



TEST REPORT

FCC ID: 2ABNA-G5, IC: 11648A-G5

Applicant : Guangzhou Geoelectron Science & Technology Company Limited

Address : No.704, 7/F, Building C, No.7, Cai Pin Road, Science
City, Luogang District, Guangzhou, China

Equipment under Test (EUT):

Name : GNSS Receiver

Model : G5, GX5

In Accordance with: FCC PART 2, FCC PART 22H, FCC PART 24E
RSS-132, Issue 3, January 2013
RSS-133, Issue 6, January 2013

Report No : T1860371 09

Date of Test : March 18- March 28, 2016

Date of Issue : March 29, 2016

Test Result : PASS

In the configuration tested, the EUT complied with the standards specified above

Authorized Signature

(Mark Zhu)

General Manager

The manufacture should ensure that all the products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of Shenzhen Alpha Product Testing Co., Ltd. Or test done by Shenzhen Alpha Product Testing Co., Ltd. Approvals in connection with, distribution or use of the product described in this report must be approved by Shenzhen Alpha Product Testing Co., Ltd. Approvals in writing.

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TEST REPORT VERIFICATION

Applicant : Guangzhou Geoelectron Science & Technology Company Limited
Manufacturer : Guangzhou Geoelectron Science & Technology Company Limited
EUT Description : GNSS Receiver

(A) Model No. : G5, GX5
(B) Trademark : GINTEC, ACNOVO
(C) Ratings Supply : DC 3.6V from battery or DC 5.35V from adapter for charging
(D) Test Voltage : DC 3.6V from battery

Measurement Standard Used:

FCC Rules and Regulations Part 22H&Part 24E, RSS-132&RSS-133, ANSI C63.10-2013

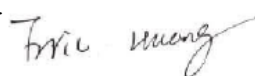
The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the Part 22H & Part 24E, RSS-132&RSS-133 limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.


Tested by (name + signature).....:

Eric Huang
Test Engineer

.....

.....

Approved by (name + signature).....:

Simple Guan
Project Manager

.....

.....

Date of issue.....:

April 05, 2016

1. General Information

1.1. Description of Device (EUT)

| | | |
|---------------------|---|--|
| EUT | : | GNSS Receiver |
| Trade Name | : | GINTEC, ACNOVO |
| Model No. | : | G5, GX5 |
| DIFF. | : | Only differ in model number. |
| Power supply | : | DC 3.6V from battery or DC 5.35V from adapter for charging |
| Adapter | : | Manufacturer: NIL Model No.: PSAT10R-050Q |
| Radio Technology | : | WCDMA BAND II/V |
| Release Version | : | Rel-6 |
| Operation frequency | : | WCDMA BAND II: 1852.4MHz—1907.6MHz WCDMA BAND V: 826.4MHz—846.6MHz |
| Modulation | : | WCDMA: QPSK |
| Antenna Type | : | PCB Antenna, max gain 4.38dBi for WCDMA850 PCB Antenna, max gain 4.38dBi for WCDMA1900 |
| Software version | : | V2.4.20160201 |
| Hardware version | : | M5_MB_V1.2 |
| Applicant | : | Guangzhou Geoelectron Science & Technology Company Limited |
| Address | : | No.704, 7/F, Building C, No.7, Cai Pin Road, Science City, Luogang District, Guangzhou, China |
| Manufacturer | : | Guangzhou Geoelectron Science & Technology Company Limited |
| Address | : | No.704, 7/F, Building C, No.7, Cai Pin Road, Science City, Luogang District, Guangzhou, China |

1.2. Test Lab information

Shenzhen Alpha Product Testing Co., Ltd
Building B, East Area of Nanchang Second, Industrial Zone, Gushu 2nd Road,
Bao'an, Shenzhen, China

March 25, 2015 File on Federal Communication Commission
Registration Number: 203110

July 18, 2014 Certificated by IC
Registration Number: 12135A

2. Summary of test

2.1. Summary of test result

| Description of Test Item | Standard | Results |
|---|--|---------|
| Conducted Output power | FCC PART 2: 2.1046 FCC PART 22H: 22.913 (a) FCC PART 24E: 24.232 (c) RSS-132: 5.4 RSS-133: 6.4 | PASS |
| Radiated Output power(erp/eirp) | FCC PART 22H:22.913 (a) FCC PART 24E:24.232(c) RSS-132: 5.4 RSS-133: 6.4 | PASS |
| Occupied bandwidth | FCC PART 2: 2.1049 FCC PART 22H: 22.917 (b) FCC PART 24E: 24.238 (b) | PASS |
| Frequency stability | FCC PART 2: 2.1055 FCC PART 22H: 22.355 FCC PART 24E: 24.235 RSS-132: 5.3 RSS-133: 6.3 | PASS |
| Conducted spurious emission (Antenna terminal) | FCC PART 2: 2.1051 FCC PART 22H: 22.917 FCC PART 24E: 24.238 RSS-132: 5.5 RSS-133: 6.5 | PASS |
| Radiated spurious emissions | FCC PART 2: 2.1053 FCC PART 22H: 22.917 FCC PART 24E: 24.238 RSS-132: 5.5 RSS-133: 6.5 | PASS |
| Band edge compliance | FCC PART 22H: 22.917 (b) FCC PART 24E: 24.238 (b) RSS-132: 5.5 RSS-133: 6.5 | PASS |
| Power Line Conducted Emission Test | FCC Part 15: 15.207 ANSI C63.4: 2003 | PASS |

2.2. Assistant equipment used for test

Description : Adapter
 Manufacturer : NIL
 Model No. : PSAI10R-050Q
 Input : AC 100-240V, 50-60Hz, 0.3A, 22-38VA
 Output : DC 5.35V, 2.0A

2.3. Test mode

During all testing, EUT is in link mode with base station emulator at maximum power level in each test mode and channel as below:

| Mode | Channel | Frequency(MHz) |
|--------------|---------|----------------|
| UMTS BAND V | 4132 | 826.4 |
| | 4182 | 836.6 |
| | 4233 | 846.6 |
| UMTS BAND II | 9262 | 1852.4 |
| | 9400 | 1880.0 |
| | 9538 | 1907.6 |

2.4. Test Environment Conditions

| | |
|-------------------|-----------|
| Temperature range | 21-25°C |
| Humidity range | 40-75% |
| Pressure range | 86-106kPa |

2.5. Measurement Uncertainty (95% confidence levels, k=2)

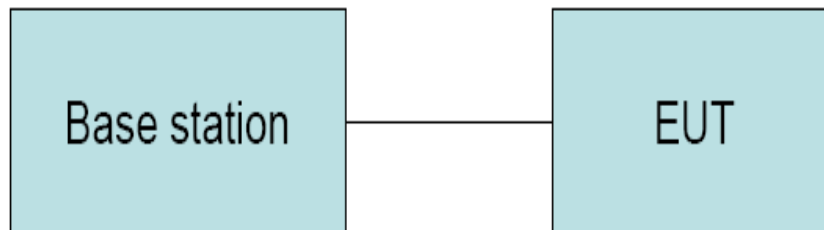
| Item | MU | Remark |
|--|---------|-------------|
| Uncertainty for Power point Conducted Emissions Test | 2.71dB | |
| Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz) | 3.90 dB | Polarize: V |
| | 3.92dB | Polarize: H |
| Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz) | 4.26 dB | Polarize: H |
| | 4.28 dB | Polarize: V |
| Uncertainty for conducted RF Power | 0.16dB | |

2.6. Test Equipment

| Equipment | Manufacture | Model No. | Serial No. | Last cal. Due to | Cal Interval |
|--|-------------|-------------|----------------------|---------------------|--------------|
| 3m Semi-Anechoic | CHENYU | N/A | N/A | 2018.01.18 | 2Year |
| Spectrum analyzer | Agilent | E4407B | MY46185649 | 2017.01.16 | 1Year |
| Receiver | R&S | ESPI | 101873 | 2017.01.16 | 1Year |
| Receiver | R&S | ESCI | 101165 | 2017.01.16 | 1Year |
| Bilog Antenna | SCHWARZBECK | VULB 9168 | VULB9168-438 | 2018.01.18 | 2Year |
| Horn Antenna | SCHWARZBECK | BBHA 9120 D | BBHA 9120 D(1201) | 2017.01.20 | 2Year |
| Cable | Resenberger | N/A | No.1 | 2017.01.16 | 1Year |
| Cable | SCHWARZBECK | N/A | No.2 | 2017.01.16 | 1Year |
| Cable | SCHWARZBECK | N/A | No.3 | 2017.01.16 | 1Year |
| Pre-amplifier | HP | HP8347A | 2834A00455 | 2017.01.18 | 1Year |
| Pre-amplifier | Agilent | 8449B | 3008A02664 | 2017.01.18 | 1Year |
| vector Signal Generator | Agilent | N5182A | MY49060042 | 2016.11.16 | 1 Year |
| vector Signal Generator | Agilent | E4438C | US44271917 | 2016.11.16 | 1 Year |
| X-series USB Peak and Average Power Sensor | Agilent | U2021XA | MY54080020 | 2016.11.16 | 1 Year |
| X-series USB Peak and Average Power Sensor | Agilent | U2021XA | MY54110001 | 2016.11.16 | 1 Year |
| Signal Analyzer | Agilent | N9020A | MY48030494 | 2016.11.16 | 1 Year |

3. Conducted Output power

3.1. Block Diagram of Test Setup



3.2. Limit

| | |
|---------------------------|-------------|
| Cellular Telephone 850MHz | PCS 1900MHz |
| 38.5dBm(ERP) | 33dBm(EIRP) |

3.3. Test Procedure

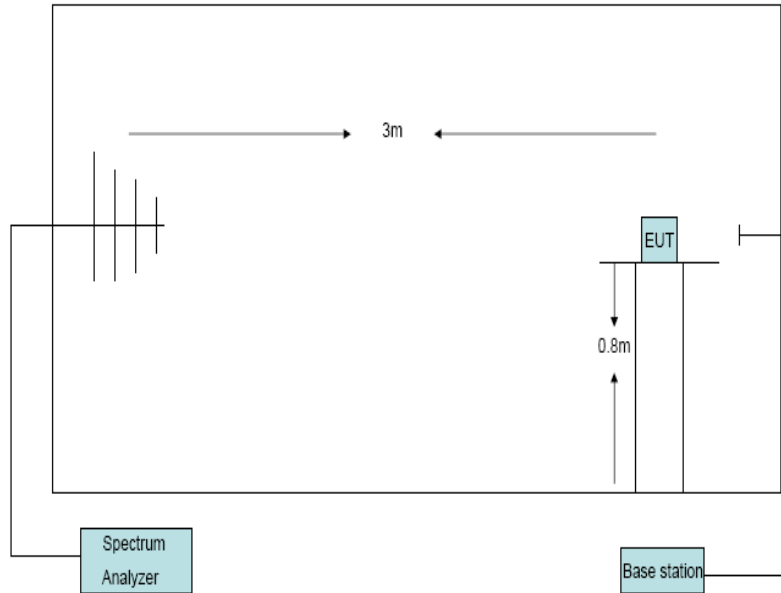
- (1) The EUT's RF output port was connected to base station.
- (2) A call is set up by the SS according to the generic call set up procedure
- (3) Set EUT at maximum power level through base station by power level command
- (4) Measure the maximum output power of EUT at each frequency band and mode by base station.

3.4. Test Result

| EUT: GNSS Receiver | | M/N:G5 | | Power: DC 3.6V from battery | | | | | | | | |
|-------------------------|---------|----------------------|--------------|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Ambient Temperature:24℃ | | | | Relative Humidity: 62% | | | | | | | | |
| Test date: 2016-03-24 | | | | Test site: RF site Tested by: Simple Guan | | | | | | | | |
| Conclusion: PASS | | | | | | | | | | | | |
| Mode | Channel | PK Output Power(dBm) | | | | | | | | | | Limit (dBm) |
| | | WCDMA | HSDPA | | | | HSUPA | | | | | |
| | | | Sub Test1 | Sub Test2 | Sub Test3 | Sub Test4 | Sub Test1 | Sub Test2 | Sub Test3 | Sub Test4 | Sub Test5 | |
| WCDMA 850 | 4132 | 23.31 | 23.30 | 23.28 | 23.29 | 23.25 | 22.27 | 21.68 | 21.71 | 21.62 | 22.42 | 38.5 |
| | 4182 | 23.28 | 23.26 | 23.25 | 23.26 | 23.22 | 22.69 | 21.22 | 21.73 | 21.58 | 22.06 | 38.5 |
| | 4233 | 23.32 | 23.27 | 23.28 | 23.19 | 23.16 | 22.43 | 21.52 | 21.35 | 21.58 | 22.16 | 38.5 |
| WCDMA 1900 | 9262 | 22.93 | 23.06 | 23.08 | 23.09 | 23.05 | 22.57 | 21.46 | 21.35 | 21.59 | 22.43 | 33 |
| | 9400 | 23.21 | 22.48 | 23.29 | 23.28 | 23.15 | 22.42 | 21.28 | 21.32 | 21.43 | 22.14 | 33 |
| | 9538 | 23.18 | 23.15 | 23.16 | 23.09 | 23.11 | 22.38 | 21.42 | 21.28 | 21.27 | 22.16 | 33 |

4. Radiated Output power

4.1. Block Diagram of Test Setup



4.2. Limit

| | |
|---------------------------|-------------|
| Cellular Telephone 850MHz | PCS 1900MHz |
| 38.5dBm(ERP) | 33dBm(EIRP) |

4.3. Test Procedure

1. The EUT was placed on a non-conductive rotating platform with 0.8 meter height in an anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RBW= 3MHz, VBW= 3MHz and peak detector settings.
2. During the measurement, the EUT was enforced in maximum power and linked with a base station. The highest emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations
3. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by dipole antenna (for frequency below 1GHz) or Horn antenna (for frequency above 1GHz) at same location with same polarize of receiving antenna and then a known power of each measure frequency from

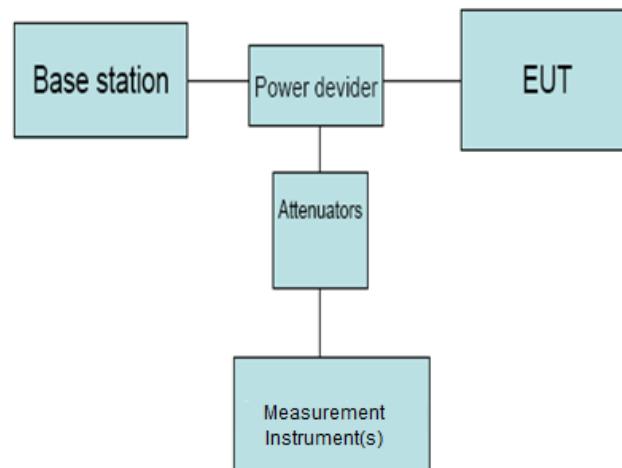
S.G. was applied into the dipole antenna or Horn antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Substitution antenna Loss (only for Dipole antenna) - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP = LVL + \text{Correction factor}$ and $ERP = EIRP - 2.15$

4.4. Test Result

| | | | | | |
|-----------------------------------|---------|--------------|--------------------------|--------------|------------------------|
| EUT: GNSS Receiver M/N:G5 | | | | | |
| Power: DC 3.6V from battery | | | | | |
| Ambient Temperature:23℃ | | | Relative Humidity: 60% | | |
| Test date: 2016-03-24 | | | Test site: RF site | | Tested by: Simple Guan |
| Conclusion: PASS | | | | | |
| Mode | Channel | LVL (dBm) | Correction factor(dB) | ERP (dBm) | EIRP (dBm) |
| WCDMA BAND V | 4132 | -6.61 | 30.27 | 21.51 | / |
| | 4182 | -6.75 | 30.16 | 21.26 | / |
| | 4233 | -6.55 | 30.24 | 21.54 | / |
| WCDMA BAND II | 9262 | -25.63 | 46.83 | / | 21.20 |
| | 9400 | -25.61 | 46.97 | / | 21.36 |
| | 9538 | -25.64 | 46.96 | / | 21.32 |
| ERP=LVL + Correction factor -2.15 | | | | | |
| EIRP=LVL+ Correction factor | | | | | |

5. Peak-to-Average Ratio

5.1. Block Diagram of Test Setup



5.2. Limit

In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

5.3. Test Procedure

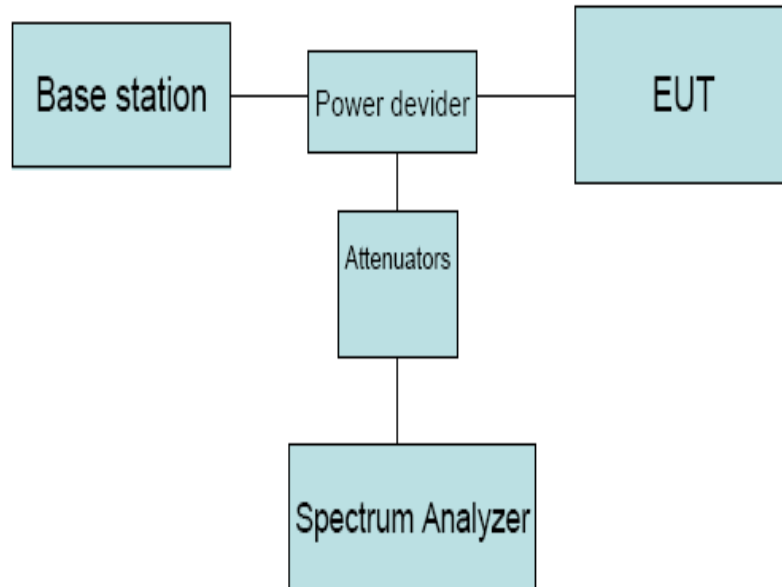
The EUT' RF output port was connected to Measurement Instrument(s) and Base Station via power divider, and then measure the test data.

5.4. Test Result

| Test Band | Test Mode | Test Channel | Measured[dB] | Limit [dB] | Verdict |
|-----------|-----------|--------------|--------------|------------|---------|
| WCDMA1900 | WCDMA | LCH | 3.42 | 13 | PASS |
| | | MCH | 3.58 | 13 | PASS |
| | | HCH | 3.45 | 13 | PASS |

6. Occupied Bandwidth

6.1. Block Diagram of Test Setup



6.2. Limit

N/A

6.3. Test Procedure

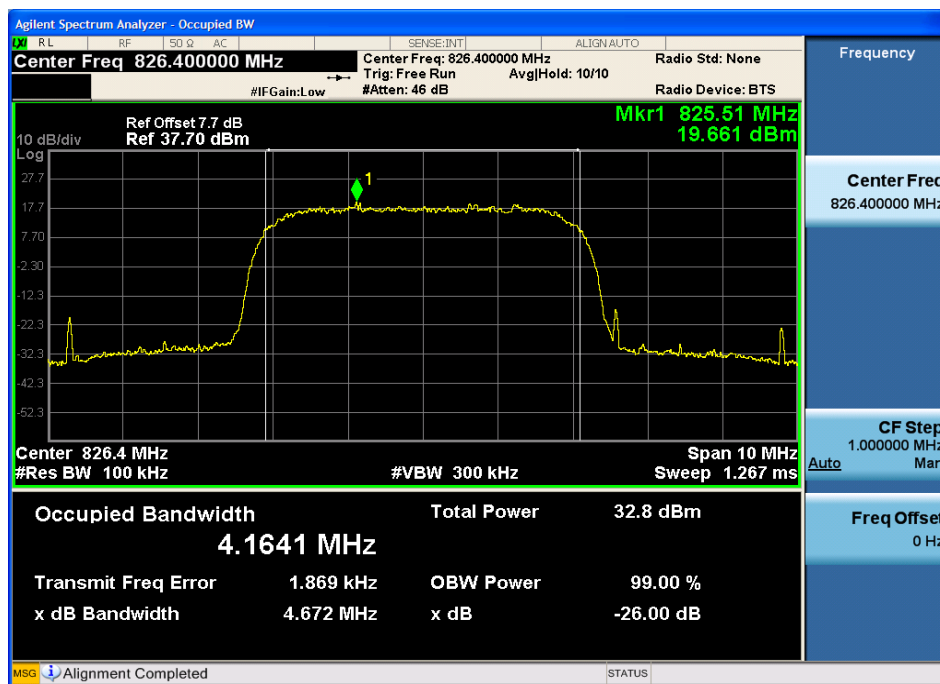
1. The EUT' RF output port was connected to Spectrum Analyzer and Base Station via power divider.
2. Spectrum analyzer's occupied bandwidth measure function was used to measure 99% bandwidth and -26dBc bandwidth

6.4. Test Result

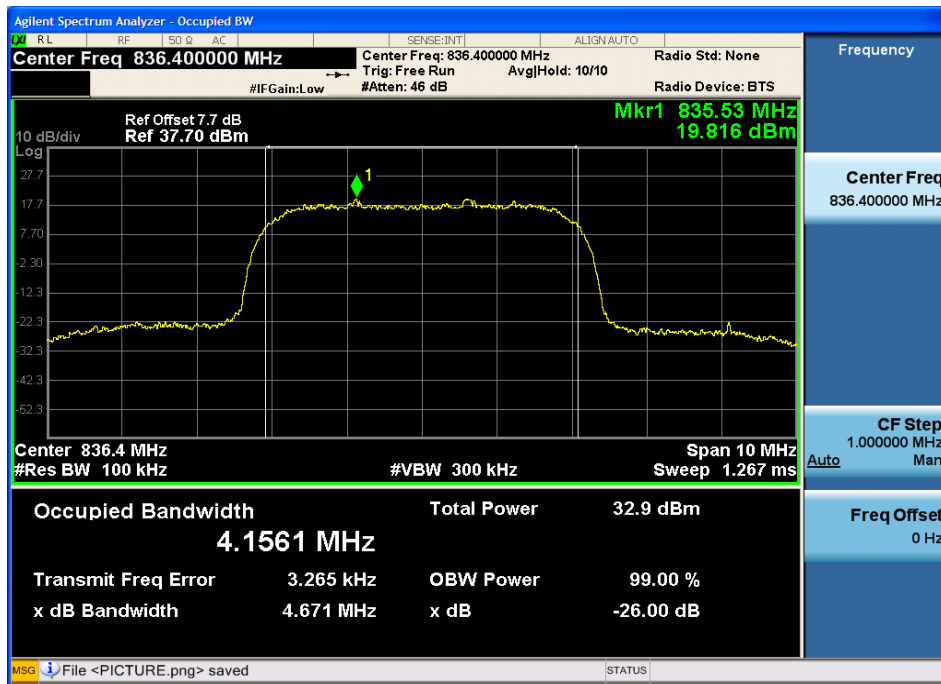
| | | | |
|-----------------------------|---------|------------------------|------------------------|
| EUT: GNSS Receiver M/N:G5 | | | |
| Power: DC 3.6V from battery | | | |
| Ambient Temperature:23℃ | | Relative Humidity: 60% | |
| Test date: 2016-03-24 | | Test site: RF site | Tested by: Simple Guan |
| Mode | Channel | 99% bandwidth (MHz) | -26dBc bandwidth (MHz) |
| WCDMA BAND V | 4132 | 4.1641 | 4.672 |
| | 4182 | 4.1561 | 4.671 |
| | 4233 | 4.1708 | 4.663 |
| WCDMA BAND II | 9262 | 4.1507 | 4.663 |
| | 9400 | 4.1589 | 4.664 |
| | 9538 | 4.1565 | 4.656 |

6.5. Original test data

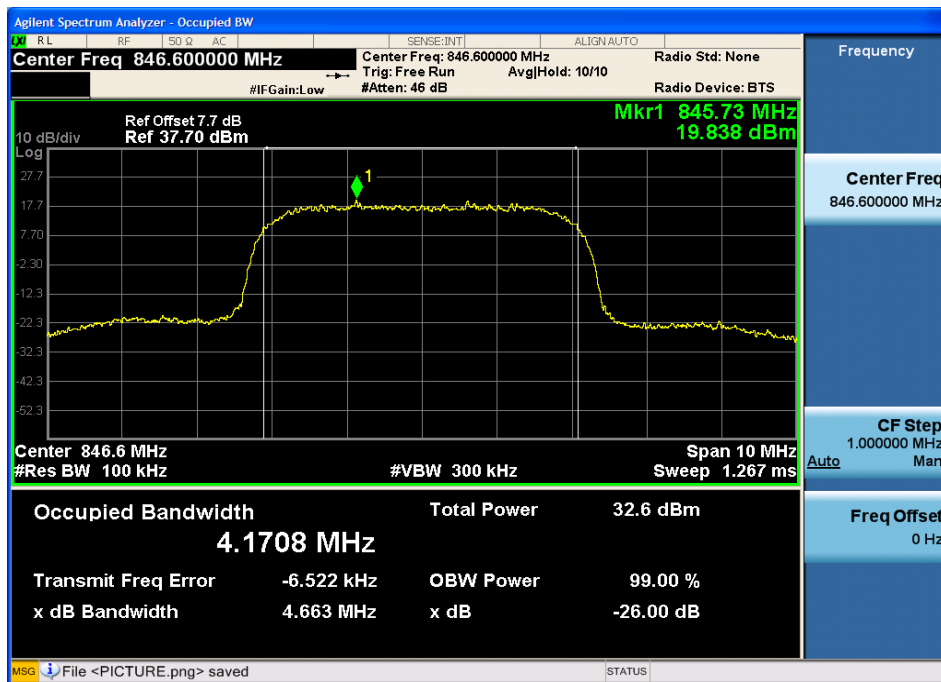
WCDMA BAND V CH4132



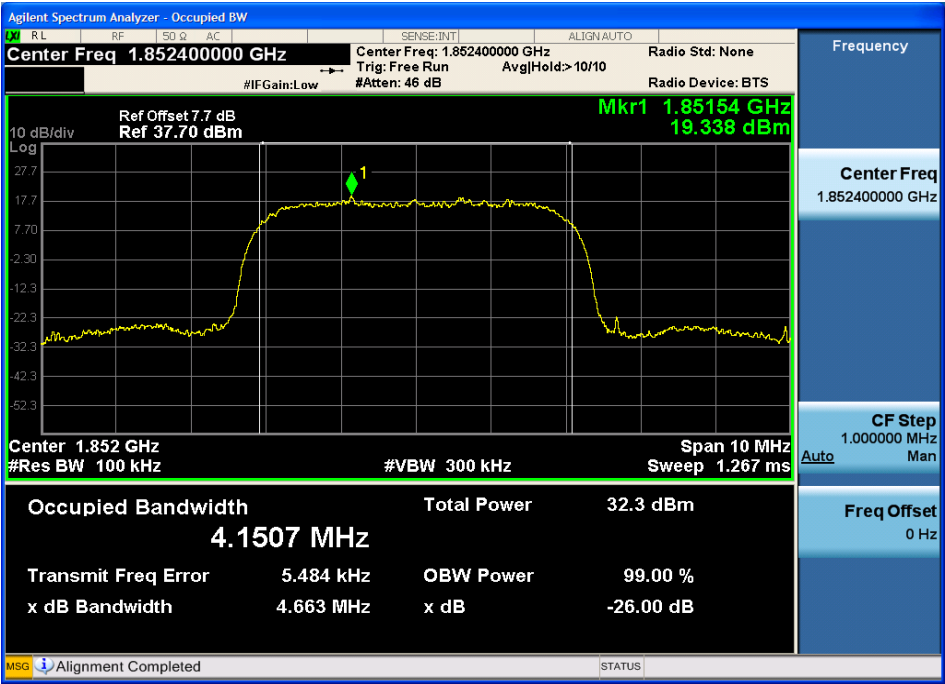
WCDMA BAND V CH4182



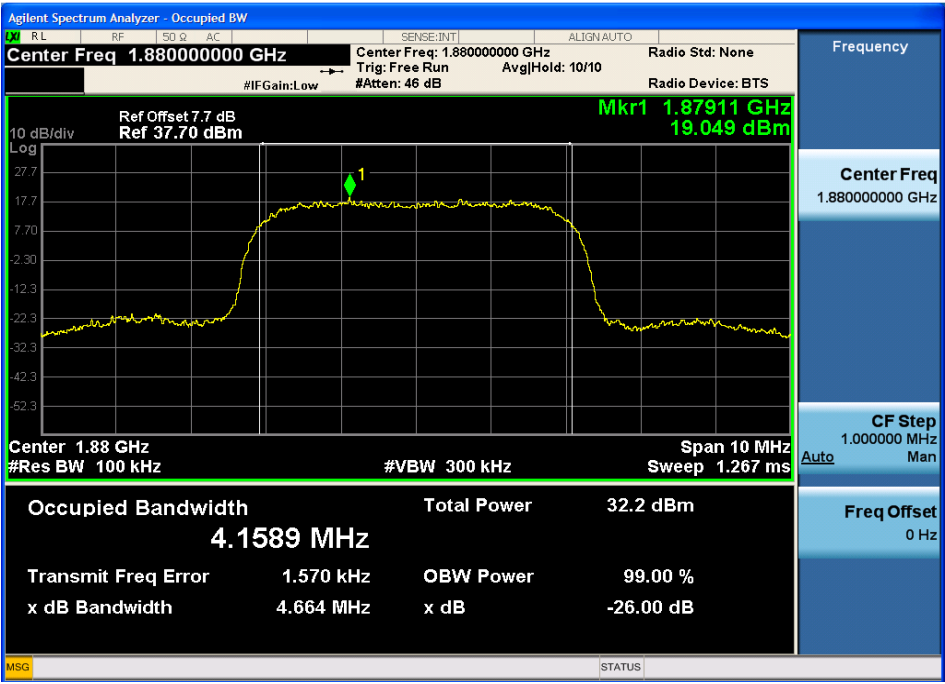
WCDMA BAND V CH4233



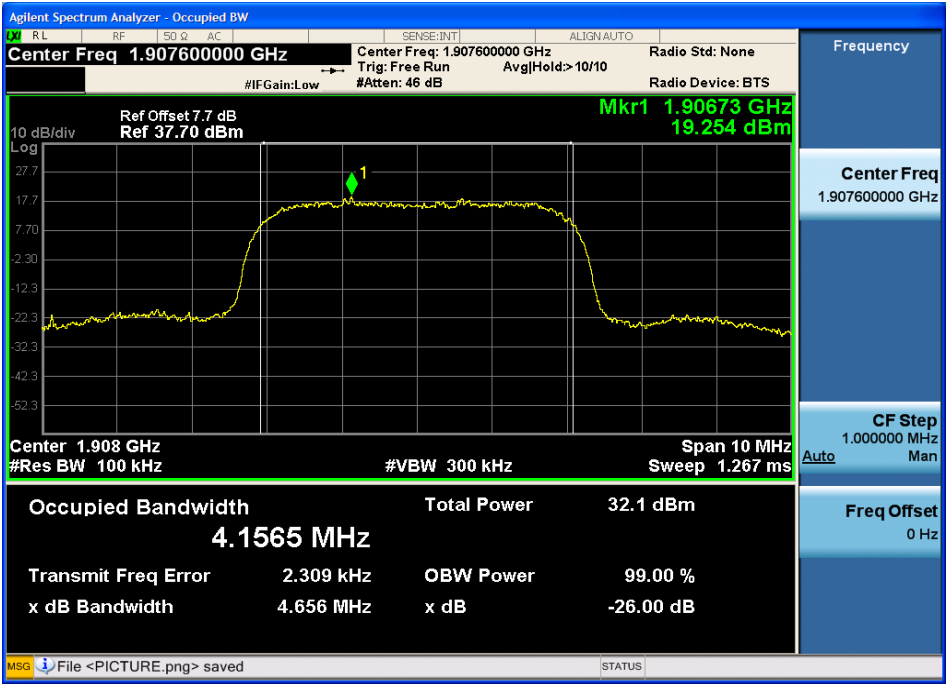
WCDMA BAND II CH9262



WCDMA BAND II CH9400

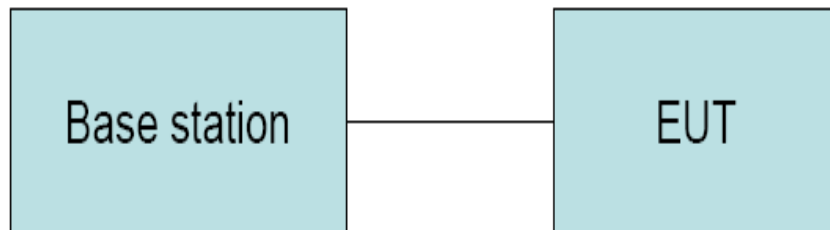


WCDMA BAND II CH9538



7. Frequency stability

7.1. Block Diagram of Test Setup



7.2. Limit

| Cellular Telephone 850MHz | PCS 1900MHz |
|---------------------------|---|
| ± 2.5 ppm | Must stay within the authorized frequency block |

7.3. Test Procedure

Test Procedures for Temperature Variation:

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at $25 \pm 5^{\circ}\text{C}$ and connected with the base station.
2. The power supply voltage to the EUT was varied from DC 5V to 3.5V
3. The variation in frequency was measured for the worst case.

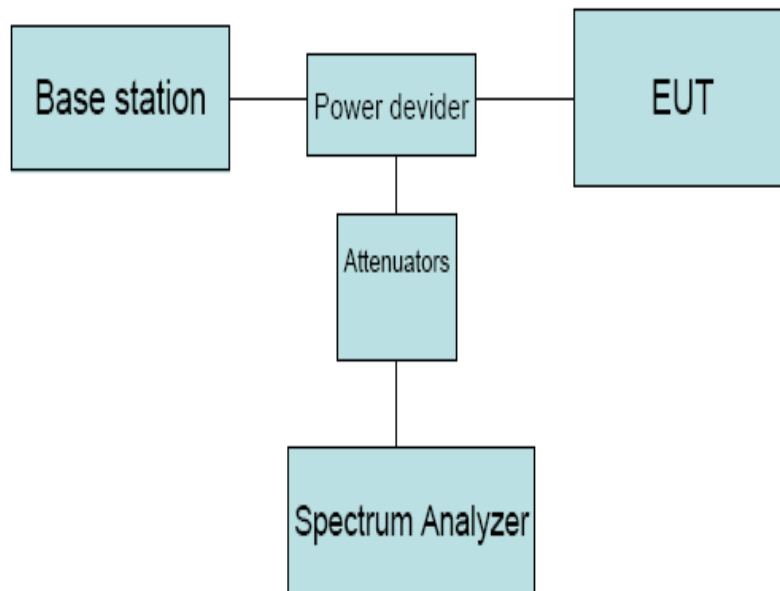
7.4. Test Result

| EUT: GNSS Receiver M/N:G5 | | | |
|-----------------------------|-------------|------------------------|------------------------|
| Power: DC 3.6V from battery | | | |
| Ambient Temperature:23°C | | Relative Humidity: 60% | |
| Test date: 2016-03-24 | | Test site: RF site | Tested by: Simple Guan |
| Conclusion: PASS | | | |
| Mode | Voltage (V) | Frequency error (Hz) | frequency error (ppm) |
| WCDMA BAND V CH4182 | 4.2V | 1.79 | 0.002 |
| | 3.6V | 0.58 | 0.001 |
| | 3.1V | -1.51 | -0.002 |
| WCDMA BAND II CH9400 | 4.2V | -5.93 | -0.003 |
| | 3.6V | -6.95 | -0.004 |
| | 3.1V | -4.76 | -0.003 |

| Mode | Temperature (°C) | Frequency error (Hz) | frequency error (ppm) |
|-------------------------|------------------|----------------------|-----------------------|
| WCDMA BAND V CH4182 | -30 | 3.80 | 0.005 |
| | -20 | 2.90 | 0.004 |
| | -10 | 1.27 | 0.002 |
| | 0 | 0.53 | 0.001 |
| | 10 | 0.16 | 0.001 |
| | 20 | 2.51 | 0.003 |
| | 30 | 1.05 | 0.001 |
| | 40 | 2.05 | 0.003 |
| | 50 | 1.77 | 0.002 |
| WCDMA BAND II CH9400 | -30 | 5.89 | 0.003 |
| | -20 | 6.13 | 0.003 |
| | -10 | 3.62 | 0.002 |
| | 0 | 5.05 | 0.003 |
| | 10 | 3.90 | 0.002 |
| | 20 | 4.86 | 0.003 |
| | 30 | 1.51 | 0.001 |
| | 40 | 6.59 | 0.004 |
| | 50 | 5.82 | 0.003 |

8. Conducted spurious emissions

8.1. Block Diagram of Test Setup



8.2. Limit

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least $(43 + 10 \log P)$ dB, in this case, -13dBm.

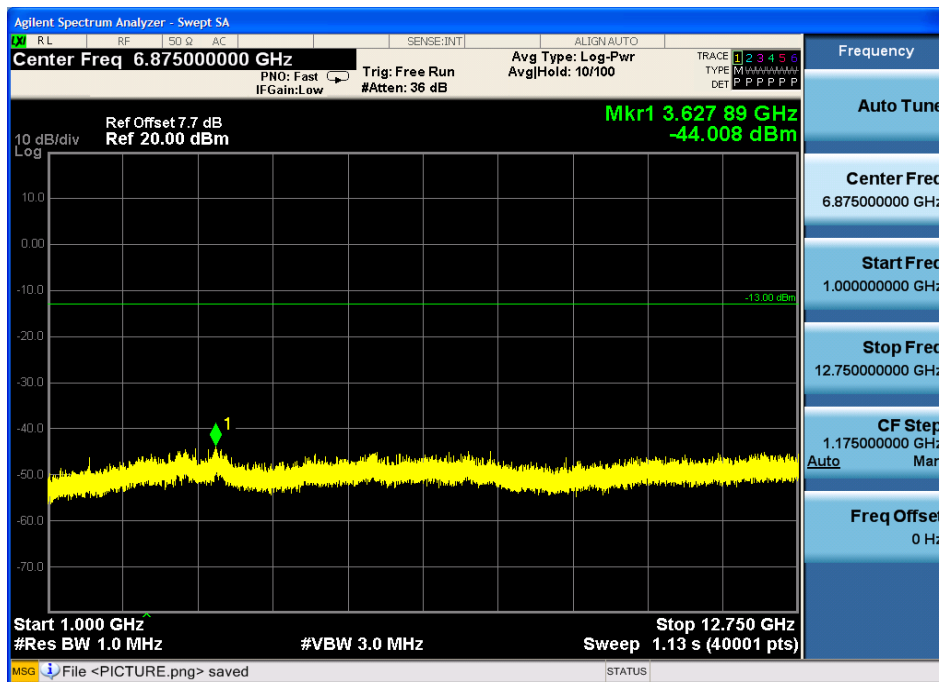
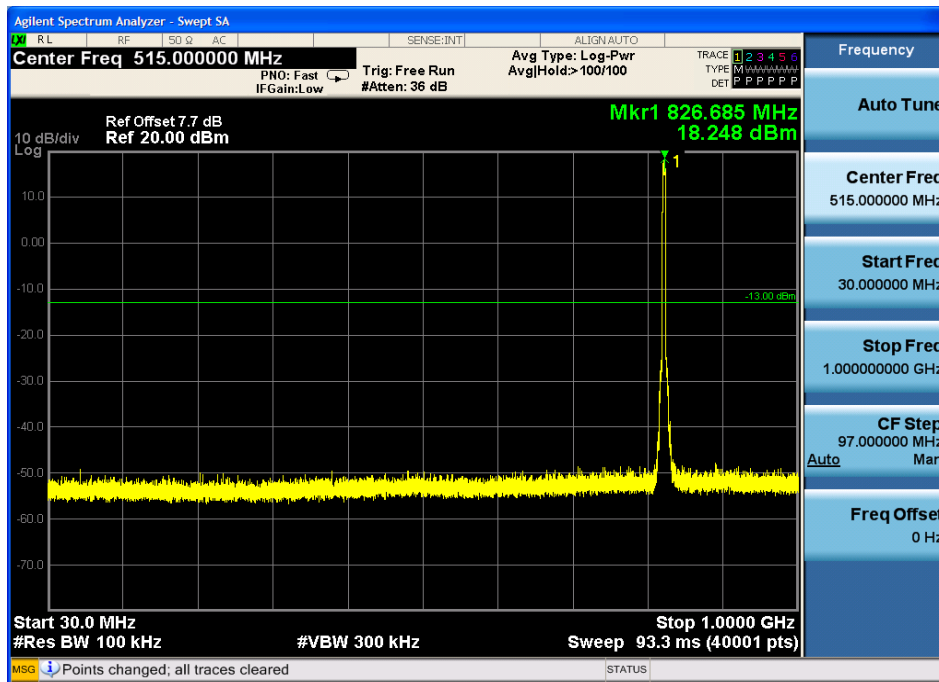
8.3. Test Procedure

1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The low, middle and high channels of each band and mode's spurious emissions for 30MHz to 10th Harmonic were measured by Spectrum analyzer.

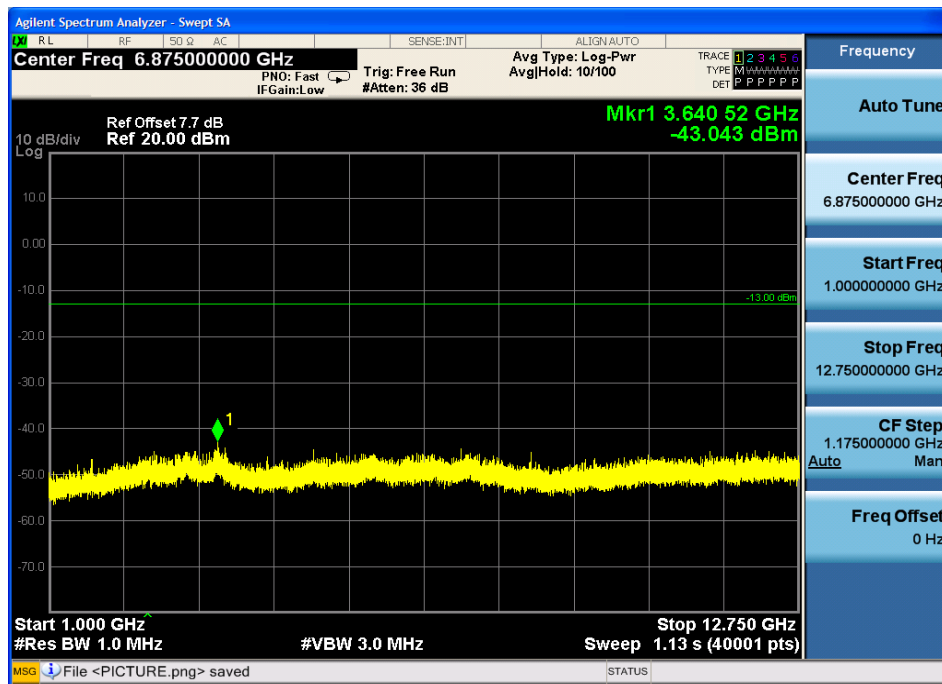
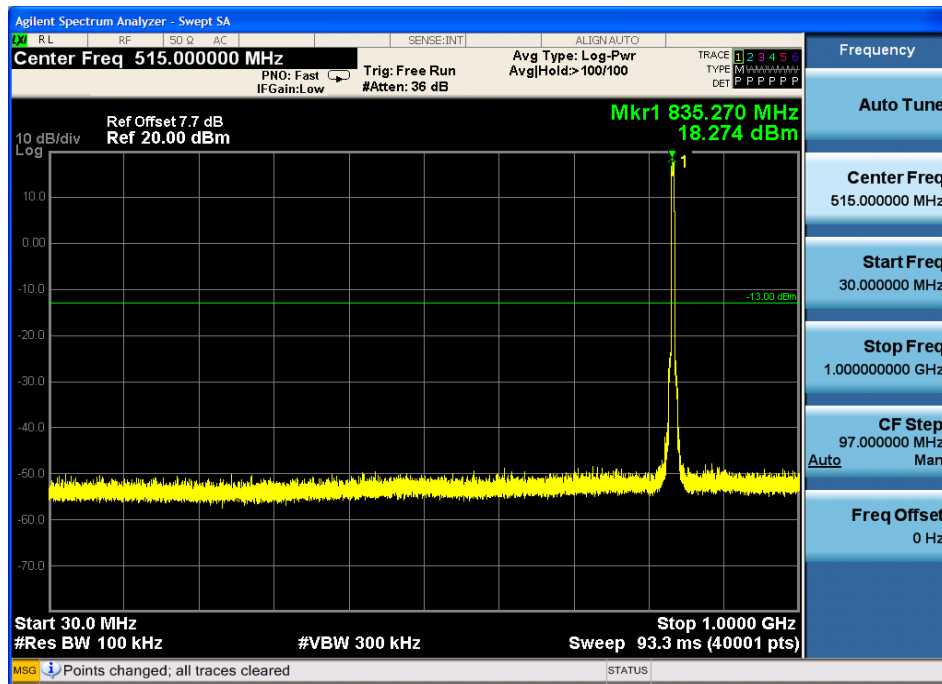
8.4. Test Result

PASS

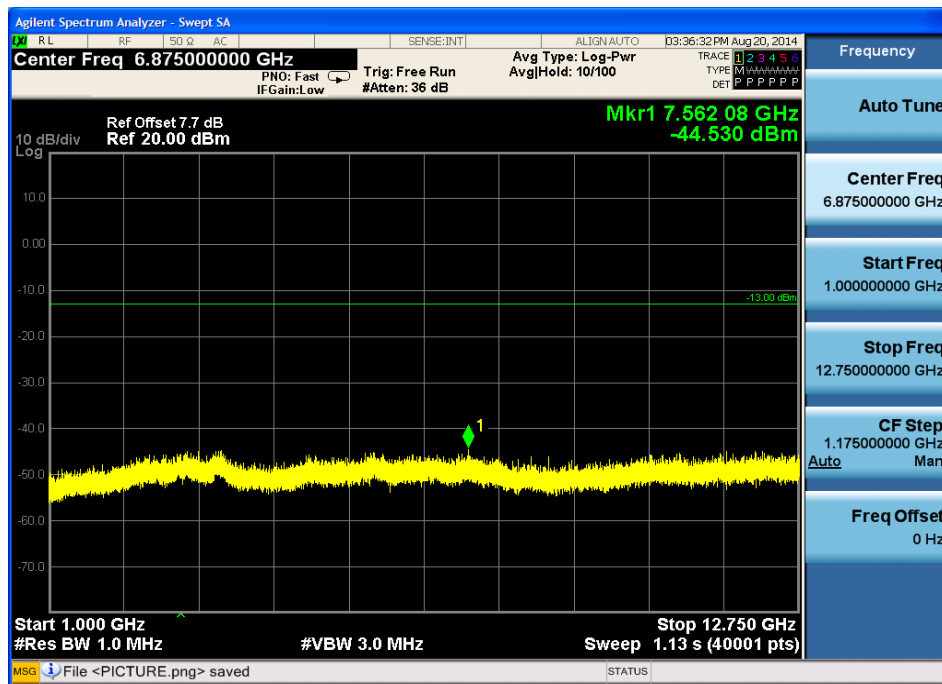
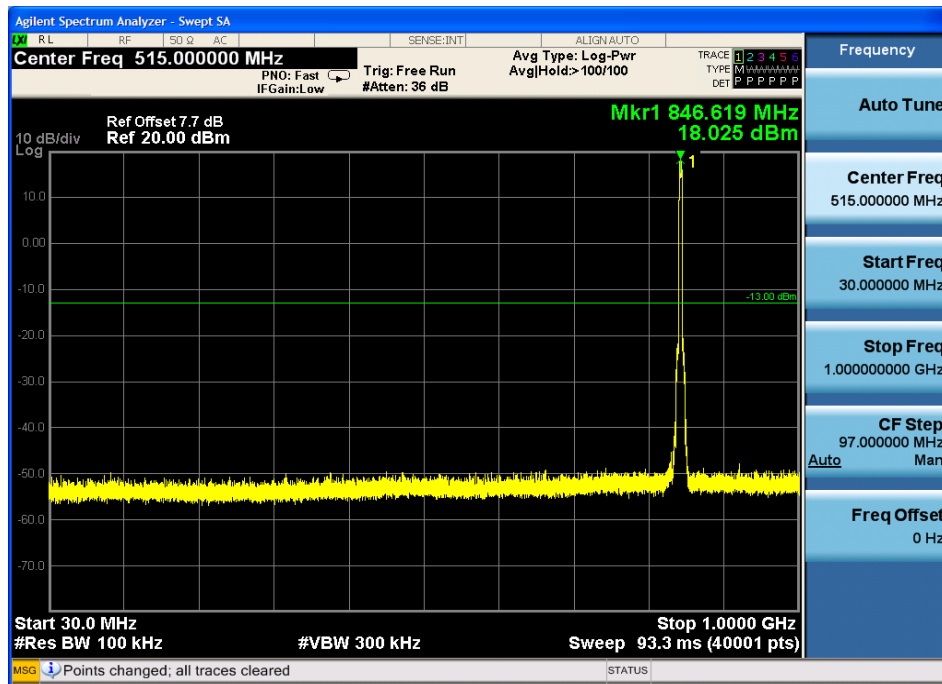
Test Mode: WCDMA BAND V CH4132



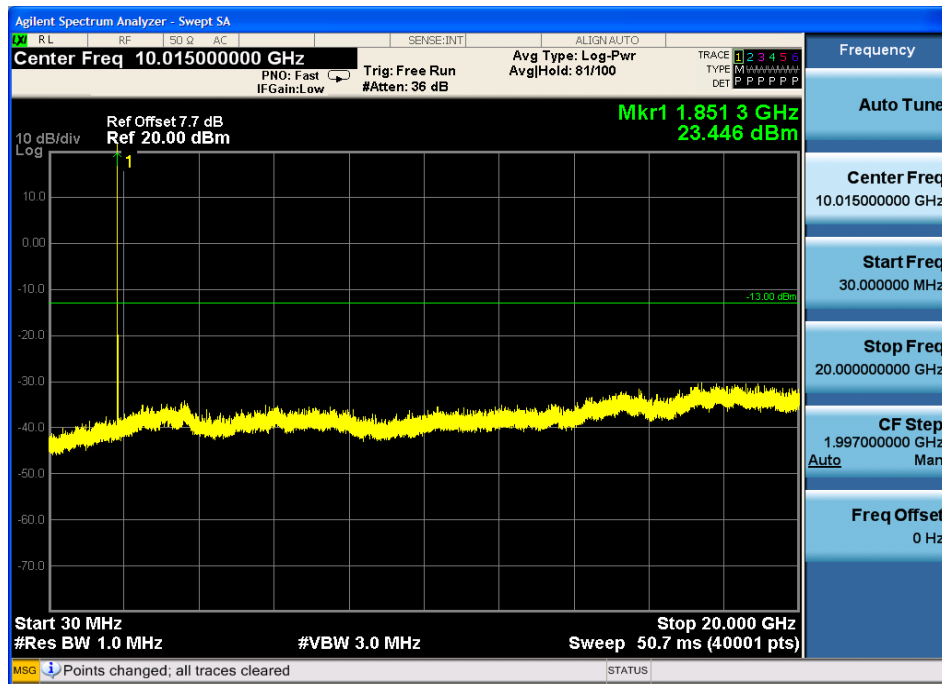
Test Mode: WCDMA BAND V CH4182



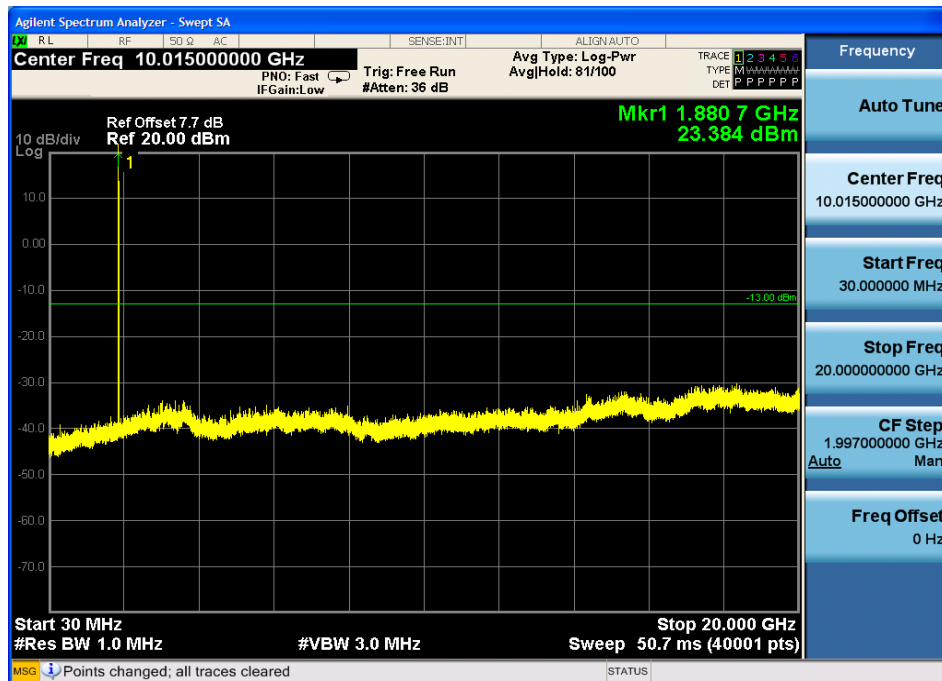
Test Mode: WCDMA BAND V CH4233



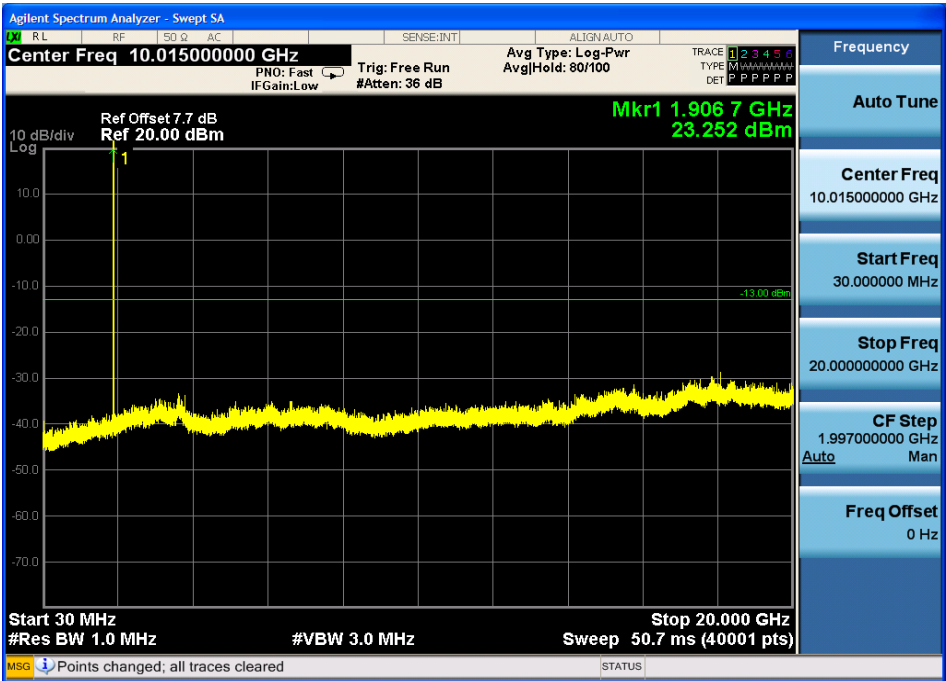
Test Mode: WCDMA BAND II CH9262



Test Mode: WCDMA BAND II CH9400

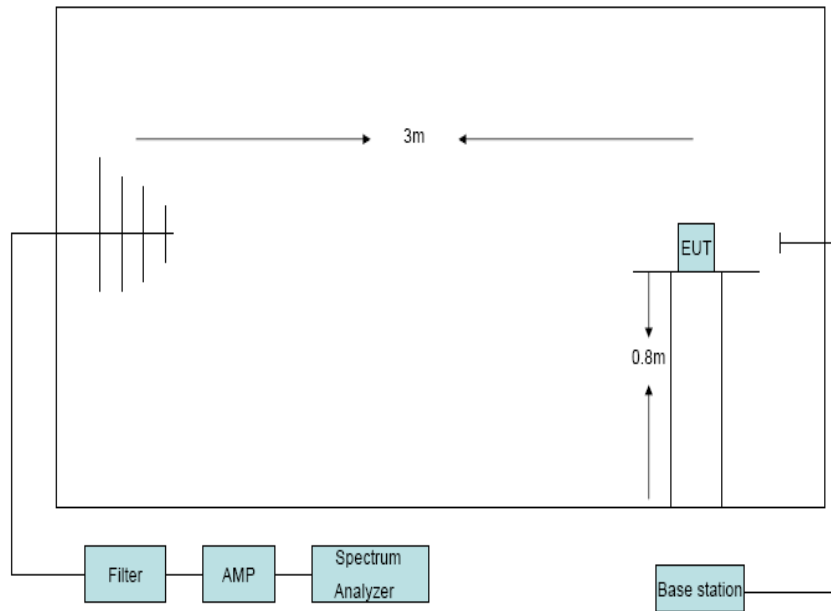


Test Mode: WCDMA BAND II CH9538



9. Radiated Spurious emissions

9.1. Block Diagram of Test Setup



9.2. Limit

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least $(43 + 10 \log P)$ dB, in this case, -13dBm.

9.3. Test Procedure

1. The EUT was placed on a non-conductive rotating platform with 0.8 meter height in an anechoic chamber. The radiated spurious emissions from 30MHz to 10th harmonious of fundamental frequency were measured at 3m with a test antenna and a spectrum analyzer with RBW= 1MHz, VBW= 1MHz , peak detector settings.
2. During the measurement, the EUT was enforced in maximum power and linked with a base station. All the spurious emissions (record as LVL) at 3m were measured by rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
3. Final spurious emissions levels were measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by dipole antenna (for frequency below 1GHz) or Horn antenna (for frequency above 1GHz) at same location with same polarize of receiver antenna and then a known power of each measure frequency from S.G. was

applied into the dipole antenna or Horn antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain –Substitution antenna Loss (only for Dipole antenna) - Analyzer reading. Then final spurious emissions were calculated with the correction factor, EIRP= LVL + Correction factor and ERP = EIRP – 2.15

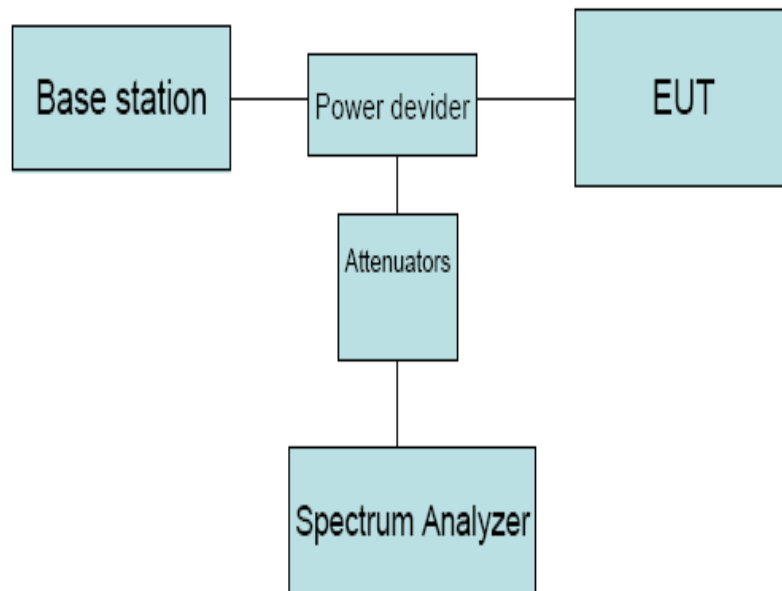
9.4. Test Result

| | | | | | | |
|--------------------------------|-------------------------|------------------------|--------------------------|------------------------|----------------|----------------|
| EUT: GNSS Receiver M/N: G5 | | | | | | |
| Power: DC 3.6V from battery | | | | | | |
| Test Date: 2016-03-24 | | Test site: RF Chamber | | Tested by: Simple Guan | | |
| Ambient Temperature: 24℃ | | Relative Humidity: 60% | | | | |
| Conclusion: PASS | | | | | | |
| Test result | | | | | | |
| Test Mode: WCDMA BAND V CH4132 | | | | | | |
| Frequency (MHz) | Antenna polarization | LVL (dBm) | Correction factor(dB) | Result (ERP)(dBm) | Limit (dBm) | Margin (dB) |
| 537.31 | H | -55.95 | -6.53 | -62.48 | -13 | 49.48 |
| 537.31 | V | -59.21 | -6.53 | -65.74 | -13 | 52.74 |
| 1652.8 | H | -54.26 | 11.5 | -42.76 | -13 | 29.76 |
| 1652.8 | V | -44.42 | 10.56 | -33.86 | -13 | 20.86 |
| Test Mode: WCDMA BAND V CH4182 | | | | | | |
| 1673.2 | H | -53.67 | 10.94 | -42.73 | -13 | 29.73 |
| 1673.2 | V | -50.09 | 10.9 | -39.19 | -13 | 26.19 |
| Test mode: WCDMA BAND V CH4233 | | | | | | |
| 1693.2 | H | -47.02 | 11.67 | -35.35 | -13 | 22.35 |
| 1693.2 | V | -42.71 | 11.13 | -31.58 | -13 | 18.58 |

| Test Mode: WCDMA BAND II CH9262 | | | | | | |
|---|----------------------|-----------|-----------------------|--------------------|-------------|-------------|
| Frequency (MHz) | Antenna polarization | LVL (dBm) | Correction factor(dB) | Result (EIRP)(dBm) | Limit (dBm) | Margin (dB) |
| 537.31 | H | -56.6 | -6.53 | -63.13 | -13 | 50.13 |
| 537.31 | V | -55.6 | -6.53 | -62.13 | -13 | 49.13 |
| 3704.8 | H | -52.61 | 8.57 | -44.04 | -13 | 31.04 |
| 3704.8 | V | -51.93 | 8.37 | -43.56 | -13 | 30.56 |
| Test Mode: WCDMA BAND II CH9400 | | | | | | |
| 3760 | H | -54.73 | 8.75 | -45.98 | -13 | 32.98 |
| 3760 | V | -52.32 | 8.55 | -43.77 | -13 | 30.77 |
| Test mode: WCDMA BAND II CH9538 | | | | | | |
| 3815.2 | H | -54.71 | 8.94 | -45.77 | -13 | 32.77 |
| 3815.2 | V | -52.3 | 8.72 | -43.58 | -13 | 30.58 |
| Note: All the other emissions not recorded were too low to read, and deemed to comply with limit. | | | | | | |

10. Band Edge Compliance

10.1. Block Diagram of Test Setup



10.2. Limit

The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency outside the frequency band by at least $(43 + 10 \log P)$ dB, in this case, -13dBm.

10.3. Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The band edges of low and high channels for the highest RF powers were measured.

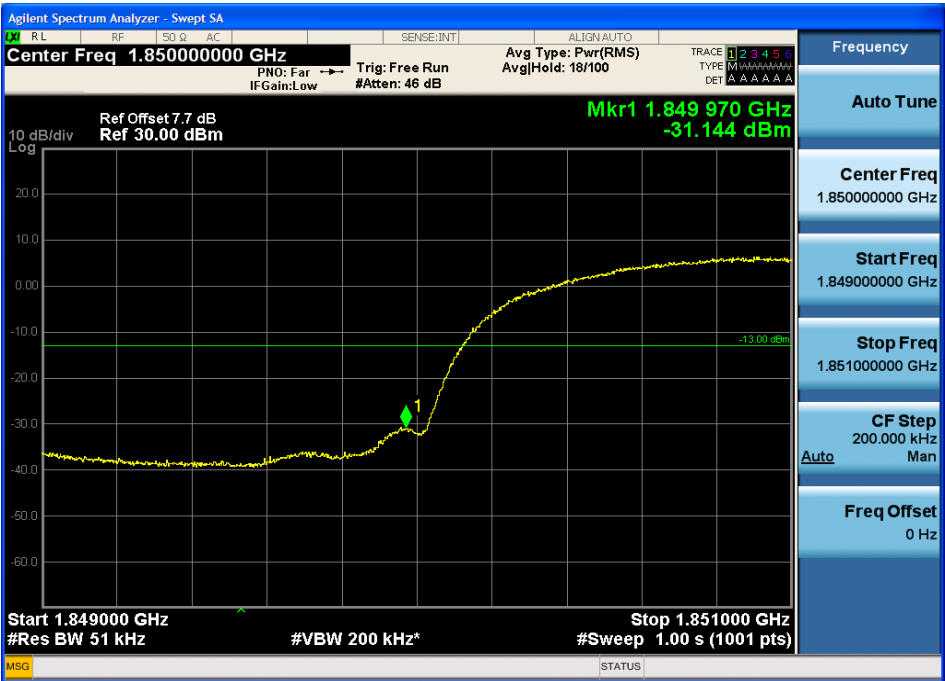
10.4. Test Result

PASS

Test Mode: WCDMA BAND V

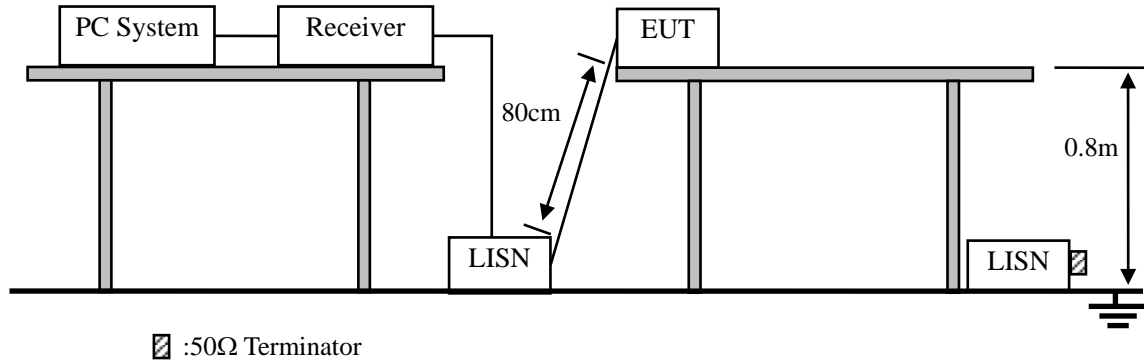


Test Mode: WCDMA BAND II



11. Power line conducted emission

11.1. Block Diagram of Test Setup



11.2. Limit

| Frequency | Maximum RF Line Voltage | |
|-----------------|----------------------------------|-------------------------------|
| | Quasi-Peak Level dB(μ V) | Average Level dB(μ V) |
| 150kHz ~ 500kHz | 66 ~ 56* | 56 ~ 46* |
| 500kHz ~ 5MHz | 56 | 46 |
| 5MHz ~ 30MHz | 60 | 50 |

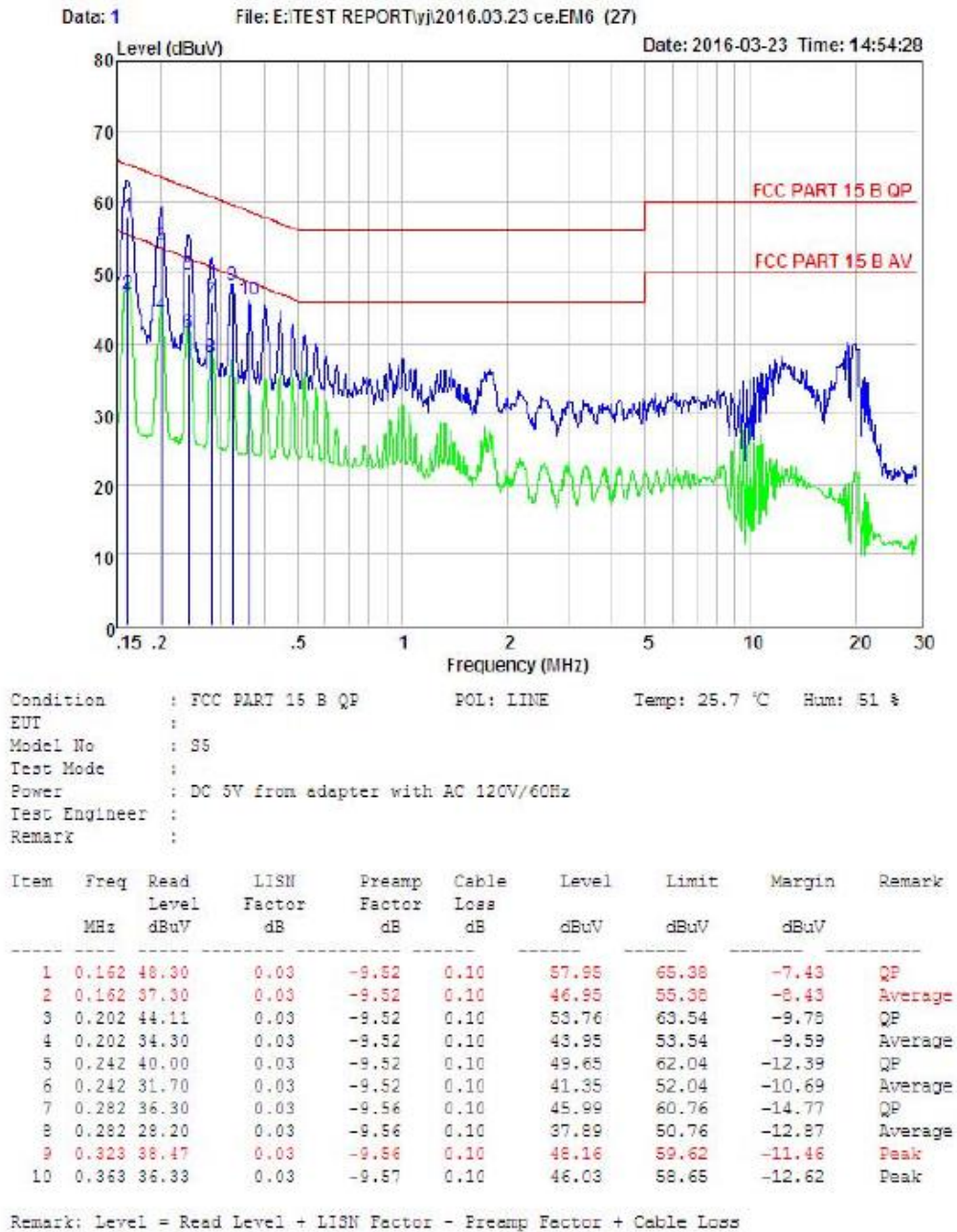
Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

11.3. Test Procedure

- (1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
- (2) Setup the EUT and simulator as shown in 10.1
- (3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N1), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4 2009 and ANSI C64.10:2009 on conducted Emission test.
- (4) The bandwidth of test receiver is set at 10 kHz.
- (5) The frequency range from 150 kHz to 30MHz is checked.

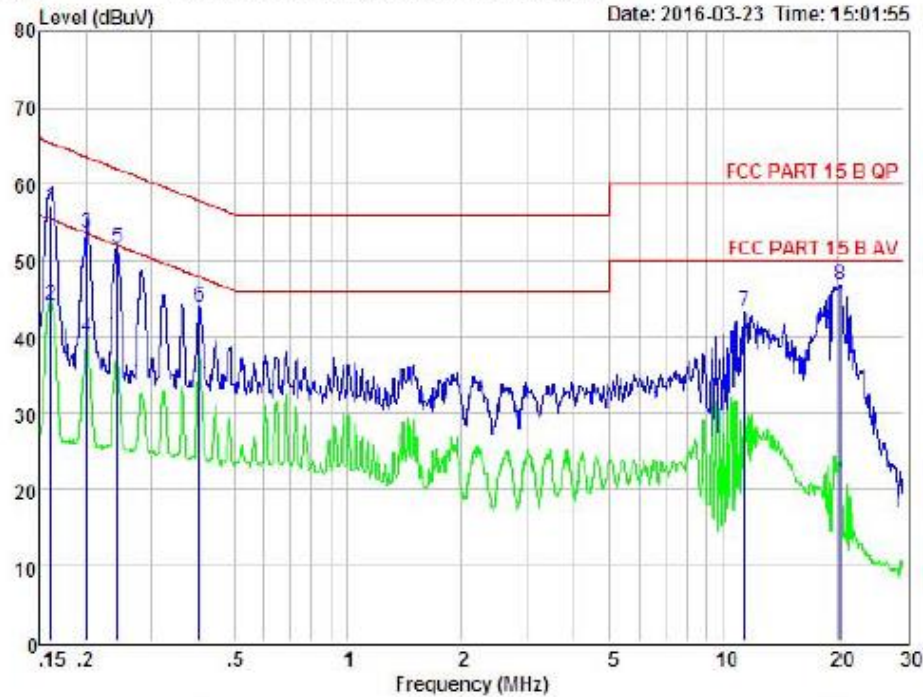
11.4. Test Result



Data: 3

File: E:\TEST REPORT\yj\2016.03.23 ce.EM6 (27)

Date: 2016-03-23 Time: 15:01:55



Condition : FCC PART 15 B QP POL: NEUTRAL Temp: 25.7 °C Hum: 51 %
 EUT :
 Model No : S5
 Test Mode :
 Power : DC 5V from adapter with AC 120V/60Hz
 Test Engineer :
 Remark :

| Item | Freq MHz | Read Level dBuV | LISN Factor dB | Preamp Factor dB | Cable Loss dB | Level dBuV | Limit dBuV | Margin dBuV | Remark |
|------|-------------|-----------------------|----------------------|------------------------|---------------------|---------------|---------------|----------------|---------|
| 1 | 0.162 | 47.39 | 0.03 | -9.52 | 0.10 | 57.00 | 65.38 | -8.38 | QP |
| 2 | 0.162 | 34.61 | 0.03 | -9.52 | 0.10 | 44.26 | 55.38 | -11.12 | Average |
| 3 | 0.201 | 43.91 | 0.03 | -9.52 | 0.10 | 53.56 | 63.58 | -10.02 | QP |
| 4 | 0.201 | 30.20 | 0.03 | -9.52 | 0.10 | 39.85 | 53.58 | -13.73 | Average |
| 5 | 0.243 | 42.03 | 0.03 | -9.52 | 0.10 | 51.68 | 62.00 | -10.32 | Peak |
| 6 | 0.402 | 34.27 | 0.03 | -9.57 | 0.10 | 43.97 | 57.81 | -13.84 | Peak |
| 7 | 11.377 | 33.02 | 0.24 | -9.91 | 0.22 | 43.39 | 60.00 | -16.61 | Peak |
| 8 | 20.486 | 36.36 | 0.32 | -9.80 | 0.36 | 46.84 | 60.00 | -13.16 | Peak |

Remark: Level = Read Level + LISN Factor - Preamp Factor + Cable Loss

-----END OF THE REPORT-----