



FCC Test Report

For

Applicant Name: TECNO MOBILE LIMITED
Address: FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25
SHAN MEI STREET FOTAN NT HONGKONG
EUT Name: Laptop Computer
Brand Name: TECNO
Model Number: T14AA
Series Model Number: Refer to section 2

Issued By

Company Name: BTF Testing Lab (Shenzhen) Co., Ltd.
Address: F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park,
Tantou Community, Songgang Street, Bao'an District, Shenzhen,
China

Report Number: BTF230918R00206
Test Standards: 47 CFR Part 15, Subpart B
FCC ID: 2ADYY-T14AA
Test Conclusion: Pass
Test Date: 2023-08-29 to 2023-09-19
Date of Issue: 2023-09-20

Prepared By:

Chris Liu

Chris Liu / Project Engineer
2023-09-20

Date:

Approved By:

Ryan.CJ

Ryan.CJ / EMC Manager
2023-09-20

Date:



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| Revision History | | |
|---|------------|-------------------|
| Version | Issue Date | Revisions Content |
| R_V0 | 2023-09-20 | Original |
| | | |
| <i>Note: Once the revision has been made, then previous versions reports are invalid.</i> | | |

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1 Introduction

1.1 Identification of Testing Laboratory

| | |
|---------------|---|
| Company Name: | BTF Testing Lab (Shenzhen) Co., Ltd. |
| Address: | F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China |
| Phone Number: | +86-0755-23146130 |
| Fax Number: | +86-0755-23146130 |

1.2 Identification of the Responsible Testing Location

| | |
|--------------------------|---|
| Company Name: | BTF Testing Lab (Shenzhen) Co., Ltd. |
| Address: | F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China |
| Phone Number: | +86-0755-23146130 |
| Fax Number: | +86-0755-23146130 |
| FCC Registration Number: | 518915 |
| Designation Number: | CN1330 |

1.3 Announcement

- (1) The test report reference to the report template version v0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.
- (5) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
- (6) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2 Product Information

2.1 Application Information

| | |
|---------------|---|
| Company Name: | TECNO MOBILE LIMITED |
| Address: | FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG |

2.2 Manufacturer Information

| | |
|---------------|---|
| Company Name: | TECNO MOBILE LIMITED |
| Address: | FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG |

2.3 Factory Information

| | |
|---------------|--|
| Company Name: | GUANGXI SHANCHAUN TECHNOLOGY CO LTD |
| Address: | The Second Floor of Plant C01, Plant C02, Plant C03 and Plant D03 Guangxi Sannuo Smart Industrial Park, No.3, Gaoke Road, Beihai Industrial Park, BEIHAI, 536000 Guangxi, P.R.China |

2.4 General Description of Equipment under Test (EUT)

| | |
|----------------------|------------------|
| EUT Name: | Laptop Computer |
| Test Model Number: | T14AA |
| Series Model Number: | N/A |
| Software Version: | Win 11 home |
| Hardware Version: | N156EAL01_MB_V11 |

2.5 Technical Information

| | |
|----------------|--|
| Power Supply: | Li-ion Battery: 528252-3S1P Rated Voltage: 11.61V Rated Capacity: 6460mAh/75Wh Limited Capacity: 6550mAh/76.04Wh Limited Charge Voltage: 13.35V |
| Power Adaptor: | Adapter1: DS65-2 Input: 100-240V~50/60Hz 1.5A Max Output: 5.0V ---3.0A 9.0V ---3.0A 12.0V ---3.0A 15.0V ---3.0A 20.0V ---3.25A 65.0W Adapter2: TCW-A61S-65W Input: 100-240V~50/60Hz 1.5A Max Output: DP: 5.0V ---3A 9V ---3A 12V ---3A 15V ---3A 20V ---3.25A PPS: 3.3-11V ---5A Max |

Note:

#: This report only reflects the worst-case adapter 1 data.

3 Summary of Test Results

3.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15, Subpart B: Unintentional Radiators

3.2 Uncertainty of Test

| Item | Measurement Uncertainty |
|-------------------------------------|-------------------------|
| Conducted Emission (150 kHz-30 MHz) | $\pm 2.64\text{dB}$ |
| All emissions, radiated (<1GHz) | $\pm 4.12\text{dB}$ |

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

3.3 Summary of Test Result

| Item | Standard | Requirement | Result |
|---------------------------------|---------------------------|-----------------|--------|
| Conducted emissions on AC mains | 47 CFR Part 15, Subpart B | 15.107, Class B | Pass |
| Radiated emissions (Below 1GHz) | 47 CFR Part 15, Subpart B | 15.109, Class B | Pass |
| Radiated emissions (Above 1GHz) | 47 CFR Part 15, Subpart B | 15.109, Class B | Pass |

4 Test Configuration

4.1 Test Equipment List

| Conducted emissions on AC mains | | | | | |
|---------------------------------|---------------|-------------|--------------|------------|--------------|
| Equipment | Manufacturer | Model No | Inventory No | Cal Date | Cal Due Date |
| Pulse Limiter | SCHWARZBECK | VTSD 9561-F | 00953 | 2022-11-24 | 2023-11-23 |
| Coaxial Switcher | SCHWARZBECK | CX210 | CX210 | 2022-11-24 | 2023-11-23 |
| V-LISN | SCHWARZBECK | NSLK 8127 | 01073 | 2022-11-24 | 2023-11-23 |
| LISN | AFJ | LS16/110VAC | 16010020076 | 2023-02-23 | 2024-02-22 |
| EMI Receiver | ROHDE&SCHWARZ | ESCI3 | 101422 | 2022-11-24 | 2023-11-23 |

| Radiated emissions (Below 1GHz) | | | | | |
|---------------------------------|---------------|-----------------|--------------|------------|--------------|
| Equipment | Manufacturer | Model No | Inventory No | Cal Date | Cal Due Date |
| Coaxial cable Multiflex 141 | Schwarzbeck | N/SMA 0.5m | 517386 | 2023-03-24 | 2024-03-23 |
| Preamplifier | SCHWARZBECK | BBV9744 | 00246 | 2022-11-24 | 2023-11-23 |
| RE Cable | REBES Talent | UF1-SMASMAM-10m | 21101566 | 2022-11-24 | 2023-11-23 |
| RE Cable | REBES Talent | UF2-NMNM-10m | 21101570 | 2022-11-24 | 2023-11-23 |
| RE Cable | REBES Talent | UF1-SMASMAM-1m | 21101568 | 2022-11-24 | 2023-11-23 |
| RE Cable | REBES Talent | UF2-NMNM-1m | 21101576 | 2022-11-24 | 2023-11-23 |
| RE Cable | REBES Talent | UF2-NMNM-2.5m | 21101573 | 2022-11-24 | 2023-11-23 |
| POSITIONAL CONTROLLER | SKET | PCI-GPIB | / | / | / |
| Horn Antenna | SCHWARZBECK | BBHA9170 | 01157 | 2021-11-28 | 2023-11-27 |
| EMI TEST RECEIVER | ROHDE&SCHWARZ | ESCI7 | 101032 | 2022-11-24 | 2023-11-23 |
| SIGNAL ANALYZER | ROHDE&SCHWARZ | FSQ40 | 100010 | 2022-11-24 | 2023-11-23 |
| POSITIONAL CONTROLLER | SKET | PCI-GPIB | / | / | / |
| Broadband Preamplifier | SCHWARZBECK | BBV9718D | 00008 | 2023-03-24 | 2024-03-23 |
| Horn Antenna | SCHWARZBECK | BBHA9120D | 2597 | 2022-05-22 | 2024-05-21 |
| EZ EMC | Frad | FA-03A2 RE+ | / | / | / |
| POSITIONAL CONTROLLER | SKET | PCI-GPIB | / | / | / |
| Log periodic antenna | SCHWARZBECK | VULB 9168 | 01328 | 2021-11-28 | 2023-11-27 |

| Radiated emissions (Above 1GHz) | | | | | |
|---------------------------------|--------------|-----------------|--------------|------------|--------------|
| Equipment | Manufacturer | Model No | Inventory No | Cal Date | Cal Due Date |
| Coaxial cable Multiflex 141 | Schwarzbeck | N/SMA 0.5m | 517386 | 2023-03-24 | 2024-03-23 |
| Preamplifier | SCHWARZBECK | BBV9744 | 00246 | 2022-11-24 | 2023-11-23 |
| RE Cable | REBES Talent | UF1-SMASMAM-10m | 21101566 | 2022-11-24 | 2023-11-23 |
| RE Cable | REBES Talent | UF2-NMNM-10m | 21101570 | 2022-11-24 | 2023-11-23 |
| RE Cable | REBES Talent | UF2-NMNM-1m | 21101576 | 2022-11-24 | 2023-11-23 |

| | | | | | |
|---------------------------|-------------------|---------------|----------|------------|------------|
| RE Cable | REBES Talent | UF2-NMNM-2.5m | 21101573 | 2022-11-24 | 2023-11-23 |
| POSITIONAL CONTROLLER | SKET | PCI-GPIB | / | / | / |
| Horn Antenna | SCHWARZBECK | BBHA9170 | 01157 | 2021-11-28 | 2023-11-27 |
| EMI TEST RECEIVER | ROHDE&SCHWA RZ | ESCI7 | 101032 | 2022-11-24 | 2023-11-23 |
| SIGNAL ANALYZER | ROHDE&SCHWA RZ | FSQ40 | 100010 | 2022-11-24 | 2023-11-23 |
| POSITIONAL CONTROLLER | SKET | PCI-GPIB | / | / | / |
| Broadband Preamplifier | SCHWARZBECK | BBV9718D | 00008 | 2023-03-24 | 2024-03-23 |
| Horn Antenna | SCHWARZBECK | BBHA9120D | 2597 | 2022-05-22 | 2024-05-21 |
| EZ EMC | Frad | FA-03A2 RE+ | / | / | / |
| POSITIONAL CONTROLLER | SKET | PCI-GPIB | / | / | / |
| Log periodic antenna | SCHWARZBECK | VULB 9168 | 01328 | 2021-11-28 | 2023-11-27 |

4.2 Test Auxiliary Equipment

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

4.3 Test Modes

| Pretest Mode | Description |
|--------------|---|
| Mode 1 | Video Recording |
| Model 2 | Video Playing |
| Mode 3 | Transferring with USB Disk (the worst case) |
| Mode 4 | TF Card Playing |

5 Emission Test Results (EMI)

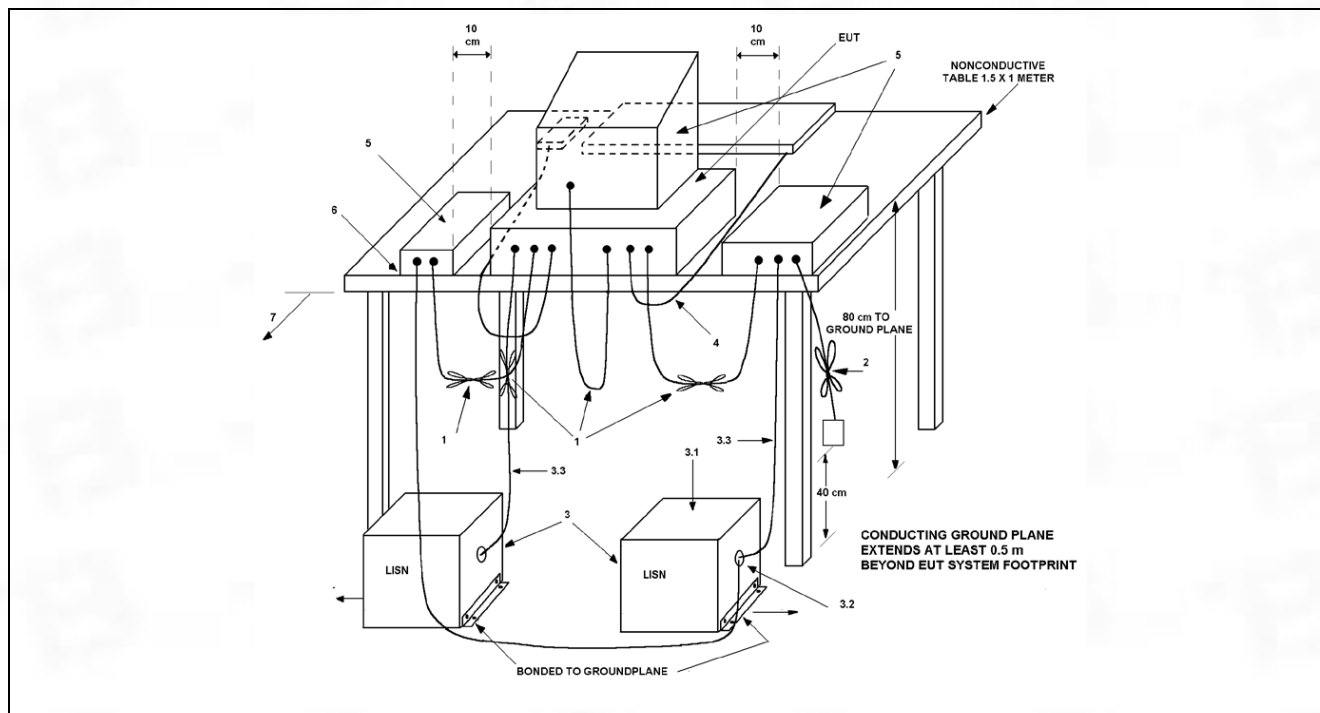
5.1 Conducted emissions on AC mains

| | | | |
|-------------------|--|------------------------|-----------|
| Test Requirement: | 15.107, Class B | | |
| Test Method: | ANSI C63.4 | | |
| Test Limit: | Frequency of emission (MHz) | Conducted limit (dBμV) | |
| | | Quasi-peak | Average |
| | 0.15-0.5 | 66 to 56* | 56 to 46* |
| | 0.5-5 | 56 | 46 |
| | 5-30 | 60 | 50 |
| | *Decreases with the logarithm of the frequency. | | |
| Procedure: | <p>An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.</p> <p>Remark: Level= Read Level+ Cable Loss+ LISN Factor</p> | | |

5.1.1 E.U.T. Operation:

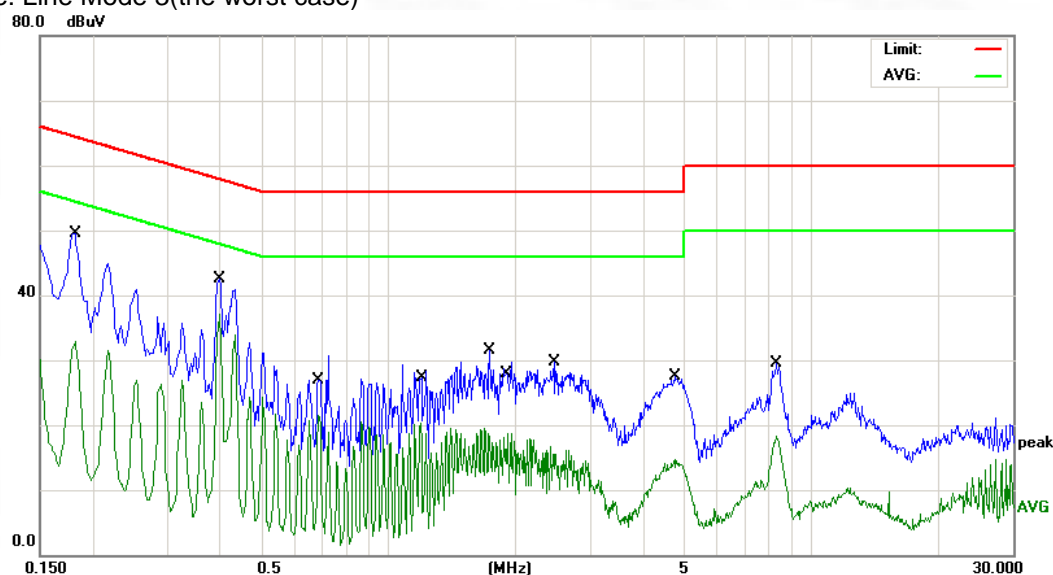
| | |
|------------------------|-----------|
| Operating Environment: | |
| Temperature: | 24.1 °C |
| Humidity: | 48.7 % |
| Atmospheric Pressure: | 1010 mbar |

5.1.2 Test Setup Diagram:



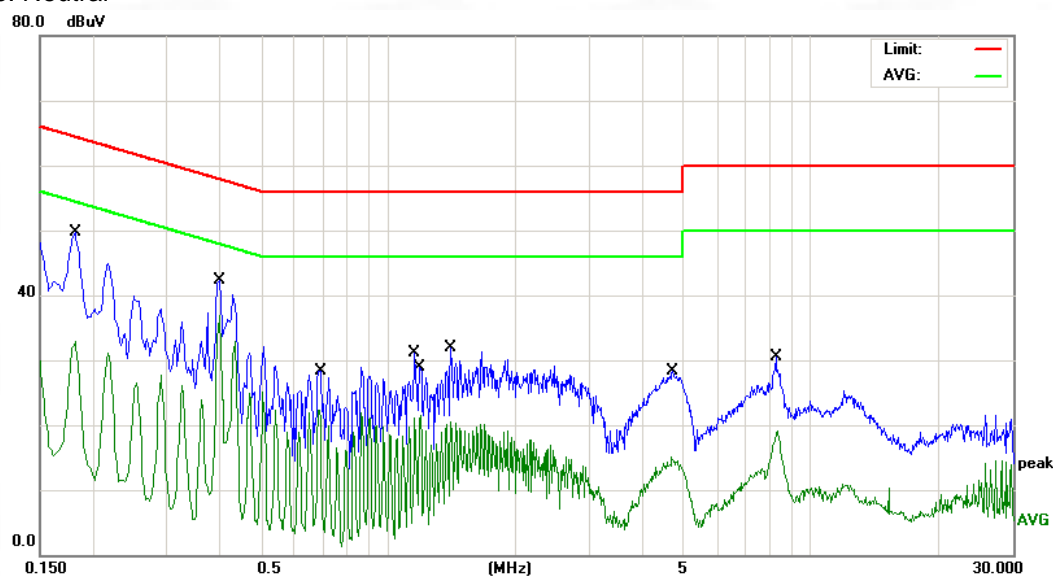
5.1.3 Test Data:

TM1 / Line: Line Mode 3(the worst case)



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Over | |
|-----|-----|--------|---------------|----------------|-------------|-------|--------|----------|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector |
| 1 | | 0.1819 | 39.14 | 10.41 | 49.55 | 64.39 | -14.84 | QP |
| 2 | | 0.1819 | 22.52 | 10.41 | 32.93 | 54.39 | -21.46 | AVG |
| 3 | | 0.3980 | 32.06 | 10.45 | 42.51 | 57.89 | -15.38 | QP |
| 4 | * | 0.3980 | 26.73 | 10.45 | 37.18 | 47.89 | -10.71 | AVG |
| 5 | | 0.6860 | 10.96 | 10.48 | 21.44 | 46.00 | -24.56 | AVG |
| 6 | | 1.1940 | 9.85 | 10.54 | 20.39 | 46.00 | -25.61 | AVG |
| 7 | | 1.7380 | 20.80 | 10.62 | 31.42 | 56.00 | -24.58 | QP |
| 8 | | 1.9140 | 8.04 | 10.65 | 18.69 | 46.00 | -27.31 | AVG |
| 9 | | 2.4620 | 18.96 | 10.66 | 29.62 | 56.00 | -26.38 | QP |
| 10 | | 4.7700 | 16.83 | 10.69 | 27.52 | 56.00 | -28.48 | QP |
| 11 | | 8.2620 | 7.61 | 10.76 | 18.37 | 50.00 | -31.63 | AVG |
| 12 | | 8.2820 | 18.64 | 10.76 | 29.40 | 60.00 | -30.60 | QP |

TM1 / Line: Neutral



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|-----|-----|--------|---------------|----------------|--------------|-------|--------|----------|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector |
| 1 | | 0.1819 | 39.38 | 10.41 | 49.79 | 64.39 | -14.60 | QP |
| 2 | | 0.1819 | 22.40 | 10.41 | 32.81 | 54.39 | -21.58 | AVG |
| 3 | | 0.3980 | 31.95 | 10.45 | 42.40 | 57.89 | -15.49 | QP |
| 4 | * | 0.3980 | 26.44 | 10.45 | 36.89 | 47.89 | -11.00 | AVG |
| 5 | | 0.6860 | 11.84 | 10.48 | 22.32 | 46.00 | -23.68 | AVG |
| 6 | | 1.1580 | 20.54 | 10.53 | 31.07 | 56.00 | -24.93 | QP |
| 7 | | 1.1940 | 10.93 | 10.54 | 21.47 | 46.00 | -24.53 | AVG |
| 8 | | 1.4100 | 21.32 | 10.57 | 31.89 | 56.00 | -24.11 | QP |
| 9 | | 4.6860 | 4.36 | 10.69 | 15.05 | 46.00 | -30.95 | AVG |
| 10 | | 4.7020 | 17.53 | 10.69 | 28.22 | 56.00 | -27.78 | QP |
| 11 | | 8.2420 | 19.85 | 10.75 | 30.60 | 60.00 | -29.40 | QP |
| 12 | | 8.3500 | 8.31 | 10.76 | 19.07 | 50.00 | -30.93 | AVG |

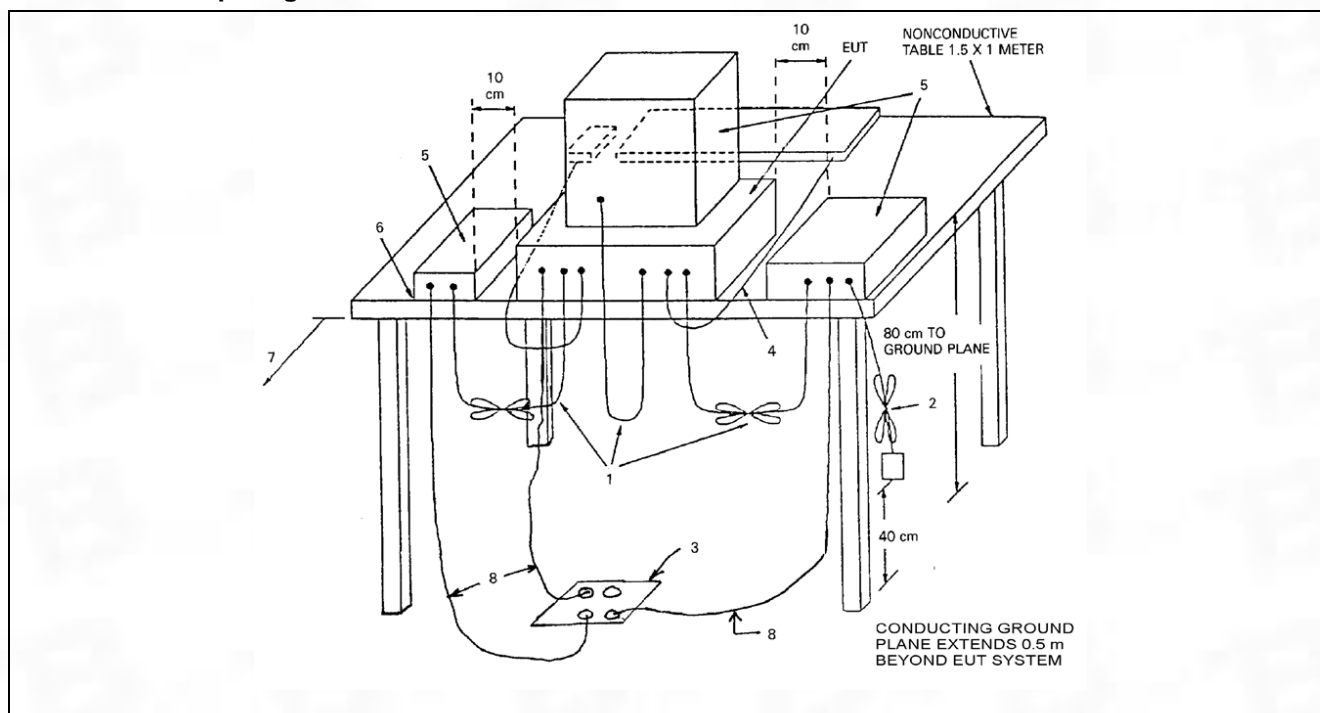
5.2 Radiated emissions (Below 1GHz)

| | | | | | |
|-------------------|---|--------------------|----------|---------------------|----------|
| Test Requirement: | 15.109, Class B | | | | |
| Test Method: | ANSI C63.4 | | | | |
| Test Limit: | Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values: | | | | |
| | Frequency of emission (MHz) | Field strength @3m | | Field strength @10m | |
| | | (uV/m) | (dBuV/m) | (uV/m) | (dBuV/m) |
| | 30 – 88 | 100 | 40 | 30 | 29.5 |
| | 88 – 216 | 150 | 43.5 | 45 | 33.1 |
| | 216 – 960 | 200 | 46 | 60 | 35.6 |
| | Above 960 | 500 | 54 | 150 | 43.5 |
| Procedure: | <p>An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.</p> <p>Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor</p> | | | | |

5.2.1 E.U.T. Operation:

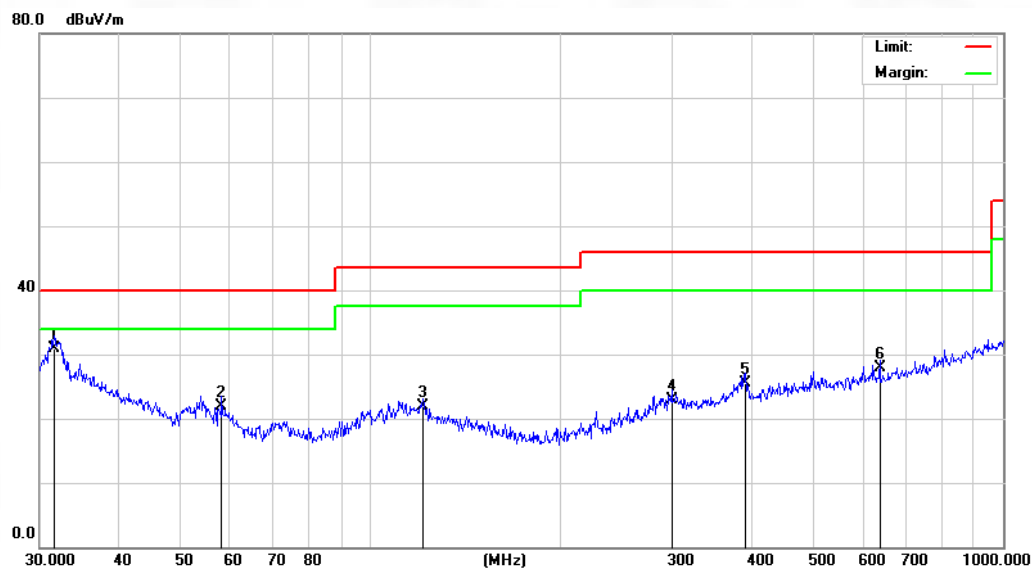
| | |
|------------------------|-----------|
| Operating Environment: | |
| Temperature: | 24.1 °C |
| Humidity: | 48.7 % |
| Atmospheric Pressure: | 1010 mbar |

5.2.2 Test Setup Diagram:



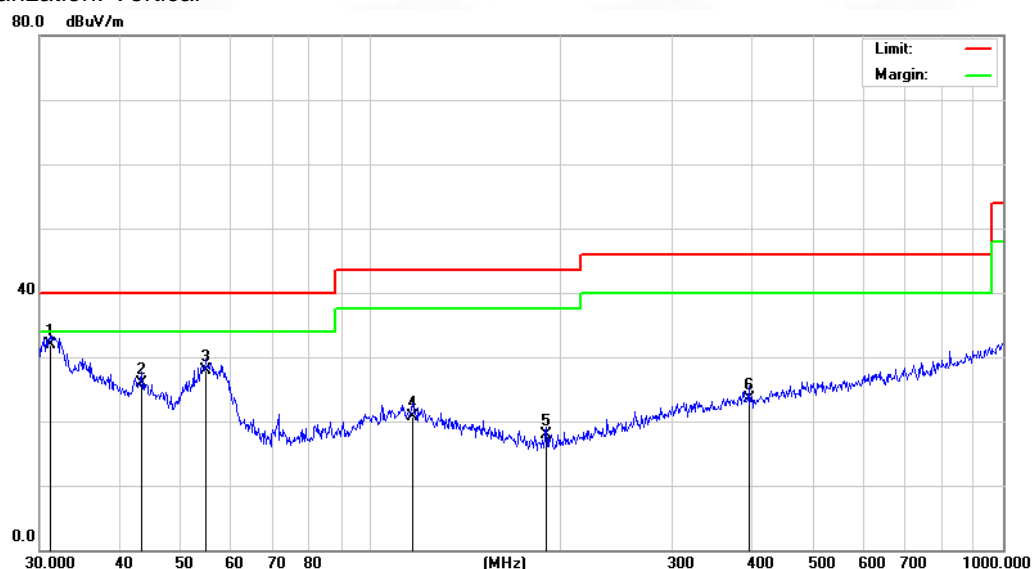
5.2.3 Test Data:

TM1 / Polarization: Horizontal



| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Over dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|
| 1 | * | 31.6202 | 26.71 | 4.17 | 30.88 | 40.00 | -9.12 | QP |
| 2 | | 58.2030 | 27.84 | -6.00 | 21.84 | 40.00 | -18.16 | QP |
| 3 | | 121.1231 | 24.77 | -2.91 | 21.86 | 43.50 | -21.64 | QP |
| 4 | | 299.3158 | 25.13 | -2.27 | 22.86 | 46.00 | -23.14 | QP |
| 5 | | 392.0951 | 27.03 | -1.56 | 25.47 | 46.00 | -20.53 | QP |
| 6 | | 638.3686 | 26.53 | 1.40 | 27.93 | 46.00 | -18.07 | QP |

TM1 / Polarization: Vertical



| No. | Mk. | Freq. | Reading | Correct | Measure- | Limit | Over | |
|-----|-----|----------|---------|---------|----------|--------|--------|----------|
| | | MHz | Level | Factor | ment | | | Detector |
| | | | dBuV | dB | dBuV/m | dBuV/m | dB | |
| 1 | * | 31.1798 | 27.52 | 4.34 | 31.86 | 40.00 | -8.14 | QP |
| 2 | | 43.5057 | 27.38 | -1.45 | 25.93 | 40.00 | -14.07 | QP |
| 3 | | 54.8348 | 33.53 | -5.59 | 27.94 | 40.00 | -12.06 | QP |
| 4 | | 116.5401 | 23.24 | -2.50 | 20.74 | 43.50 | -22.76 | QP |
| 5 | | 189.7385 | 25.13 | -7.19 | 17.94 | 43.50 | -25.56 | QP |
| 6 | | 396.2415 | 24.63 | -1.07 | 23.56 | 46.00 | -22.44 | QP |

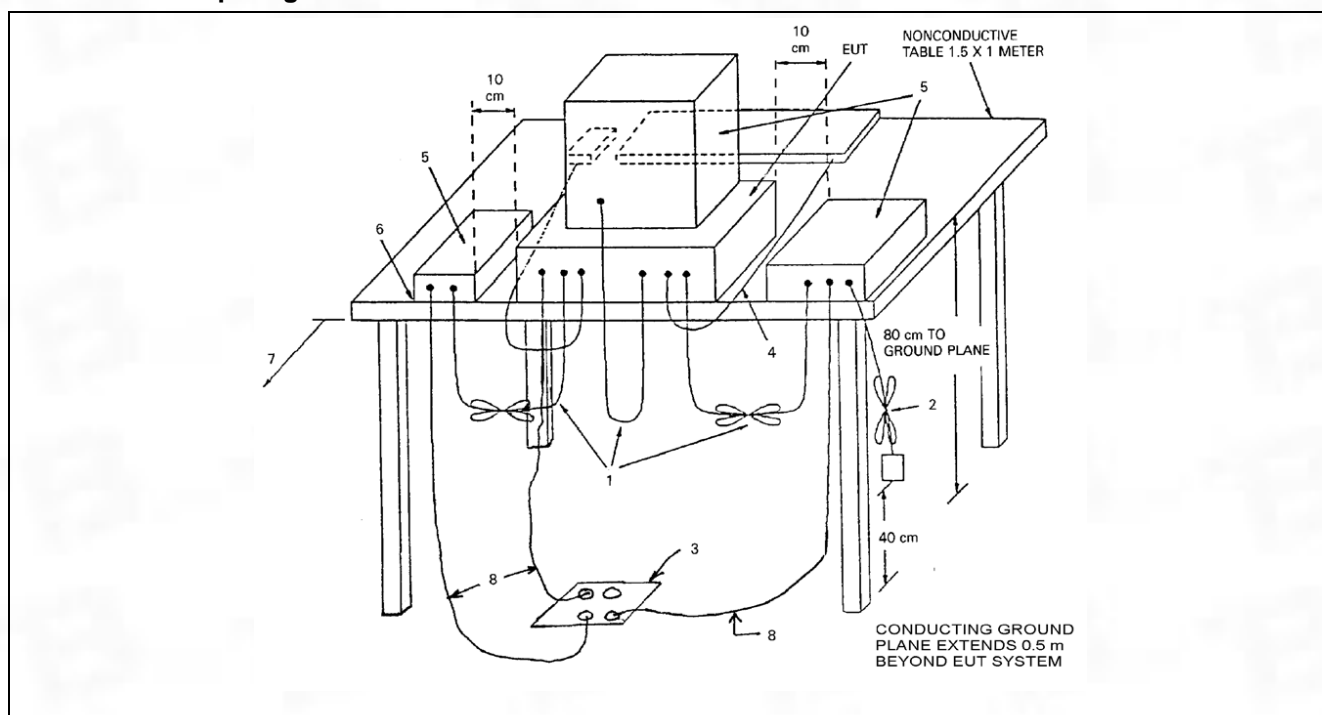
5.3 Radiated emissions (Above 1GHz)

| | | | |
|-------------------|---|--------------------|------------------|
| Test Requirement: | 15.109, Class B | | |
| Test Method: | ANSI C63.4 | | |
| Test Limit: | Frequency of emission (MHz) | Field strength @3m | |
| | | Average (uV/m) | Average (dBuV/m) |
| | Above 1GHz | 500 | 54 |
| Procedure: | <p>An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. For below 1GHz test, Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. For above 1GHz test, Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.</p> <p>Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor</p> | | |

5.3.1 E.U.T. Operation:

| | |
|------------------------|-----------|
| Operating Environment: | |
| Temperature: | 22.2 °C |
| Humidity: | 54.7 % |
| Atmospheric Pressure: | 1010 mbar |

5.3.2 Test Setup Diagram:



5.3.3 Test Data:

TEST RESULTS

Above 1GHz(1~6GHz) :(Mode 3—worst case)

| Freq. (MHz) | Ant. Pol. | Emission Level(dBuV) | | Limit 3m(dBuV/m) | | Over(dB) | |
|----------------|-----------|----------------------|-------|------------------|----|----------|--------|
| | H/V | PK | AV | PK | AV | PK | AV |
| 1395.96 | V | 60.00 | 39.16 | 74 | 54 | -14.00 | -14.84 |
| 2760.06 | V | 58.46 | 40.32 | 74 | 54 | -15.54 | -13.68 |
| 1393.20 | H | 58.61 | 40.65 | 74 | 54 | -15.39 | -13.35 |
| 2761.93 | H | 58.97 | 39.97 | 74 | 54 | -15.03 | -14.03 |

Remark:

All emissions not reported were more than 20dB below the specified limit or in the noise floor.

Freq. = Emission frequency in MHz

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Over= Emission Level - Limit.

All the x/y/z orientation has been investigated, and only worst case is presented in this report.



Test Report Number: BTF230918R00206



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Bao'an District, Shenzhen, China

www.btf-lab.com

-- END OF REPORT --