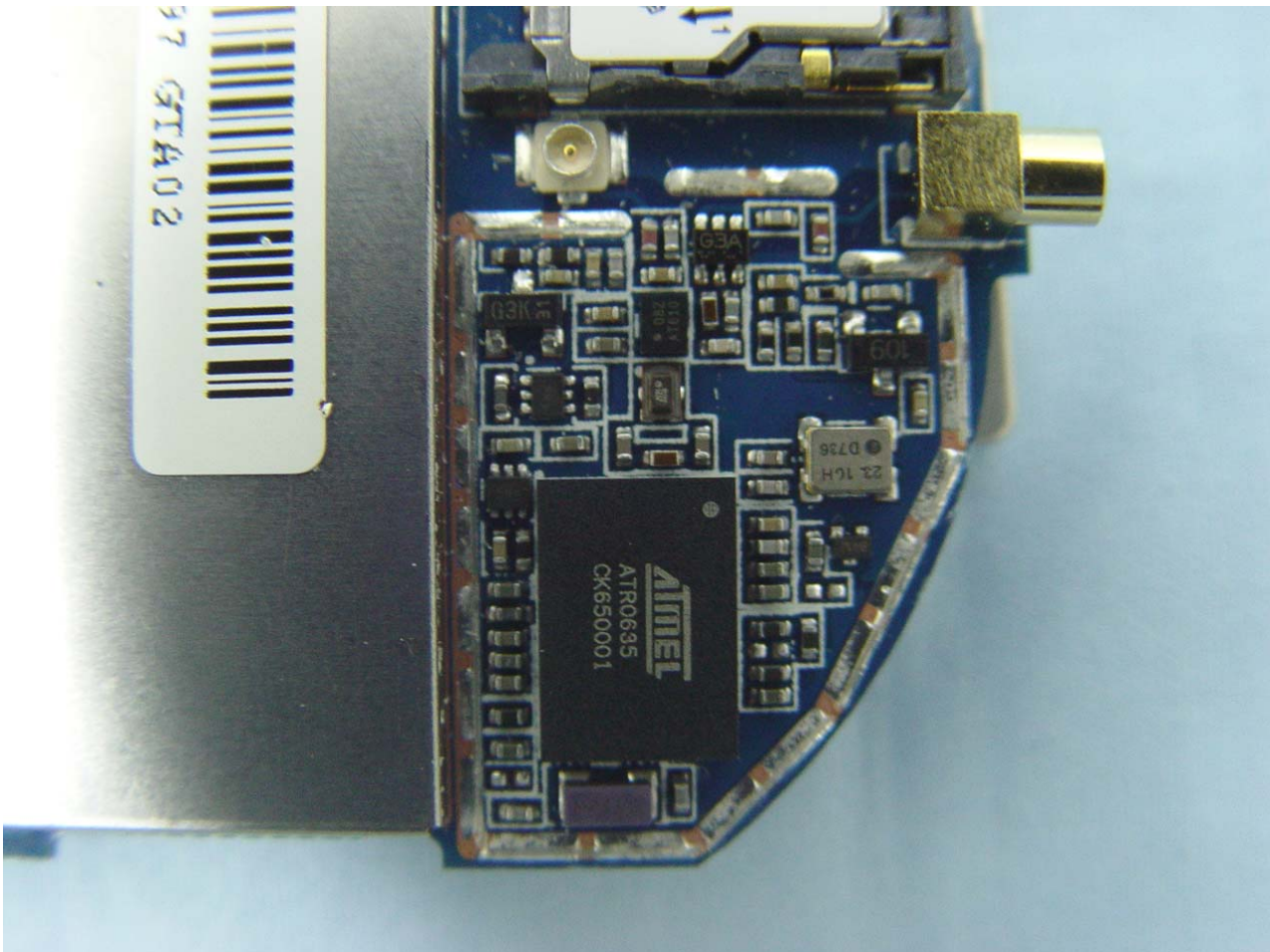


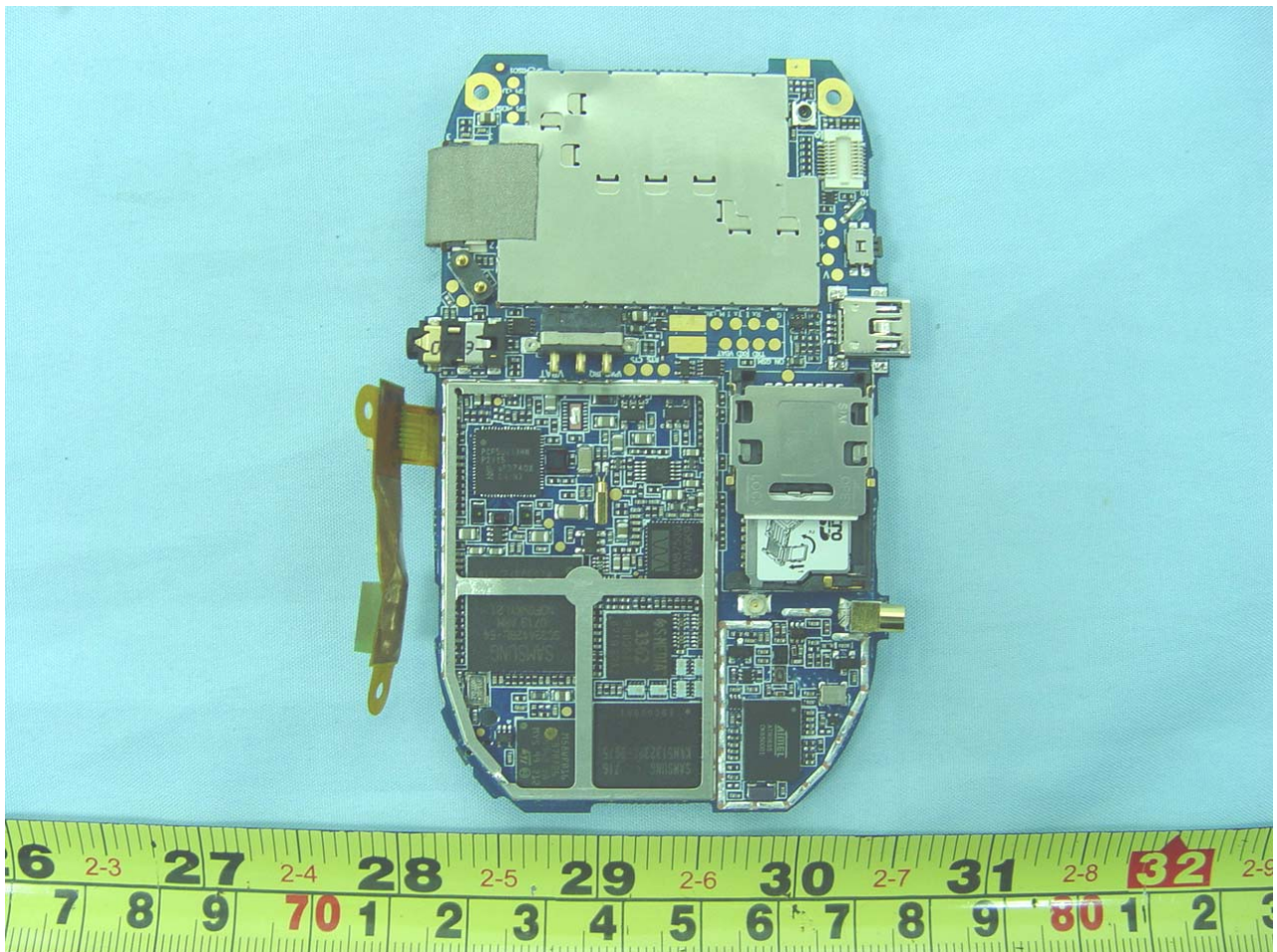


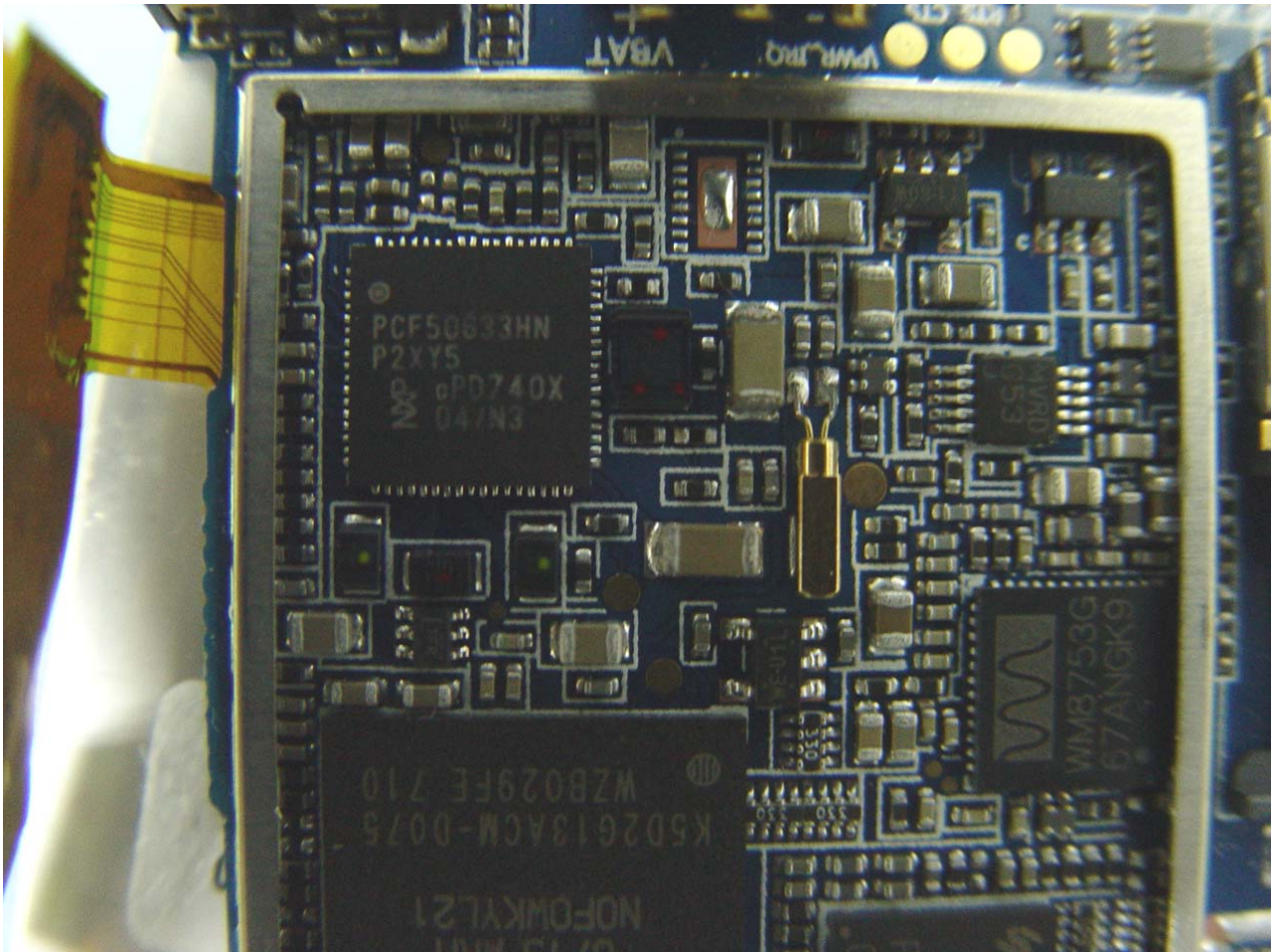


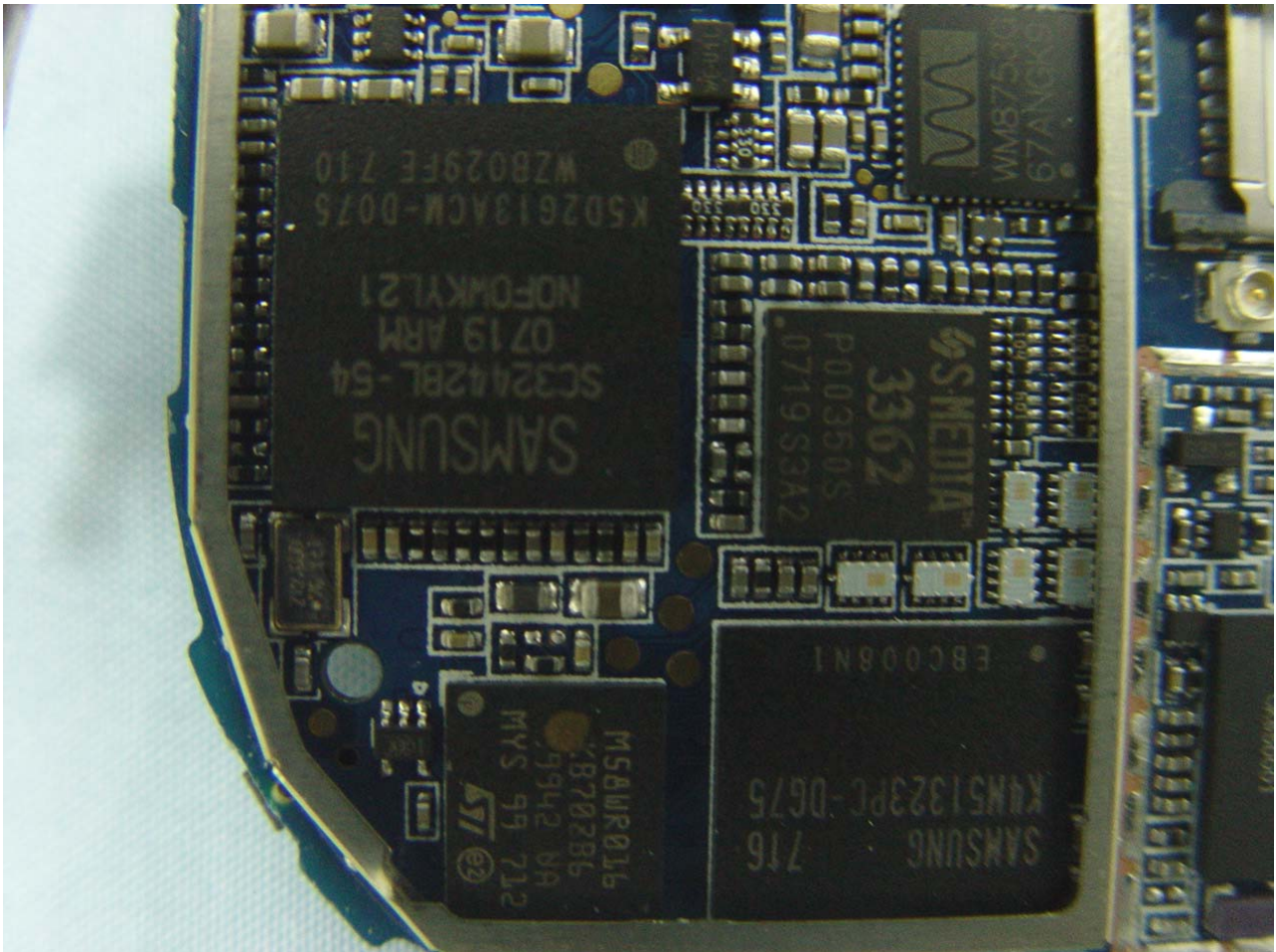


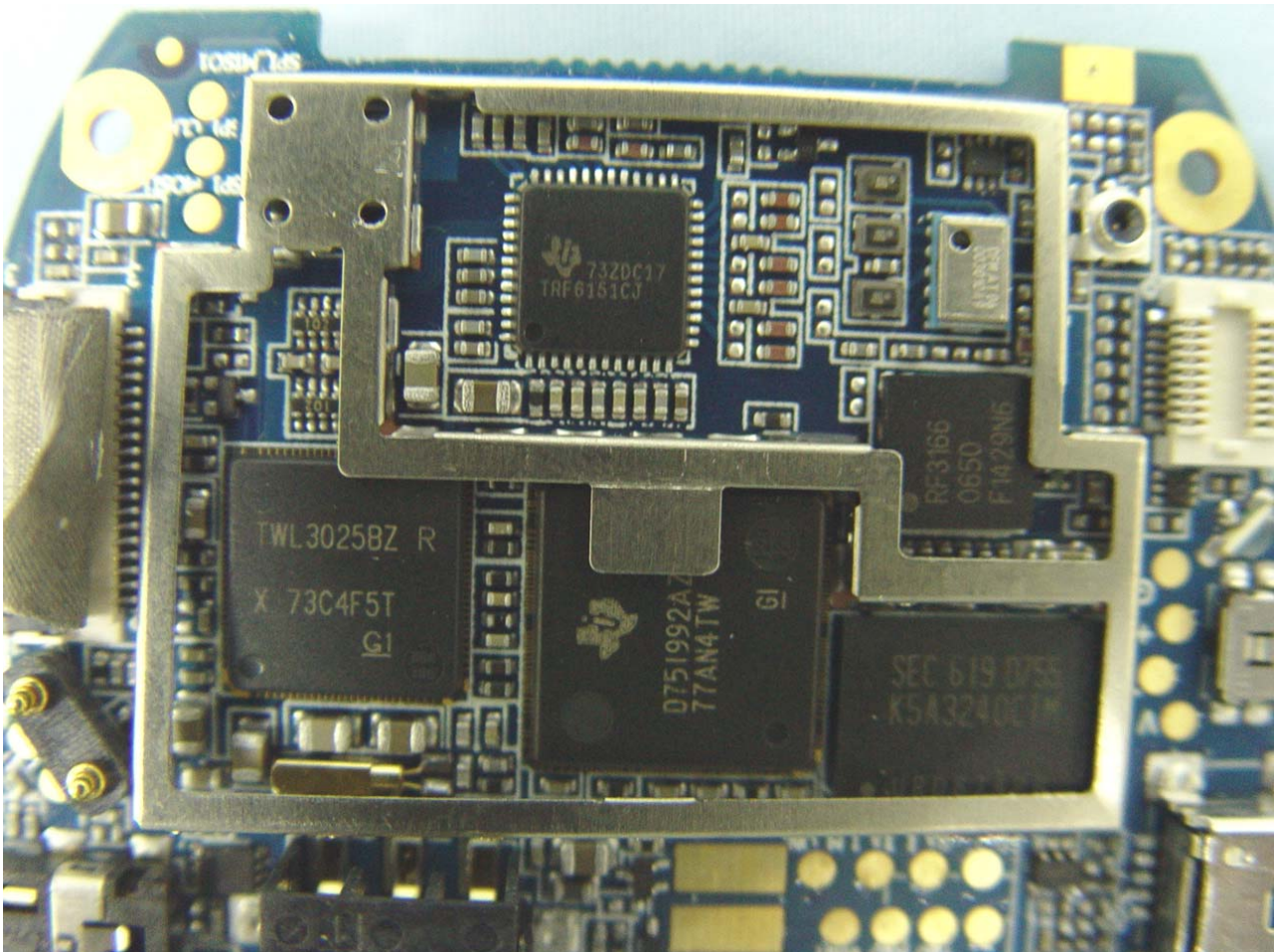


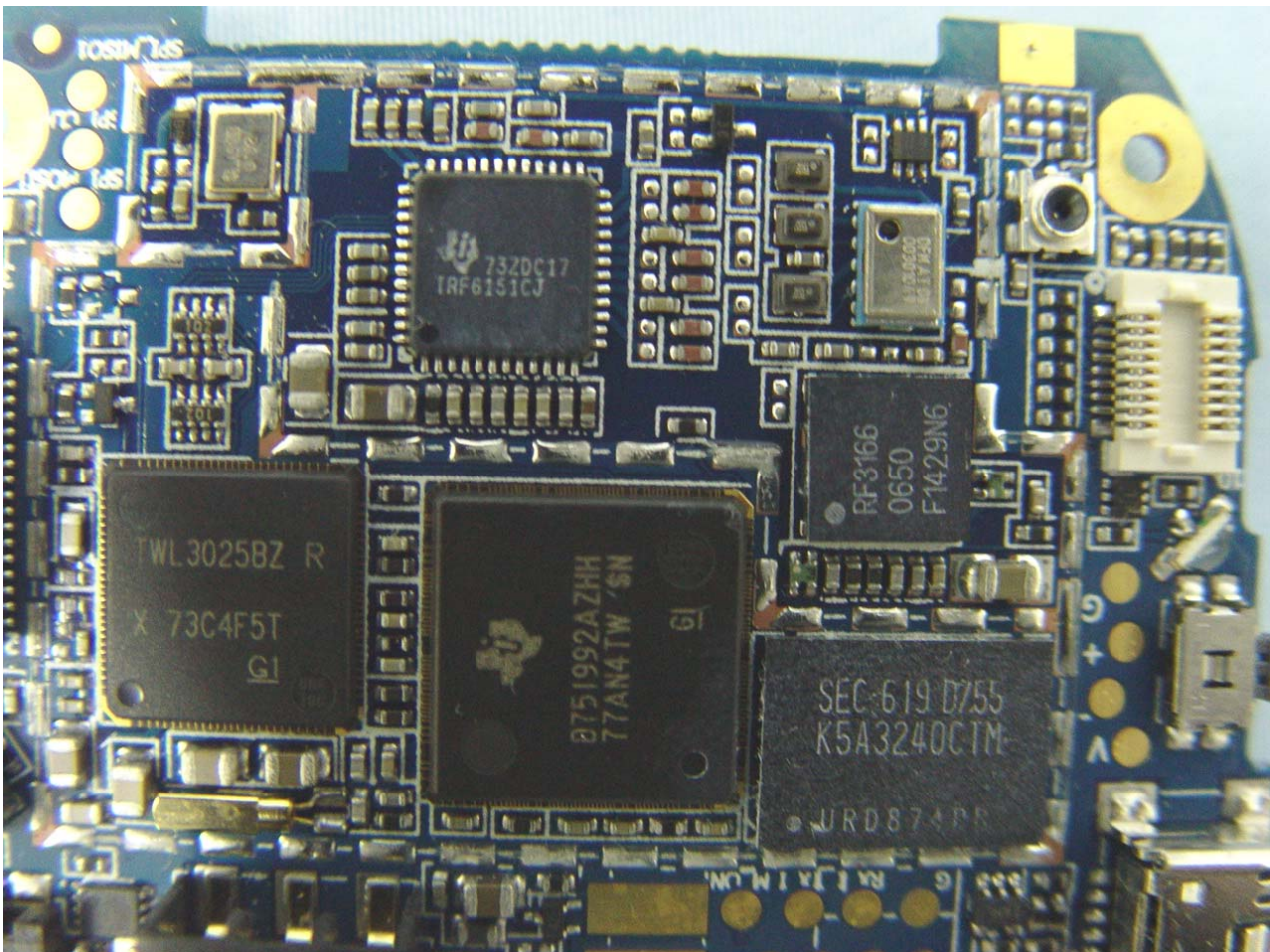






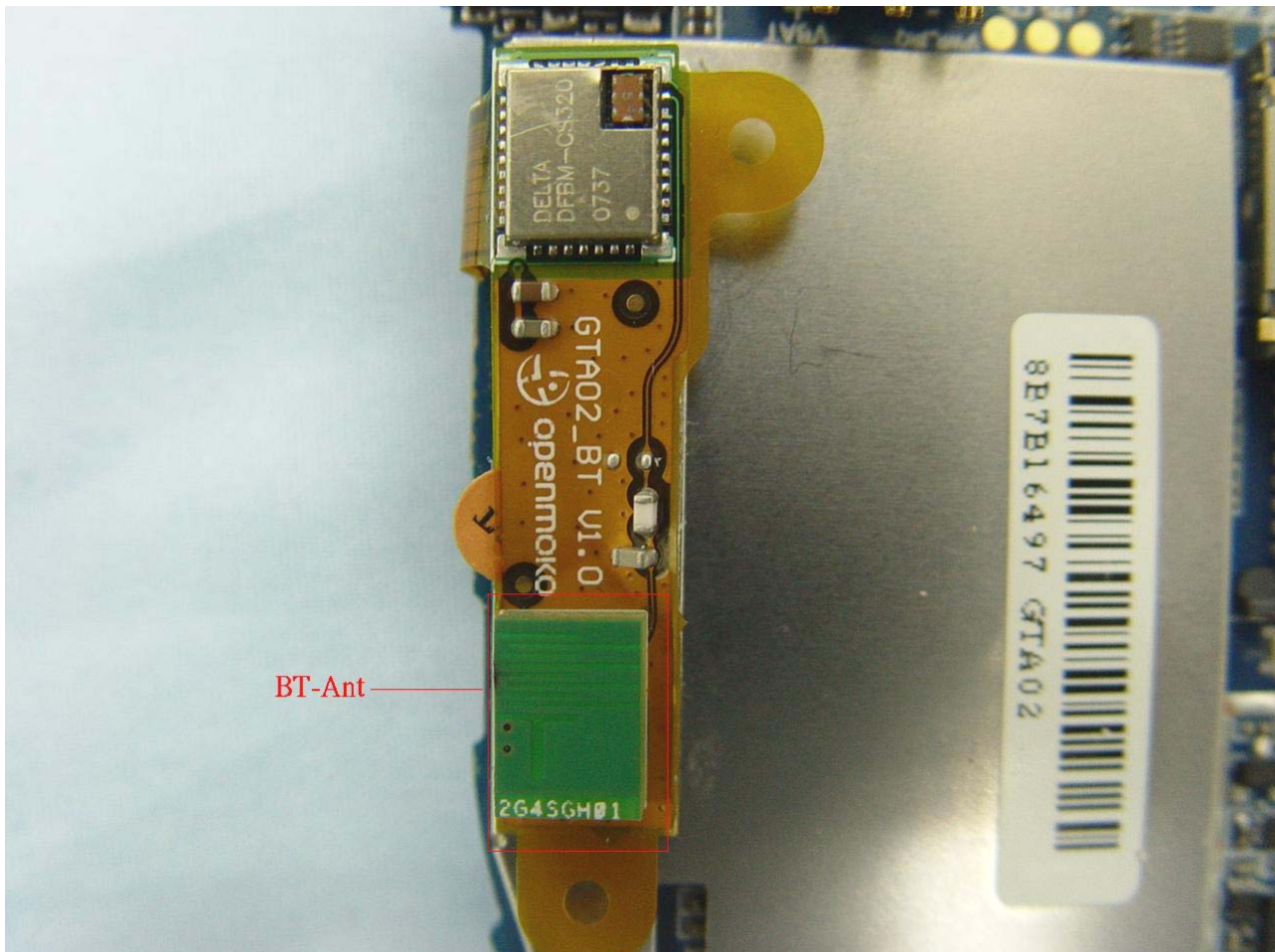


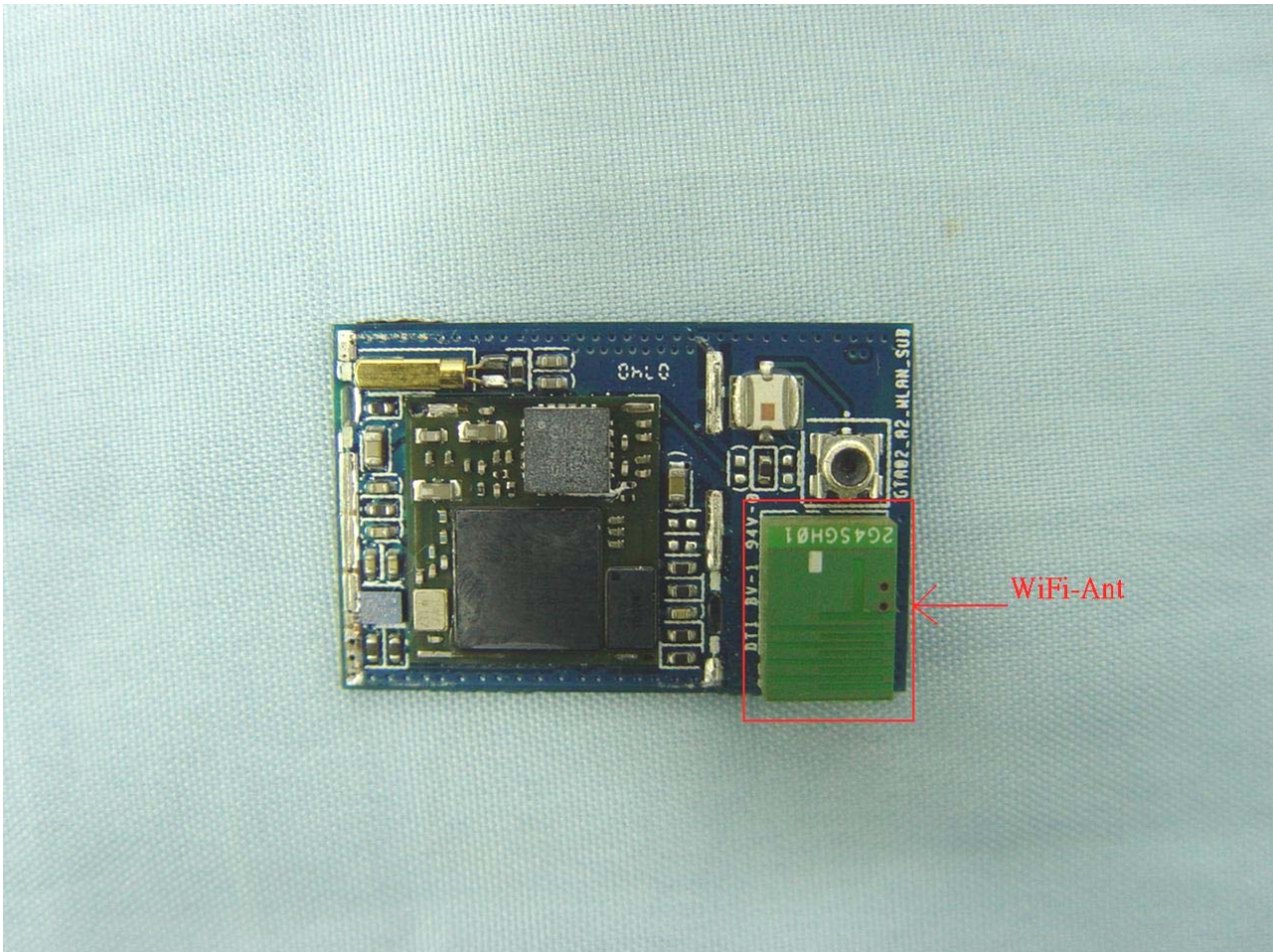












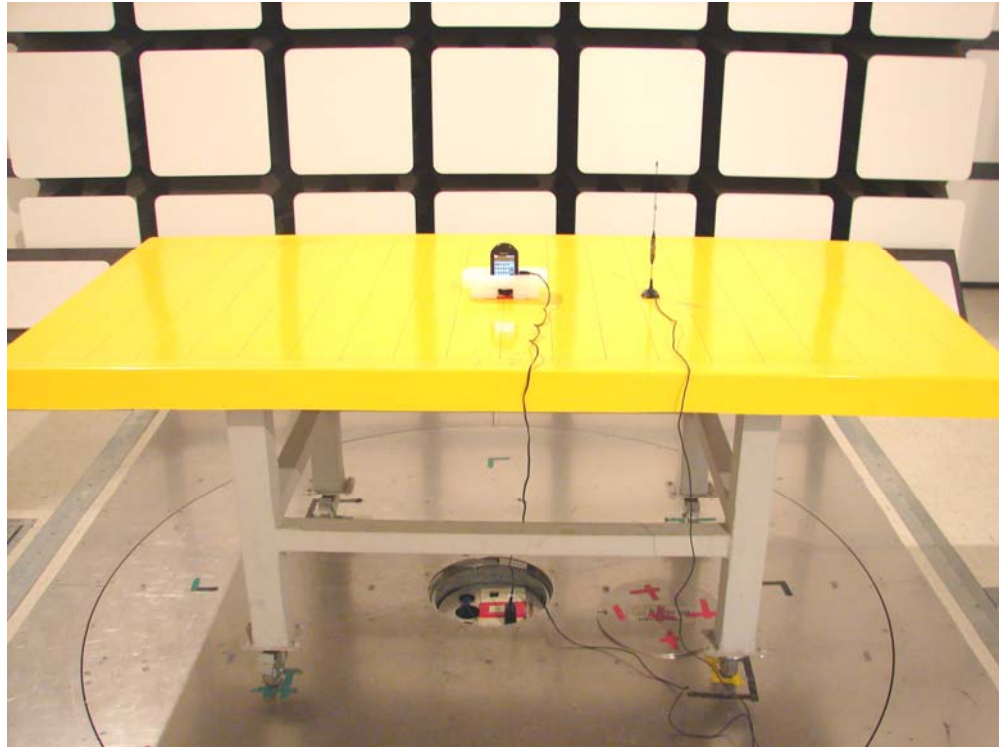


Appendix C. Setup Photographs

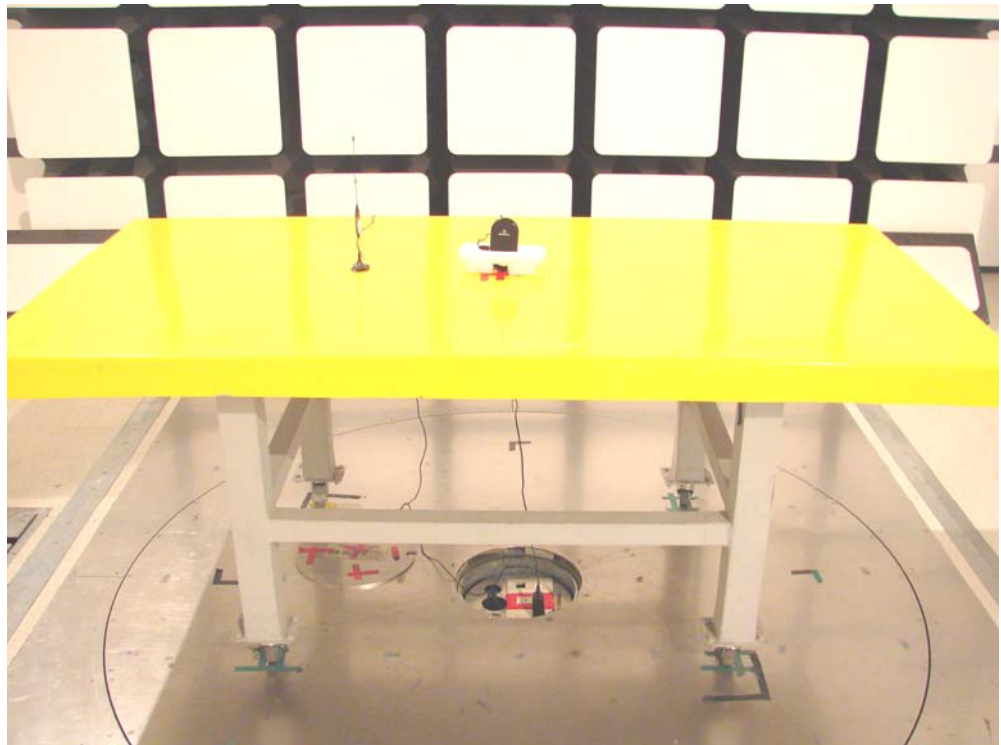
Spurious Radiation

Mode 1

FRONT VIEW

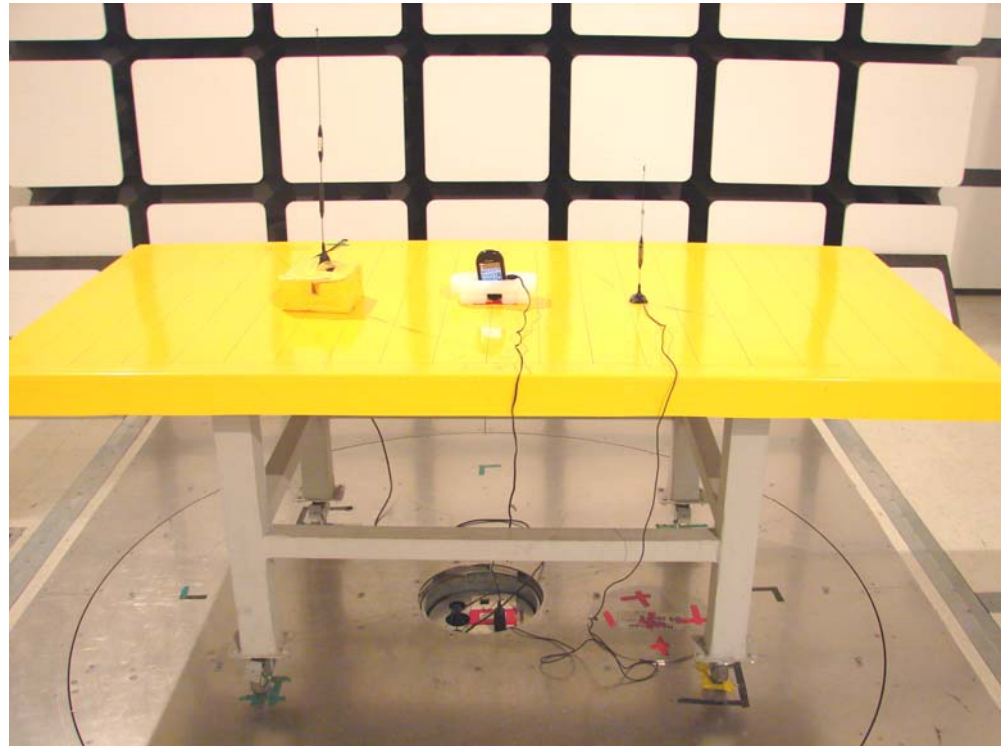


REAR VIEW



Mode 2

FRONT VIEW



REAR VIEW

