## FCC Test Report

Report No.: AGC03569141101FE04

| FCC ID | $:$ 2ADRFU1S |
| :--- | :--- |
| APPLICATION PURPOSE | $:$ Original Equipment |
| PRODUCT DESIGNATION | $:$ Mobile Phone |
| BRAND NAME | $:$ iRULU |
| MODEL NAME | $:$ U1S |
| CLIENT | $:$ USA 111 INC |
| DATE OF ISSUE | $:$FCC Part 15.247 <br> STANDARD(S) <br> TEST PROCEDURE(S) <br> REPORT VERSION |

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## Report Revise Record

| Report Version | Revise Time | Issued Date | Valid Version | Notes |
| :---: | :---: | :--- | :--- | :---: |
| V1.0 | $/$ | Dec.04, 2014 | Valid | Original Report |

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## 1. VERIFICATION OF CONFORMITY

| Applicant | USA 111 INC |
| :--- | :--- |
| Address | 191 W. Nationwide Blvd., Ste 300, Columbus, OH 43215 |
| Manufacturer | Shenzhen Alland Networking Co., Ltd. |
| Address | Fourth Floor, \#B Building, Weiyulong Industrial Park, Xuegang North Road \#16, <br> Bantian Street, <br> Longgang District, Shenzhen |
| Product Designation | Mobile Phone |
| Brand Name | iRULU |
| Test Model | U1S |
| Date of test | Dec.01, 2014 to Dec.04, 2014 |
| Deviation | None |
| Condition of Test Sample | Normal |
| Report Template | AGCRT-US-BGN/RF |

## We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.


## 2. GENERAL INFORMATION

### 2.1. PRODUCT DESCRIPTION

The EUT is designed as "Mobile Phone". It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

| Operation Frequency | $2.412 \mathrm{GHz} \sim 2.462 \mathrm{GHz}$ |
| :--- | :--- |
| Output Power | IEEE 802.11b:11.91dBm; IEEE 802.11g:9.86dBm; <br> IEEE 802.11n(20):9.83dBm; IEEE 802.11n(40):6.84dBm |
| Modulation | DSSS(DBPSK/DQPSK/CCK);OFDM(BPSK/QPSK/16-QAM/64-QAM) |
| Number of channels | 11 |
| Hardware Version | G317 C4 V1.1 |
| Software Version | G317_C4_F2_U1S_V1.2_S20141030 |
| Antenna Designation | Integrated Antenna |
| Antenna Gain | 0.8 dBi |
| Power Supply | DC3.8V by Built-in Li-ion Battery |

2.2. TABLE OF CARRIER FREQUENCYS

| Frequency Band | Channel Number | Frequency |
| :---: | :---: | :---: |
|  | 1 | 2412 MHZ |
|  | 2 | 2417 MHZ |
|  | $2400 \sim 2483.5 \mathrm{MHZ}$ | 3 |
|  | 4 | 2422 MHZ |
|  | 5 | 2427 MHZ |
|  | 6 | 2432 MHZ |
|  | 7 | 2437 MHZ |
|  | 8 | 2442 MHZ |
|  | 9 | 2447 MHZ |
|  | 10 | 2452 MHZ |
|  | 11 | 2457 MHZ |
|  |  | 2462 MHZ |

Note: For 20MHZ bandwidth system use Channel 1 to Channel 11
For 40MHZ bandwidth system use Channel 3 to Channel 9
2.3. IEEE 802.11N MODULATION SCHEME

| MCS <br> Index | Nss | Modulation | R | NBPSC | NCBPS |  | NDBPS |  | Data rate(Mbps) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | 800nsGI |
|  |  |  |  |  | 20MHz | 40MHz |  |  | 20MHz | 40MHz | 20MHz | 40MHz |
| 0 | 1 | BPSK | 1/2 | 1 | 52 | 108 | 26 | 54 | 6.5 | 13.5 |
| 1 | 1 | QPSK | 1/2 | 2 | 104 | 216 | 52 | 108 | 13.0 | 27.0 |
| 2 | 1 | QPSK | 3/4 | 2 | 104 | 216 | 78 | 162 | 19.5 | 40.5 |
| 3 | 1 | 16-QAM | 1/2 | 4 | 208 | 432 | 104 | 216 | 26.0 | 54.0 |
| 4 | 1 | 16-QAM | 3/4 | 4 | 208 | 432 | 156 | 324 | 39.0 | 81.0 |
| 5 | 1 | 64-QAM | 2/3 | 6 | 312 | 648 | 208 | 432 | 52.0 | 108.0 |
| 6 | 1 | 64-QAM | 3/4 | 6 | 312 | 648 | 234 | 489 | 58.5 | 121.5 |
| 7 | 1 | 64-QAM | 5/6 | 6 | 312 | 648 | 260 | 540 | 65.0 | 135.0 |


| Symbol | Explanation |
| :---: | :---: |
| NSS | Number of spatial streams |
| R | Code rate |
| NBPSC | Number of coded bits per single carrier |
| NCBPS | Number of coded bits per symbol |
| NDBPS | Number of data bits per symbol |
| Gl | Guard interval |

### 2.4. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for FCC ID: 2ADRFU1S filing to comply with the FCC Part 15 requirements.

### 2.5. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.
Others testing (listed at item 5.3) was performed according to the procedures in FCC Part 15.247 rules KDB 558074 D01 DTS Meas Guidance v03r02.

### 2.6. SPECIAL ACCESSORIES

Refer to section 5.2.

### 2.7. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

## 3. MEASUREMENT UNCERTAINTY

Conducted measurement: +/- 2.75dB
Radiated measurement: +/- 3.2dB

## 4. DESCRIPTION OF TEST MODES

| NO. | TEST MODE DESCRIPTION |
| :---: | :---: |
| 1 | Low channel TX |
| 2 | Middle channel TX |
| 3 | High channel TX |
| 4 | Normal operating |
| Note: <br> Transmit by 802.11 b with Date rate $(1 / 2 / 5.5 / 11)$ <br> Transmit by 802.11 g with Date rate $(6 / 9 / 12 / 18 / 24 / 36 / 48 / 54)$ <br> Transmit by $802.11 \mathrm{n}(20 \mathrm{MHHz})$ with Date rate $(6.5 / 13 / 19.5 / 26 / 39 / 52 / 58.5 / 65)$ <br> Transmit by $802.11 \mathrm{n}(40 \mathrm{MHz})$ with Date rate <br> $(13.5 / 27 / 40.5 / 54 / 81 / 108 / 121.5 / 135)$$\quad$ |  |

## Note:

1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency Individually, and the eut is operating at its maximum duty cycle>or equal $98 \%$
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

## 5. SYSTEM TEST CONFIGURATION

### 5.1. CONFIGURATION OF EUT SYSTEM

Configure:

5.2. EQUIPMENT USED IN EUT SYSTEM

| Item | Equipment | Model No. | ID or Specification | Remark |
| :---: | :---: | :---: | :---: | :---: |
| 1 | Mobile Phone | U1S | FCCID:2ADRFU1S | EUT |
| 2 | Adapter | U1S | DC5V / 1000mA | Accessory |
| 3 | Battery | U1S | DC3.8V $/ 1850 \mathrm{mAh}$ | Accessory |
| 4 | Earphone | U1S | N/A | Accessory |
| 5 | USB Cable | U1S | N/A | Accessory |

Note: All the accessories have been used during the test in conduction emission test.

### 5.3. SUMMARY OF TEST RESULTS

| FCC RULES | DESCRIPTION OF TEST | RESULT |
| :---: | :---: | :---: |
| $\S 15.247$ | Peak Output Power | Compliant |
| $\S 15.247$ | 6 dB Bandwidth | Compliant |
| $\S 15.247$ | Conducted Spurious Emission | Compliant |
| $\S 15.247$ | Maximum Conducted Output Power SPECTRAL Density | Compliant |
| $\S 15.209$ | Radiated Emission | Compliant |
| $\S 15.247$ | Band Edges | Compliant |
| $\S 15.207$ | Line Conduction Emission | Compliant |

Note: The EUT received power from DC3.7V lithium battery.

## 6. TEST FACILITY

| Site | Attestation of Global Compliance (Shenzhen) Co., Ltd |
| :---: | :--- |
| Location | 2/F., Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park, Gushu, <br> Xixiang, Bao'an District, Shenzhen, Guangdong, China |
| Description | The test site is constructed and calibrated to meet the FCC requirements in <br> documents ANSI C63.4:2003. |

## ALL TEST EQUIPMENT LIST

| Description | Manufacturer | Model | Cal. Date | Cal. Due |
| :---: | :---: | :---: | :---: | :---: |
| Power Probe | R\&S | NRP-Z23 | $07 / 25 / 2014$ | $07 / 24 / 2015$ |
| Power Meter | Agilent | N1911A | $04 / 20 / 2014$ | $04 / 20 / 2015$ |
| RF attenuator | N/A | RFA20db | N/A | N/A |
| Spectrum Analyzer | Agilent | E4440A | $02 / 17 / 2014$ | $02 / 16 / 2015$ |
| Amplifier | EM | EM30180 | $02 / 17 / 2014$ | $02 / 16 / 2015$ |
| Horn Antenna | EM | EM-AH-10180 | $02 / 17 / 2014$ | $02 / 16 / 2015$ |
| Horn Antenna | A.H. Systems Inc. | SAS-574 | $07 / 25 / 2014$ | $07 / 24 / 2015$ |
| EMI Test Receiver | Rohde \& Schwarz | ESCI | $07 / 25 / 2014$ | $07 / 24 / 2015$ |
| WIDEBAND REQUENCY | SCHWARZBECK | VULB9168 | $08 / 16 / 2014$ | $08 / 15 / 2015$ |
| ANTENNA | A.H. | SAS-526B | $05 / 10 / 2014$ | $05 / 09 / 2015$ |
| Loop Antenna | R\&S | ESH3-Z5 | $07 / 25 / 2014$ | $07 / 24 / 2015$ |
| LISN | Sat | RE1 | $06 / 04 / 2014$ | $06 / 03 / 2015$ |
| Radiation Cable 1 | Sat | RE2 | $06 / 04 / 2014$ | $06 / 03 / 2015$ |
| Radiation Cable 2 | Sat | CE1 | $06 / 04 / 2014$ | $06 / 03 / 2015$ |
| Conduction Cable |  |  |  |  |

## 7. PEAK OUTPUT POWER

### 7.1. MEASUREMENT PROCEDURE

For peak power test:

1. Use a direct connection between the antenna port of the transmitter and the power meter, through suitable attenuation
2. Set the bandwidth of the power meter is 40 MHz
3. Record the peak value

For average power test:

1. Connect EUT RF output port to power probe through an RF attenuator.
2. Connect the power probe to the PC.
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Record the maximum power from the software.
5. The maximum peak power shall be less 1 Watt (30dBm).

Note : The EUT was tested according to KDB 558074v03r02 for compliance to FCC 47CFR 15.247 requirements.

### 7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

## PEAK POWER TEST SETUP



## AVERAGE POWER SETUP



### 7.3. LIMITS AND MEASUREMENT RESULT

| TEST ITEM | PEAK POWER |
| :--- | :--- |
| TEST MODE | 802.11 b with data rate 1 |

LIMITS AND MEASUREMENT RESULT

| Frequency <br> $(\mathrm{GHz})$ | Average Power <br> $(\mathrm{dBm})$ | Peak Power <br> $(\mathrm{dBm})$ | Applicable Limits <br> $(\mathrm{dBm})$ | Pass or Fail |
| :---: | :---: | :---: | :---: | :---: |
| 2.412 | 9.93 | 11.91 | 30 | Pass |
| 2.437 | 9.86 | 11.84 | 30 | Pass |
| 2.462 | 9.83 | 11.81 | 30 | Pass |


| TEST ITEM | PEAK POWER |
| :--- | :--- |
| TEST MODE | 802.11 g with data rate 6 |


| LIMITS AND MEASUREMENT RESULT |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Frequency <br> $(\mathrm{GHz})$ | Average Power <br> $(\mathrm{dBm})$ | Peak Power <br> $(\mathrm{dBm})$ | Applicable Limits <br> $(\mathrm{dBm})$ | Pass or Fail |
| 2.412 | 7.88 | 9.86 | 30 | Pass |
| 2.437 | 7.77 | 9.75 | 30 | Pass |
| 2.462 | 7.69 | 9.67 | 30 | Pass |


| TEST ITEM | PEAK POWER |
| :--- | :--- |
| TEST MODE | 802.11 n 20 with data rate 6.5 |

## LIMITS AND MEASUREMENT RESULT

| Frequency <br> $(\mathbf{G H z})$ | Average Power <br> $(\mathbf{d B m})$ | Peak Power <br> $(\mathbf{d B m})$ | Applicable Limits <br> $(\mathbf{d B m})$ | Pass or Fail |
| :---: | :---: | :---: | :---: | :---: |
| 2.412 | 7.85 | 9.83 | 30 | Pass |
| 2.437 | 7.73 | 9.71 | 30 | Pass |
| 2.462 | 7.64 | 9.62 | 30 | Pass |


| TEST ITEM | PEAK POWER |
| :--- | :--- |
| TEST MODE | 802.11 n 40 with data rate 13.5 |

## LIMITS AND MEASUREMENT RESULT

| Frequency <br> $(\mathbf{G H z})$ | Average Power <br> $(\mathbf{d B m})$ | Peak Power <br> $(\mathbf{d B m})$ | Applicable Limits <br> $(\mathbf{d B m})$ | Pass or Fail |
| :---: | :---: | :---: | :---: | :---: |
| 2.422 | 4.86 | 6.84 | 30 | Pass |
| 2.437 | 4.75 | 6.73 | 30 | Pass |
| 2.452 | 4.57 | 6.55 | 30 | Pass |

## 8. 6DB BANDWIDTH

### 8.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency $=$ Operation Frequency, RBW $=100 \mathrm{KHz}, \mathrm{VBW} \geqslant 3 \times$ RBW.
4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

### 8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Spectrum Analyzer


### 8.3. LIMITS AND MEASUREMENT RESULTS

| Mode | Channel | 6dB Bandwidth [MHz] | OBW [MHz] | Verdict |
| :---: | :---: | :---: | :---: | :---: |
| 11B | LCH | 10.11 | 12.87 | PASS |
| 11B | MCH | 9.59 | 12.81 | PASS |
| 11B | HCH | 9.57 | 12.78 | PASS |
| 11G | LCH | 16.29 | 16.37 | PASS |
| 11G | MCH | 16.28 | 16.36 | PASS |
| 11G | HCH | 14.08 | 16.35 | PASS |
| 11N20SISO | LCH | 15.14 | 17.56 | PASS |
| 11N20SISO | MCH | 16.67 | 17.55 | PASS |
| 11N20SISO | HCH | 15.30 | 35.57 | PASS |
| 11N40SISO | LCH | 33.99 | 35.82 | PASS |
| 11N40SISO | MCH | 35.22 | 35.82 | PASS |
| 11N40SISO | HCH | 35.24 |  | PASS |

## Test Graph






## 9. CONDUCTED SPURIOUS EMISSION

### 9.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator

2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW $>$ RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW $=100 \mathrm{KHz}, \mathrm{VBW}>\mathrm{RBW}$ ) are conform to the requirement.

### 9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2.

### 9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

### 9.4. LIMITS AND MEASUREMENT RESULT

| LIMITS AND MEASUREMENT RESULT |  |  |
| :---: | :---: | :---: |
| Applicable Limits | Measurement Result |  |
|  | Test Data | Criteria |
| In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency | At least -20dBc than the limit Specified on the BOTTOM Channel | PASS |
| level of the desired power. In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a)) | At least -20 dBc than the limit Specified on the TOP Channel | PASS |

## Test Graph






































## 10. MAXIMUM CONDUCTED OUTPUT PEAK POWER SPECTRAL DENSITY

10.1 MEASUREMENT PROCEDURE
(1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
(2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
(3). Set SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the KDB 558074 item 10.2 was used in this testing.

### 10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 8.2.

### 10.3 MEASUREMENT EQUIPMENT USED

Refer To Section 6.

### 10.4 LIMITS AND MEASUREMENT RESULT

| Mode | Channel | Meas.Level [dBm] | Av.PSD [dBm] | Limit[dBm/3kHz] | Verdict |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 11B | LCH | 1.3 | 1.387 | 8 | PASS |
| 11B | MCH | 2.07 | 2.157 | 8 | PASS |
| 11B | HCH | 2.45 | 2.537 | 8 | PASS |
| 11G | LCH | -5.17 | -4.655 | 8 | PASS |
| 11G | MCH | -3.07 | -2.555 | 8 | PASS |
| 11G | HCH | -4.33 | -3.807 | 8 | PASS |
| 11N20SISO | LCH | -4.65 | -4.092 | 8 | PASS |
| 11N20SISO | MCH | -2.94 | -2.39 | 8 | PASS |
| 11N20SISO | HCH | -4.41 | -3.86 | 8 | PASS |
| 11N40SISO | LCH | -11.16 | -10.113 | 8 | PASS |
| 11N40SISO | MCH | -9.28 | -8.236 | 8 | PASS |
| 11N40SISO | HCH | -11.09 | -10.046 | 8 | PASS |

Test Graph





## 11. RADIATED EMISSION

### 11.1. MEASUREMENT PROCEDURE

1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M ) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1 GHz , use 1 MHz VBW and RBW for peak reading. Then 1 MHz RBW and 10 Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1 GHz .
8. For testing above 1 GHz , the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30 MHz , loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

### 11.2. TEST SETUP

RADIATED EMISSION TEST SETUP 30MHz-1000MHz


RADIATED EMISSION TEST SETUP ABOVE 1000MHz


### 11.3. LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

| Frequencies <br> (MHz) | Field Strength <br> (micorvolts/meter) | Measurement Distance <br> (meters) |
| :---: | :---: | :---: |
| $0.009 \sim 0.490$ | $2400 / F(\mathrm{KHz})$ | 300 |
| $0.490 \sim 1.705$ | $24000 / \mathrm{F}(\mathrm{KHz})$ | 30 |
| $1.705 \sim 30.0$ | 30 | 30 |
| $30 \sim 88$ | 100 | 3 |
| $88 \sim 216$ | 150 | 3 |
| $216 \sim 960$ | 200 | 3 |
| Above 960 | 500 | 3 |

Note: All modes were tested For restricted band radiated emission, the test records reported below are the worst result compared to other modes.
11.4. TEST RESULT

## RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30 MHz .

RADIATED EMISSION BELOW 1GHZ

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with date rate 1 <br> 2412 MHZ | Antenna | Horizontal |

$66.9 \mathrm{dBuV} / \mathrm{m}$


Site: site \#1
Limit: FCC Class B 3M Radiation
EUT: Mobile Phone
M/N: U1S
Mode: Low Channel TX
Note:

| No. | Mk | Freq. MHz | Reading | Factor | Measurement ${ }_{\text {c }}$ ( | Limit | Over | Detector | $\left.\begin{array}{\|c\|} \hline \text { Antenna } \\ \text { Height } \end{array} \right\rvert\,$ | Table Degree degree | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  | 54.2500 | 17.00 | 11.20 | 28.20 | 40.00 | -11.80 | peak |  |  |  |
| 2 | * | 97.9000 | 21.91 | 10.25 | 32.16 | 43.50 | -11.34 | peak |  |  |  |
| 3 |  | 172.2667 | 12.55 | 12.72 | 25.27 | 43.50 | -18.23 | peak |  |  |  |
| 4 |  | 450.3333 | -0.02 | 20.59 | 20.57 | 46.00 | -25.43 | peak |  |  |  |
| 5 |  | 644.3333 | 0.16 | 23.84 | 24.00 | 46.00 | -22.00 | peak |  |  |  |
| 6 |  | 770.4333 | 0.42 | 26.91 | 27.33 | 46.00 | -18.67 | peak |  |  |  |

RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with date rate 1 <br> 2412 MHZ | Antenna | Vertical |

66.9 dBuV/m


Site: site \#1
Limit: FCC Class B 3M Radiation
EUT: Mobile Phone
M/N: U1S

Polarization: Vertical
Power: AC $120 \mathrm{~V} / 60 \mathrm{~Hz}$
Distance: 3 m

Mode: Low Channel TX
Note:

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | $\begin{array}{\|c\|} \hline \text { Antenna } \\ \text { Height } \\ \hline \end{array}$ | Table Degree | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 | * | 41.3167 | 26.12 | 8.81 | 34.93 | 40.00 | -5.07 | peak |  |  |  |
| 2 |  | 86.5833 | 22.95 | 4.16 | 27.11 | 40.00 | -12.89 | peak |  |  |  |
| 3 |  | 190.0500 | 13.50 | 11.52 | 25.02 | 43.50 | -18.48 | peak |  |  |  |
| 4 |  | 264.4166 | 6.64 | 14.34 | 20.98 | 46.00 | -25.02 | peak |  |  |  |
| 5 |  | 553.8000 | 0.64 | 22.50 | 23.14 | 46.00 | -22.86 | peak |  |  |  |
| 6 |  | 797.9167 | 0.88 | 27.29 | 28.17 | 46.00 | -17.83 | peak |  |  |  |

## RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with date rate 1 <br> 2437 MHZ | Antenna | Horizontal |


Site: site \#1
Limit: FCC Class B 3M Radiation
EUT: Mobile Phone
M/N: U1S

Polarization: Horizontal
Power: AC $120 \mathrm{~V} / 60 \mathrm{~Hz}$
Distance: 3 m

Mode: Middle Channel TX
Note:

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | $\begin{array}{\|c\|} \hline \text { Table } \\ \text { Degree } \\ \hline \end{array}$ | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuV | $\mathrm{dB} / \mathrm{m}$ | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 |  | 54.2500 | 13.02 | 11.20 | 24.22 | 40.00 | -15.78 | peak |  |  |  |
| 2 | * | 97.9000 | 20.28 | 10.25 | 30.53 | 43.50 | -12.97 | peak |  |  |  |
| 3 |  | 173.8833 | 12.20 | 12.37 | 24.57 | 43.50 | -18.93 | peak |  |  |  |
| 4 |  | 429.3167 | 0.17 | 19.96 | 20.13 | 46.00 | -25.87 | peak |  |  |  |
| 5 |  | 565.1167 | 0.39 | 22.86 | 23.25 | 46.00 | -22.75 | peak |  |  |  |
| 6 |  | 869.0500 | 0.93 | 27.81 | 28.74 | 46.00 | -17.26 | peak |  |  |  |

## RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with date rate 1 <br> 2437 MHZ | Antenna | Vertical |



Site: site \#1
Limit: FCC Class B 3M Radiation
EUT: Mobile Phone
M/N: U1S
Mode: Middle Channel TX
Note:

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuV | dB/m | $\mathrm{dBuV} / \mathrm{m}$ | dBuV/m | dB |  | cm | degree |  |
| 1 | * | 41.3167 | 25.31 | 8.81 | 34.12 | 40.00 | -5.88 | peak |  |  |  |
| 2 |  | 89.8167 | 21.95 | 5.31 | 27.26 | 43.50 | -16.24 | peak |  |  |  |
| 3 |  | 190.0500 | 12.98 | 11.52 | 24.50 | 43.50 | -19.00 | peak |  |  |  |
| 4 |  | 264.4166 | 6.44 | 14.34 | 20.78 | 46.00 | -25.22 | peak |  |  |  |
| 5 |  | 472.9667 | 0.27 | 20.84 | 21.11 | 46.00 | -24.89 | peak |  |  |  |
| 6 |  | 783.3667 | 0.13 | 27.09 | 27.22 | 46.00 | -18.78 | peak |  |  |  |

RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with date rate 1 <br> 2462 MHZ | Antenna | Horizontal |



Site: site \#1
Limit: FCC Class B 3M Radiation
EUT: Mobile Phone
M/N: U1S
Mode: High Channel TX
Note:

| No. | $\mathrm{Mk}$ | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | $\begin{array}{c\|} \hline \text { Antenna } \\ \text { Height } \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Table } \\ \text { Degree } \\ \hline \end{array}$ | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuv | $\mathrm{dB} / \mathrm{m}$ | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 | * | 60.7167 | 16.11 | 11.09 | 27.20 | 40.00 | -12.80 | peak |  |  |  |
| 2 |  | 97.9000 | 19.72 | 10.25 | 29.97 | 43.50 | -13.53 | peak |  |  |  |
| 3 |  | 170.6500 | 10.88 | 13.06 | 23.94 | 43.50 | -19.56 | peak |  |  |  |
| 4 |  | 479.4333 | 1.74 | 20.91 | 22.65 | 46.00 | -23.35 | peak |  |  |  |
| 5 |  | 616.8500 | 0.54 | 23.77 | 24.31 | 46.00 | -21.69 | peak |  |  |  |
| 6 |  | 802.7667 | 0.42 | 27.32 | 27.74 | 46.00 | -18.26 | peak |  |  |  |

RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with date rate 1 <br> 2462 MHZ | Antenna | Vertical |

$66.9 \mathrm{dBuV} / \mathrm{m}$


Site: site \#1
Limit: FCC Class B 3M Radiation
EUT: Mobile Phone
M/N: U1S
Mode: High Channel TX
Note:

Polarization: Vertical
Power: AC $120 \mathrm{~V} / 60 \mathrm{~Hz}$
Distance: 3 m

Temperature: 26
Humidity: $60 \%$

| No. | M | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | $\begin{array}{c}\text { Antenna } \\ \text { Height }\end{array}$ | $\begin{array}{\|c\|} \hline \text { Table } \\ \text { Degree } \end{array}$ | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuv | dB/m | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 | * | 41.3167 | 25.89 | 8.81 | 34.70 | 40.00 | -5.30 | peak |  |  |  |
| 2 |  | 89.8167 | 23.71 | 5.31 | 29.02 | 43.50 | -14.48 | peak |  |  |  |
| 3 |  | 190.0500 | 13.89 | 11.52 | 25.41 | 43.50 | -18.09 | peak |  |  |  |
| 4 |  | 388.9000 | -0.10 | 19.00 | 18.90 | 46.00 | -27.10 | peak |  |  |  |
| 5 |  | 681.5167 | 0.69 | 24.69 | 25.38 | 46.00 | -20.62 | peak |  |  |  |
| 6 |  | 885.2167 | 0.60 | 28.23 | 28.83 | 46.00 | -17.17 | peak |  |  |  |

## RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.
2. The "Factor" value can be calculated automatically by software of measurement system.

RADIATED EMISSION ABOVE 1GHZ

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with date rate 1 <br> 2412 MHZ | Antenna | Horizontal |

$116.0 \mathrm{dBuV} / \mathrm{m}$


| Site: site \#1 | Polarization: | Horizontal |
| :--- | :--- | :--- | | Temperature: 26 |
| :--- |
| Limit: FCC Class B 3M Radiation above 1GHZ(PK) |
| Power: |$\quad$| Humidity: $60 \%$ |
| :--- |
| EUT: Mobile Phone |
| M/N: U1S |
| Distance: 3 m |


| No. | $\mathrm{Mk}$ | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 |  | 1441.667 | 57.65 | -15.40 | 42.25 | 74.00 | -31.75 | peak |  |  |  |
| 2 | * | 2412.000 | 115.28 | -9.67 | 105.61 | 74.00 | 31.61 | peak |  |  |  |
| 3 |  | 4050.000 | 47.75 | -4.64 | 43.11 | 74.00 | -30.89 | peak |  |  |  |

## RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with date rate 1 <br> 2412 MHZ | Antenna | Vertical |


Site: site \#1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)

EUT: Mobile Phone
Polarization: Vertical
Temperature: 26
Power:
Humidity: $60 \%$

M/N: U1S
Mode: 802.11b Low Channel TX
Note:

| No | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 |  | 2083.333 | 51.97 | -10.03 | 41.94 | 74.00 | -32.06 | peak |  |  |  |
| 2 | * | 2412.000 | 115.57 | -9.67 | 105.90 | 74.00 | 31.90 | peak |  |  |  |
| 3 |  | 2925.000 | 51.26 | -8.54 | 42.72 | 74.00 | -31.28 | peak |  |  |  |

## RESULT: PASS

Note: The other modes radiation emissions have more than 20dB margin.
All modes radiation emission from 6 GHz to 25 GHz at least have 20 dB margin.
Factor $=$ Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.
The "Factor" value can be calculated automatically by software of measurement system.

## 12. BAND EDGE EMISSION

### 12.1. MEASUREMENT PROCEDURE

1)Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting
2)Conducted Emissions at the bang edge
a)The transmitter output was connected to the spectrum analyzer
b) Set RBW $=100 \mathrm{kHz}, \mathrm{VBW}=300 \mathrm{kHz}$
c) Suitable frequency span including 100 kHz bandwidth from band edge

### 12.2. TEST SET-UP

Radiated same as 11.2
Conducted set up


### 12.3. Radiated Test Result

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with data rate 1 <br> 2412 MHZ | Antenna | Horizontal |

## $116.0 \mathrm{dBu} / \mathrm{m}$



Site: site \#1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Mobile Phone
M/N: U1S
Mode: 802.11b Low Channel TX
Note:

Polarization: Horizontal
Power:
Distance: 3m

| No. | $\mathrm{Mk}$ | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | $\begin{array}{c\|} \hline \text { Antenna } \\ \text { Height } \\ \hline \end{array}$ | Table Degree | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuV | $\mathrm{dB} / \mathrm{m}$ | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 |  | 2343.633 | 53.61 | -9.74 | 43.87 | 74.00 | -30.13 | peak |  |  |  |
| 2 |  | 2390.000 | 52.90 | -9.69 | 43.21 | 74.00 | -30.79 | peak |  |  |  |
| 3 | * | 2412.000 | 115.36 | -9.67 | 105.69 | 74.00 | 31.69 | peak |  |  |  |

RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with data rate 1 <br> 2412 MHZ | Antenna | Vertical |

$116.0 \quad \mathrm{dBu} / \mathrm{m}$

Site: site \#1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Mobile Phone
M/N: U1S
Mode: 802.11 b Low Channel TX
Note:

| Polarization: Vertical | Temperature: 26 |
| :--- | :--- |
| Power: |  |
|  | Humidity: $60 \%$ |

Distance: 3 m

| No | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | $\begin{array}{\|c\|} \hline \text { Antenna } \\ \text { Height } \end{array}$ | Table Degree | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 |  | 2370.700 | 52.95 | -9.71 | 43.24 | 74.00 | -30.76 | peak |  |  |  |
| 2 |  | 2390.000 | 53.77 | -9.69 | 44.08 | 74.00 | -29.92 | peak |  |  |  |
| 3 | * | 2412.000 | 115.08 | -9.67 | 105.41 | 74.00 | 31.41 | peak |  |  |  |

## RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with data rate 1 <br> 2462 MHZ | Antenna | Horizontal |

$116.0 \mathrm{dBu} / \mathrm{m}$


Site: site \#1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Mobile Phone
M/N: U1S
Mode: 802.11 b High Channel TX
Note:

| No | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | Antenna Height | Table Degree | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 | * | 2462.000 | 115.89 | -9.61 | 106.28 | 74.00 | 32.28 | peak |  |  |  |
| 2 |  | 2483.500 | 56.31 | -9.59 | 46.72 | 74.00 | -27.28 | peak |  |  |  |
| 3 |  | 2561.600 | 53.30 | -9.42 | 43.88 | 74.00 | -30.12 | peak |  |  |  |

RESULT: PASS

| EUT | Mobile Phone | Model Name | U1S |
| :--- | :--- | :--- | :--- |
| Temperature | $25^{\circ} \mathrm{C}$ | Relative Humidity | $55.4 \%$ |
| Pressure | 960 hPa | Test Voltage | Normal Voltage |
| Test Mode | 802.11 b with data rate 1 <br> 2462 MHZ | Antenna | Vertical |

$116.0 \quad \mathrm{dBuV} / \mathrm{m}$


Site: site \#1
Limit: FCC Class B 3M Radiation above 1GHZ(PK)
EUT: Mobile Phone
M/N: U1S
Mode: 802.11 b High Channel TX
Note:

Polarization: Vertical
Power:
Distance: 3 m

| No. | Mk | Freq. | Reading | Factor | Measurement | Limit | Over | Detector | $\begin{array}{\|c\|} \hline \text { Antenna } \\ \text { Height } \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Table } \\ \text { Degree } \\ \hline \end{array}$ | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MHz | dBuv | dB/m | dBuV/m | dBuV/m | dB |  | cm | degree |  |
| 1 | * | 2462.000 | 115.42 | -9.61 | 105.81 | 74.00 | 31.81 | peak |  |  |  |
| 2 |  | 2483.500 | 58.22 | -9.59 | 48.63 | 74.00 | -25.37 | peak |  |  |  |
| 3 |  | 2561.600 | 52.50 | -9.42 | 43.08 | 74.00 | -30.92 | peak |  |  |  |

## RESULT: PASS

Note: The other modes radiation emission have enough 20dB margin.
Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.
The "Factor" value can be calculated automatically by software of measurement system.

### 12.4. Conducted Test Result

| Mode | Channel | Carrier <br> Power $[\mathrm{dBm}]$ | Max.Spurious <br> Level $[\mathrm{dBm}]$ | Limit [dBm] | Verdi <br> ct |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 11B | LCH | 8.62 | -29.23 | -11.38 | PASS |
| 11B | HCH | 8.51 | -47 | -11.49 | PASS |
| 11G | LCH | 3.86 | -30.66 | -16.14 | PASS |
| 11G | HCH | 3.1 | -39.52 | -16.9 | PASS |
| 11N20SISO | LCH | 2.81 | -31.37 | -17.19 | PASS |
| 11N20SISO | HCH | 3.5 | -39.94 | -16.5 | PASS |
| 11N4OSISO | LCH | -1.96 | -37.21 | -21.96 | PASS |
| 11N40SISO | HCH | -2.29 | -38.39 | -22.29 | PASS |

## Test Graph





## 13. FCC LINE CONDUCTED EMISSION TEST

### 13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

| Frequency | Maximum RF Line Voltage |  |
| :---: | :---: | :---: |
|  | Q.P.( dBuV) | Average( dBuV) |
| $150 \mathrm{kHz} \sim 500 \mathrm{kHz}$ | $66-56$ | $56-46$ |
| $500 \mathrm{kHz} \sim 5 \mathrm{MHz}$ | 56 | 46 |
| $5 \mathrm{MHz} \sim 30 \mathrm{MHz}$ | 60 | 50 |

## Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz .

### 13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



### 13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. All support equipments received $A C 120 \mathrm{~V} / 60 \mathrm{~Hz}$ power from a LISN, if any.
5. The EUT received charging voltage by adapter which received $120 \mathrm{~V} / 60 \mathrm{Hzpower}$ by a LISN..
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

### 13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.
13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST LINE 1-L


| Site: Conduction | Phase: | L1 | Temperature: 26 |
| :--- | :--- | :---: | :--- |
| Limit: FCC Class B Conduction(QP) | Power: | AC $120 \mathrm{~V} / 60 \mathrm{~Hz}$ | Humidity: $60 \%$ |
| EUT: Mobile Phone |  |  |  |

M/N: U1S
Mode: Normal Operating(WIFI)
Note:

| No. | Freq. <br> (MHz) | Reading_Level (dBuV) |  |  | Correct Factor dB | Measurement (dBuV) |  |  | $\begin{gathered} \text { Limit } \\ (\mathrm{dBuV}) \end{gathered}$ |  | Margin <br> (dB) |  | P/F | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Peak | QP | AVG |  | Peak | QP | AVg | QP | AVg | QP | AVg |  |  |
| 1 | 0.1539 | 48.80 |  | 25.52 | 10.16 | 58.96 |  | 35.68 | 65.78 | 55.78 | -6.82 | -20.10 | P |  |
| 2 | 0.2500 | 43.70 |  | 24.40 | 10.27 | 53.97 |  | 34.67 | 61.75 | 51.75 | -7.78 | -17.08 | P |  |
| 3 | 0.4980 | 39.64 |  | 27.63 | 10.40 | 50.04 |  | 38.03 | 56.03 | 46.03 | -5.99 | -8.00 | P |  |
| 4 | 1.6100 | 31.64 |  | 19.55 | 10.34 | 41.98 |  | 29.89 | 56.00 | 46.00 | -14.02 | -16.11 | P |  |
| 5 | 3.5220 | 34.04 |  | 22.01 | 10.51 | 44.55 |  | 32.52 | 56.00 | 46.00 | -11.45 | -13.48 | P |  |
| 6 | 15.2100 | 42.08 |  | 28.14 | 10.12 | 52.20 |  | 38.26 | 60.00 | 50.00 | -7.80 | -11.74 | P |  |

## Line Conducted Emission Test Line 2-N

80.0 dBuF


Site: Conduction
Limit: FCC Class B Conduction(QP)
EUT: Mobile Phone
M/N: U1S
Mode: Normal Operating(WIFI)
Note:

| No. | Freq. <br> $(\mathrm{MHz})$ | Reading_Level <br> $(\mathrm{dBuV})$ |  |  | Correct <br> Factor | Measurement <br> $(\mathrm{dBuV})$ |  |  | Limit <br> $(\mathrm{dBuV})$ |  | Margin <br> $(\mathrm{dB})$ |  | P/F | Comment |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Peak | QP | AVG | dB | Peak | QP | AVG | QP | AVG | QP | AVG |  |  |
| 1 | 0.1660 | 49.39 |  | 29.38 | 10.18 | 59.57 |  | 39.56 | 65.15 | 55.15 | -5.58 | -15.59 | $P$ |  |
| 2 | 0.2300 | 45.07 |  | 28.97 | 10.25 | 55.32 |  | 39.22 | 62.45 | 52.45 | -7.13 | -13.23 | $P$ |  |
| 3 | 0.3339 | 43.84 |  | 20.18 | 10.30 | 54.14 |  | 30.48 | 59.35 | 49.35 | -5.21 | -18.87 | $P$ |  |
| 4 | 0.4980 | 41.09 |  | 24.14 | 10.40 | 51.49 |  | 34.54 | 56.03 | 46.03 | -4.54 | -11.49 | $P$ |  |
| 5 | 4.1860 | 37.07 |  | 14.86 | 10.35 | 47.42 |  | 25.21 | 56.00 | 46.00 | -8.58 | -20.79 | $P$ |  |
| 6 | 15.3180 | 41.86 |  | 26.76 | 10.12 | 51.98 |  | 36.88 | 60.00 | 50.00 | -8.02 | -13.12 | $P$ |  |

APPENDIX A: PHOTOGRAPHS OF TEST SETUP
FCC LINE CONDUCTED EMISSION TEST SETUP


FCC RADIATED EMISSION TEST SETUP


## APPENDIX B: PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT


TOP VIEW OF EUT


## BOTTOM VIEW OF EUT



FRONT VIEW OF EUT


BACK VIEW OF EUT


LEFT VIEW OF EUT


RIGHT VIEW OF EUT


OPEN VIEW OF EUT-1


OPEN VIEW OF EUT-2


OPEN VIEW OF EUT-3


INTERNAL VIEW OF EUT-1


INTERNAL VIEW OF EUT-2

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

