

FCC Test Report

Equipment : LCD Tablet
Brand Name : Wacom
Model No. : DTH-1320
FCC ID : HV4DTH1320
Standard : 47 CFR FCC Part 15.209
RF Specification : SRD
Operating Band : 667kHz
FCC Classification : DCD
Applicant / Manufacturer : Wacom Co., Ltd.
2-510-1 Toyonodai, Kazo-shi, Saitama 349-1148 Japan

The product sample received on Oct. 05, 2016 and completely tested on Oct. 18, 2016. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:

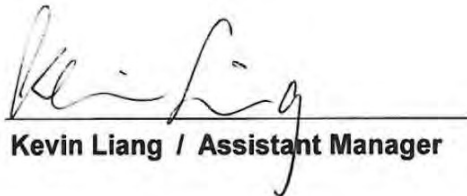

Kevin Liang / Assistant Manager





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APPENDIX A. TEST PHOTOS



Summary of Test Result

| Conformance Test Specifications | | | | | |
|---------------------------------|------------------|-----------------------------------|---|------------|----------|
| Report Clause | Ref. Std. Clause | Description | Measured | Limit | Result |
| 1.1.3 | 15.203 | Antenna Requirement | Antenna connector mechanism complied | FCC 15.203 | Complied |
| 3.1 | 15.207 | AC Power-line Conducted Emissions | [dBuV]:0.42 MHz 42.54 (Margin 14.99 dB) - QP 34.36 (Margin 13.17 dB) - AV | FCC 15.207 | Complied |
| 3.2 | 15.209 | Transmitter Radiated Emissions | [dBuV/m at 3m]:191.020 MHz 19.91 (Margin 23.59 dB) - PK | FCC 15.209 | Complied |
| 3.3 | 15.215(c) | Emission Bandwidth | 99% Bandwidth: 35.310 [kHz] 20dB Bandwidth: 33.930 [kHz] | N/A | Complied |



1 General Description

1.1 Information

1.1.1 Product Details

| | |
|---|-----|
| The difference between the report no. : N/A | |
| The Difference | N/A |

| | |
|----------------------|-----|
| Evaluated Test Items | N/A |
|----------------------|-----|

1.1.2 RF General Information

| RF General Information | | | |
|------------------------|---------------------|----------------|---------------------------|
| Frequency | | 667kHz | |
| Modulation | Ch. Frequency (kHz) | Channel Number | Field Strength (dBuV/@1m) |
| ASK | 667 | 1 | 40.30 |

Note 1: Field strength performed peak level at 1m.

1.1.3 Antenna Information

| Antenna Category | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Integral antenna (antenna permanently attached) |
| <input type="checkbox"/> | Temporary RF connector provided |
| <input checked="" type="checkbox"/> | No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path. |
| <input type="checkbox"/> | External antenna (dedicated antennas) |
| <input type="checkbox"/> | Single power level with corresponding antenna(s). |
| <input type="checkbox"/> | Multiple power level and corresponding antenna(s). |

| No. | Ant. Cat. | Ant. Type |
|-----|-----------|---------------------|
| 1 | Integral | Array Coli Pointing |

1.1.4 Type of EUT

| Identify EUT | |
|-------------------------------------|---|
| EUT Serial Number | N/A |
| Presentation of Equipment | <input checked="" type="checkbox"/> Production ; <input type="checkbox"/> Pre-Production ; <input type="checkbox"/> Prototype |
| Type of EUT | |
| <input checked="" type="checkbox"/> | Stand-alone |
| <input type="checkbox"/> | Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.: ... |
| <input type="checkbox"/> | Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: ... |
| <input type="checkbox"/> | Other: |

1.1.5 Test Signal Duty Cycle

| Operated Mode for Worst Duty Cycle | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Operated normal mode for worst duty cycle |
| <input type="checkbox"/> | Operated test mode for worst duty cycle |
| Test Signal Duty Cycle (x) | |
| <input checked="" type="checkbox"/> | 100.00% |

1.1.6 EUT Operational Condition

| | | | |
|--------------------------|---|--|--------------------------------------|
| Supply Voltage | <input checked="" type="checkbox"/> AC mains | <input checked="" type="checkbox"/> DC | |
| Type of DC Source | <input checked="" type="checkbox"/> External AC adapter | <input checked="" type="checkbox"/> From Battery | <input type="checkbox"/> From System |

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

1.3 Testing Location Information

| Testing Location | | | | |
|-------------------------------------|---------------|---|----------------------|------------|
| <input checked="" type="checkbox"/> | HWA YA | ADD : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. | | |
| | | TEL : 886-3-327-3456 | FAX : 886-3-327-0973 | |
| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date |
| AC Conduction | CO04-HY | Ryan | 22°C / 61% | 18/10/2016 |
| RF Conducted | TH01-HY | Lisa | 23°C / 63% | 12/10/2016 |
| Radiated Emission | 03CH02-HY | Jeff | 22.4°C / 52% | 12/10/2016 |

Test Site Registration Number: 553509



1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

| Measurement Uncertainty | | |
|-----------------------------------|---------------|-------------|
| Test Item | | Uncertainty |
| AC power-line conducted emissions | | ±2.3 dB |
| Emission bandwidth, 6dB bandwidth | | ±0.6 % |
| RF output power, conducted | | ±0.1 dB |
| Power density, conducted | | ±0.6 dB |
| Unwanted emissions, conducted | 9 – 150 kHz | ±0.4 dB |
| | 0.15 – 30 MHz | ±0.4 dB |
| | 30 – 1000 MHz | ±0.6 dB |
| | 1 – 18 GHz | ±0.5 dB |
| | 18 – 40 GHz | ±0.5 dB |
| | 40 – 200 GHz | N/A |
| All emissions, radiated | 9 – 150 kHz | ±2.5 dB |
| | 0.15 – 30 MHz | ±2.3 dB |
| | 30 – 1000 MHz | ±2.6 dB |
| | 1 – 18 GHz | ±3.6 dB |
| | 18 – 40 GHz | ±3.8 dB |
| | 40 – 200 GHz | N/A |
| Temperature | | ±0.8 °C |
| Humidity | | ±5 % |
| DC and low frequency voltages | | ±0.9 % |
| Time | | ±1.4 % |
| Duty Cycle | | ±0.6 % |

2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration




| Transmitter Mode | Field Strength (dBuV/m@1m) | Field Strength (dBuV/m@3m) |
|------------------|----------------------------|----------------------------|
| Touch Pen | 40.30 | 21.22 |

2.2 Test Channel Frequencies Configuration

| Modulation | Test Channel Frequencies (kHz) |
|------------|--------------------------------|
| ASK | 667 |

2.3 The Worst Case Measurement Configuration

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| Tests Item | AC power-line conducted emissions |
| Condition | AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz |
| Operating Mode | Operating Mode Description |
| 1 | Adapter Mode |

| The Worst Case Mode for Following Conformance Tests | | | |
|---|---|--|---|
| Tests Item | Emission Bandwidth, Field Strength of Fundamental Emissions Transmitter Radiated Unwanted Emissions | | |
| Test Condition | Radiated measurement | | |
| User Position | <input type="checkbox"/> EUT will be placed in fixed position. | | |
| | <input type="checkbox"/> EUT will be placed in mobile position and operating multiple positions. EUT shall be performed three orthogonal planes. | | |
| | <input checked="" type="checkbox"/> EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. | | |
| Operating Mode | Operating Mode Description | | |
| 1 | Adapter Mode | | |
| Transmitter Mode | Touch Pen | | |
| Orthogonal Planes of EUT | X Plane | Y Plane | Z Plane |
| |  |  |  |
| Worst Planes of EUT | V | | |

2.4 Accessory and Support Equipment

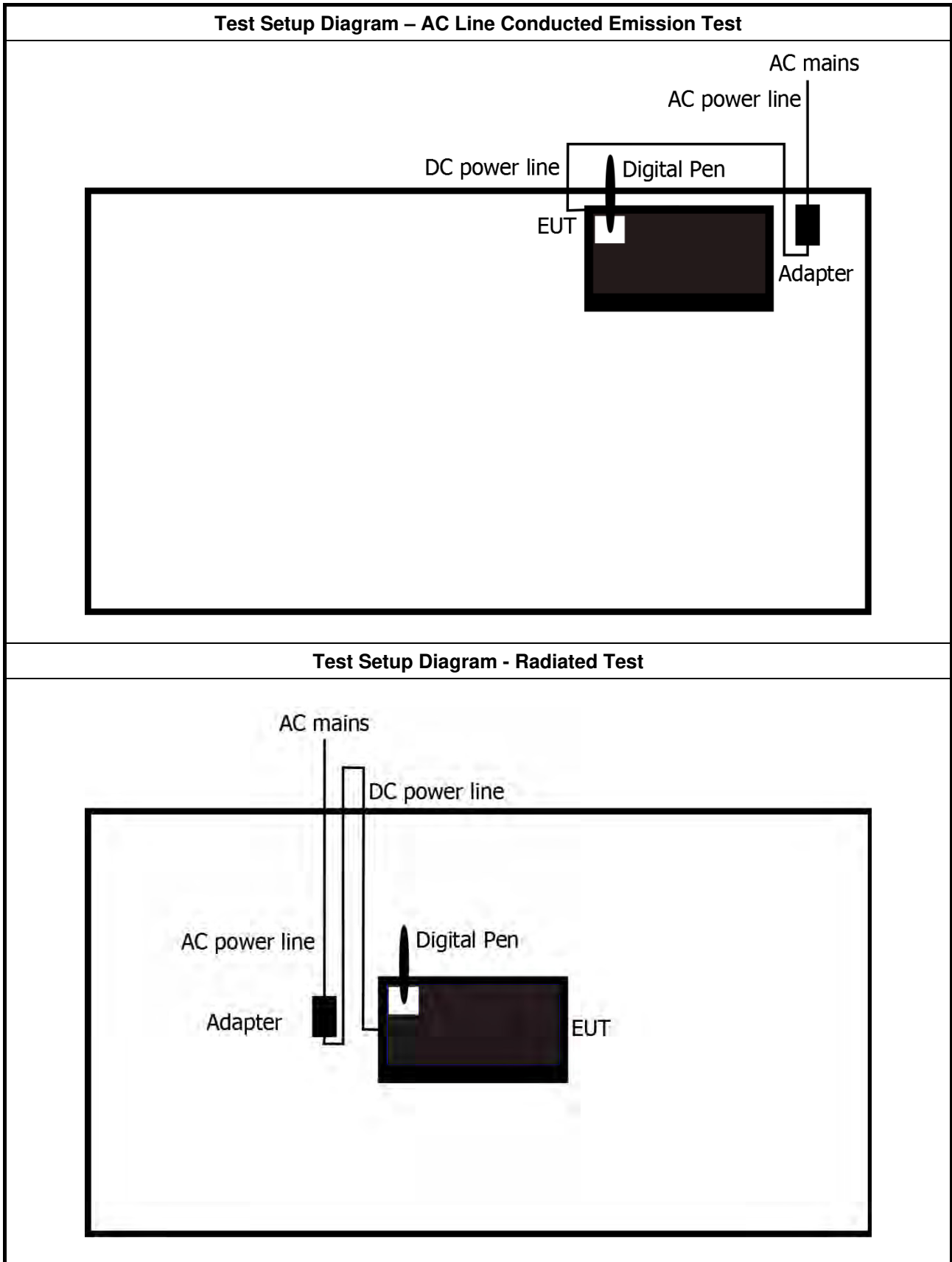
| Accessories Information | | | | |
|--------------------------|--------------|--|------------|--------------|
| AC Adapter | Brand Name | WACOM | Model Name | ADP-45XE B |
| | Power Rating | I/P: 100-240Vac, 50-60Hz, 1.2A, O/P: 20Vdc, 2.2.5A or 15Vdc, 3A or 9Vdc, 3A or 5Vdc, 3A | | |
| | Power Cord | 1.75 meter, non-shielded cable, w/o ferrite core | | |
| Type-C USB Cable | Brand Name | ACON | Model Name | STJ-A368 |
| | Signal Line | 1 meter, non-shielded cable, with w/o ferrite core | | |
| USB cable | Brand Name | ACON | Model Name | STJ-A370 |
| | Signal Line | 1.8 meter, non-shielded cable, with w/o ferrite core | | |
| Mini DP to Mini DP cable | Brand Name | ACON | Model Name | STJ-A369 |
| | Signal Line | 1.8 meter, non-shielded cable, with w/o ferrite core | | |
| LCD Panel | Brand Name | BOE | Model Name | NV133FHM-A52 |
| Touch Pen | Brand Name | Wacom | Model Name | KP-504E-00 |
| Dongle | Brand Name | Wacom | Model Name | INF-A123 |

Note: Regarding to more detail and other information, please refer to user manual.

| Support Equipment - RF Conducted | | | |
|----------------------------------|-----------|------------|------------|
| No. | Equipment | Brand Name | Model Name |
| 1 | - | - | - |

| Support Equipment - AC Conduction and Radiated Emission | | | |
|---|-----------|------------|------------|
| No. | Equipment | Brand Name | Model Name |
| 1 | - | - | - |

2.5 Test Setup Diagram



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

| AC Power-line Conducted Emissions Limit | | |
|---|------------|-----------|
| Frequency Emission (MHz) | Quasi-Peak | Average |
| 0.15-0.5 | 66 - 56 * | 56 - 46 * |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

Note 1: * Decreases with the logarithm of the frequency.

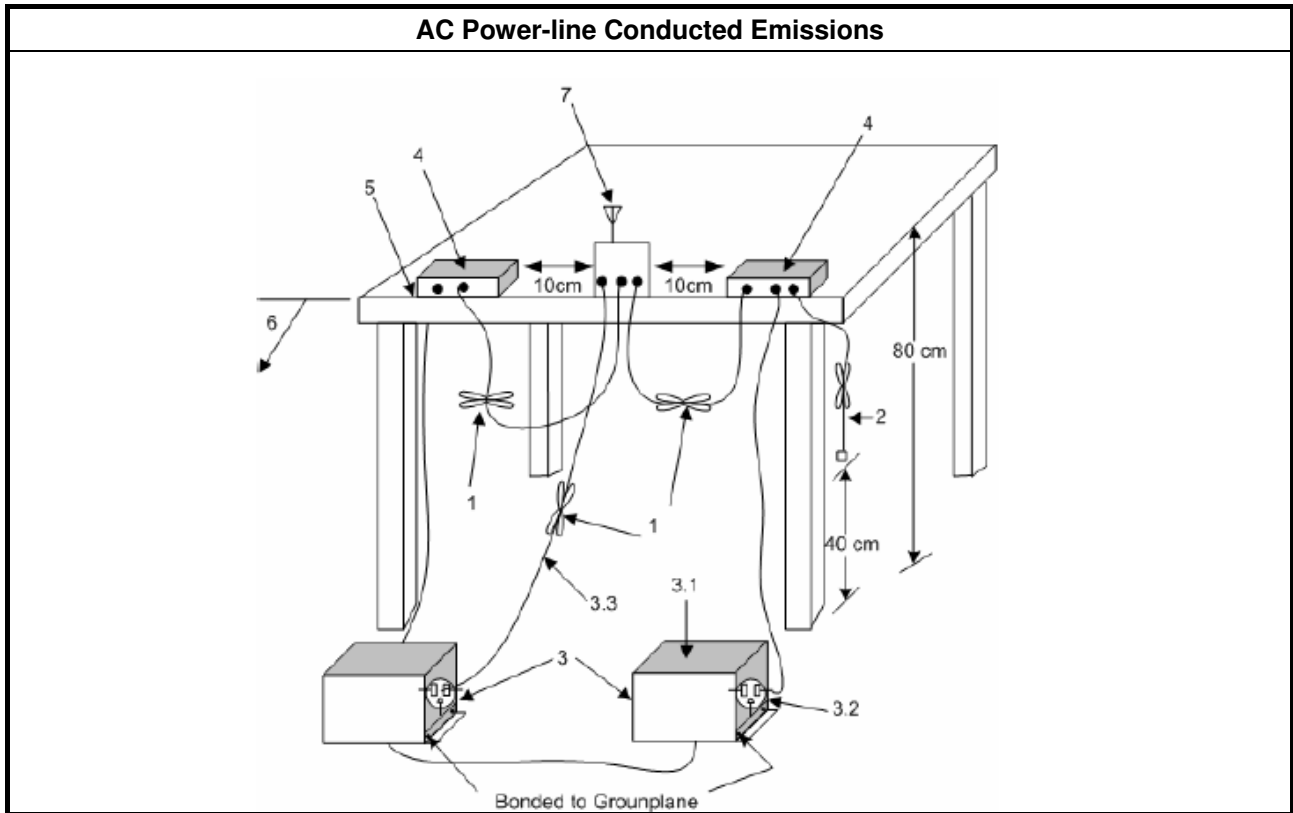
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

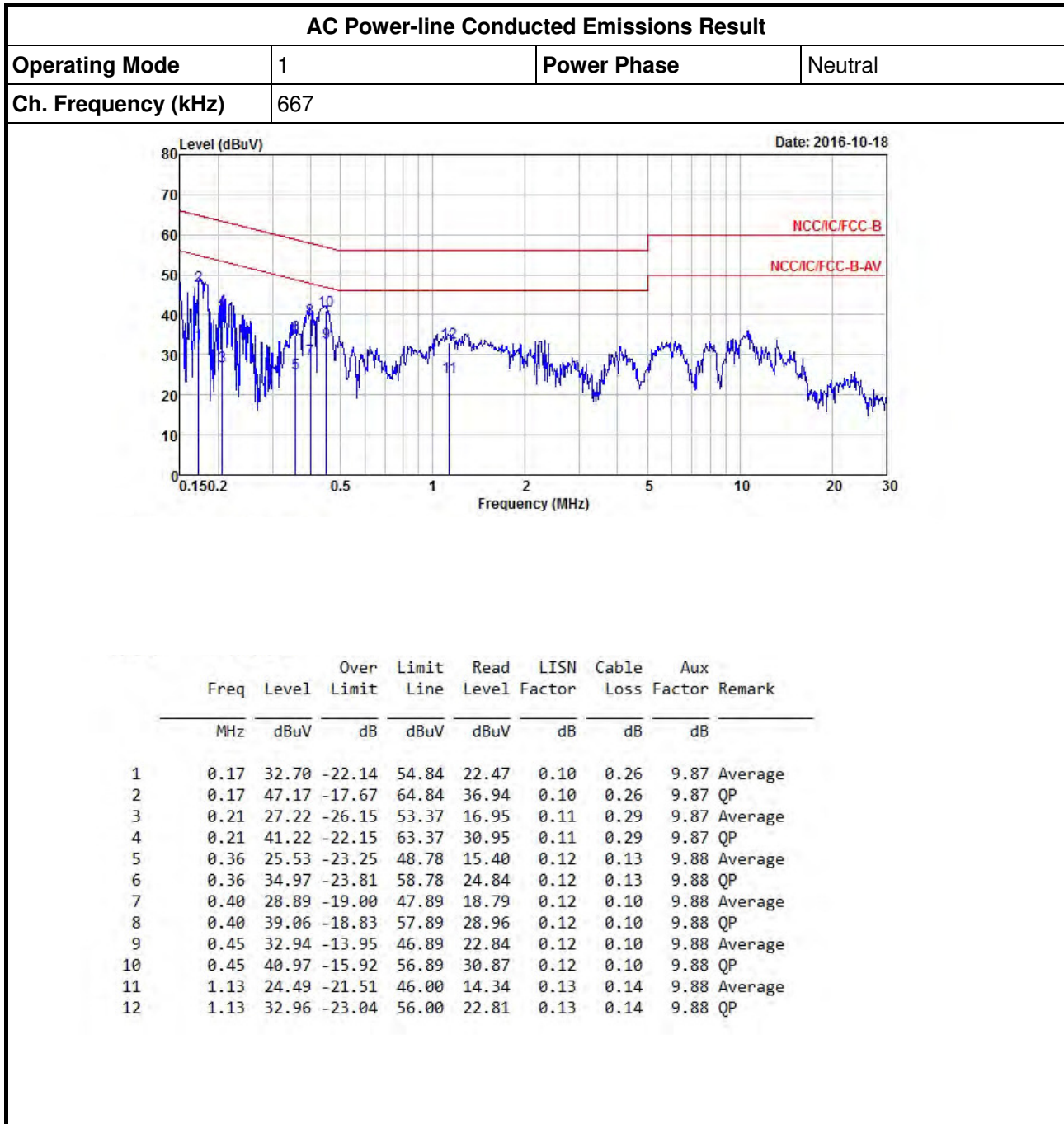
3.1.3 Test Procedures

| Test Method | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions. |
| <input checked="" type="checkbox"/> | If AC conducted emissions fall in operating band, then following below test method confirm final result. |
| <input type="checkbox"/> | Accept measurements done with a suitable dummy load replacing the antenna under the following conditions: (1) Perform the AC line conducted tests with the antenna connected to determine compliance with FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load to determine compliance with FCC 15.207 limits within the transmitter's fundamental emission band. |
| <input checked="" type="checkbox"/> | For a device with a permanent antenna operating at or below 30 MHz, accept measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) Perform the AC line conducted tests with the permanent antenna to determine compliance with the FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load in lieu of the permanent antenna to determine compliance with the FCC 15.207 limits within the transmitter's fundamental emission band. |

3.1.4 Test Setup



3.1.5 Test Result of AC Power-line Conducted Emissions

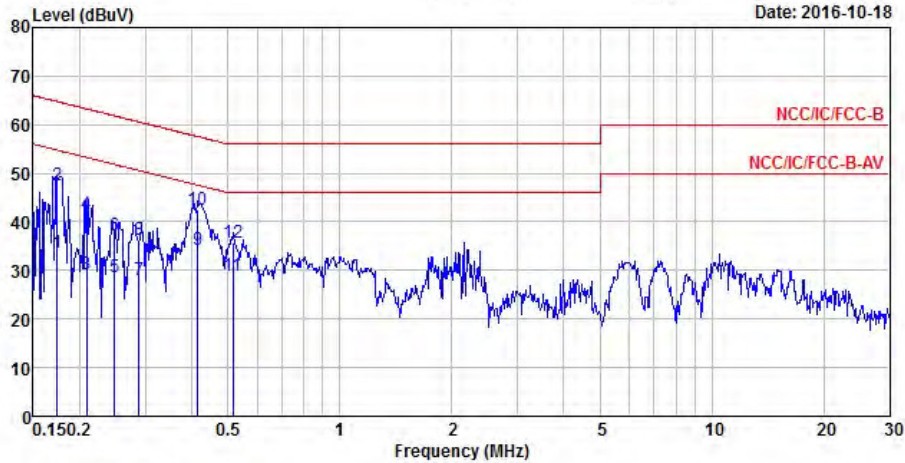


Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)
 Note 3: When emissions are in operating band over limits, retest with a dummy load for final in-band results.



AC Power-line Conducted Emissions Result

| | | | |
|---------------------|-----|-------------|------|
| Operating Mode | 1 | Power Phase | Line |
| Ch. Frequency (kHz) | 667 | | |



| | Freq | Level | Over | Limit | Read | LISN | Cable | Aux | Remark |
|----|------|-------|--------|-------|-------|------|-------|------|---------|
| | MHz | dBuV | dB | dBuV | dBuV | dB | dB | dB | |
| 1 | 0.17 | 33.67 | -21.10 | 54.77 | 23.43 | 0.11 | 0.26 | 9.87 | Average |
| 2 | 0.17 | 47.52 | -17.25 | 64.77 | 37.28 | 0.11 | 0.26 | 9.87 | QP |
| 3 | 0.21 | 29.30 | -23.95 | 53.25 | 19.03 | 0.11 | 0.29 | 9.87 | Average |
| 4 | 0.21 | 41.71 | -21.54 | 63.25 | 31.44 | 0.11 | 0.29 | 9.87 | QP |
| 5 | 0.25 | 28.58 | -23.24 | 51.82 | 18.36 | 0.11 | 0.24 | 9.87 | Average |
| 6 | 0.25 | 37.19 | -24.63 | 61.82 | 26.97 | 0.11 | 0.24 | 9.87 | QP |
| 7 | 0.29 | 28.12 | -22.45 | 50.57 | 17.92 | 0.12 | 0.20 | 9.88 | Average |
| 8 | 0.29 | 36.32 | -24.25 | 60.57 | 26.12 | 0.12 | 0.20 | 9.88 | QP |
| 9 | 0.42 | 34.36 | -13.17 | 47.53 | 24.26 | 0.12 | 0.10 | 9.88 | Average |
| 10 | 0.42 | 42.54 | -14.99 | 57.53 | 32.44 | 0.12 | 0.10 | 9.88 | QP |
| 11 | 0.52 | 28.96 | -17.04 | 46.00 | 18.86 | 0.12 | 0.10 | 9.88 | Average |
| 12 | 0.52 | 35.70 | -20.30 | 56.00 | 25.60 | 0.12 | 0.10 | 9.88 | QP |

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)
 Note 3: When emissions are in operating band over limits, retest with a dummy load for final in-band results.

3.2 Transmitter Radiated Emissions

3.2.1 Transmitter Radiated Emissions Limit

| Transmitter Radiated Emissions Limit | | | |
|--------------------------------------|-----------------------|-------------------------|----------------------|
| Frequency Range (MHz) | Field Strength (uV/m) | Field Strength (dBuV/m) | Measure Distance (m) |
| 0.009~0.490 | 2400/F(kHz) | 48.5 - 13.8 | 300 |
| 0.490~1.705 | 24000/F(kHz) | 33.8 - 23 | 30 |
| 1.705~30.0 | 30 | 29 | 30 |
| 30~88 | 100 | 40 | 3 |
| 88~216 | 150 | 43.5 | 3 |
| 216~960 | 200 | 46 | 3 |
| Above 960 | 500 | 54 | 3 |

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: the frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 1GHz measurements employing a CISPR quasi-peak detector.

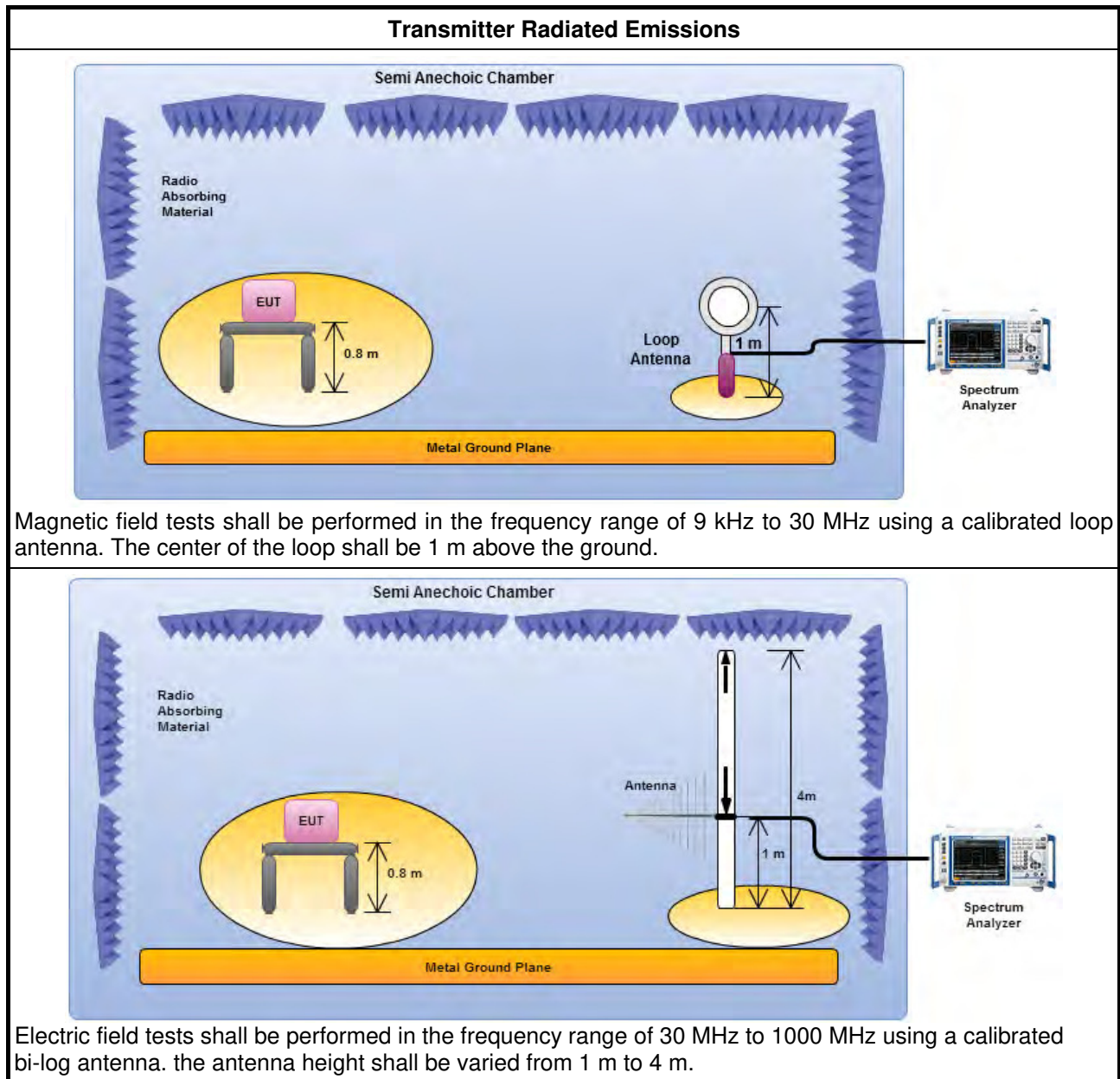
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

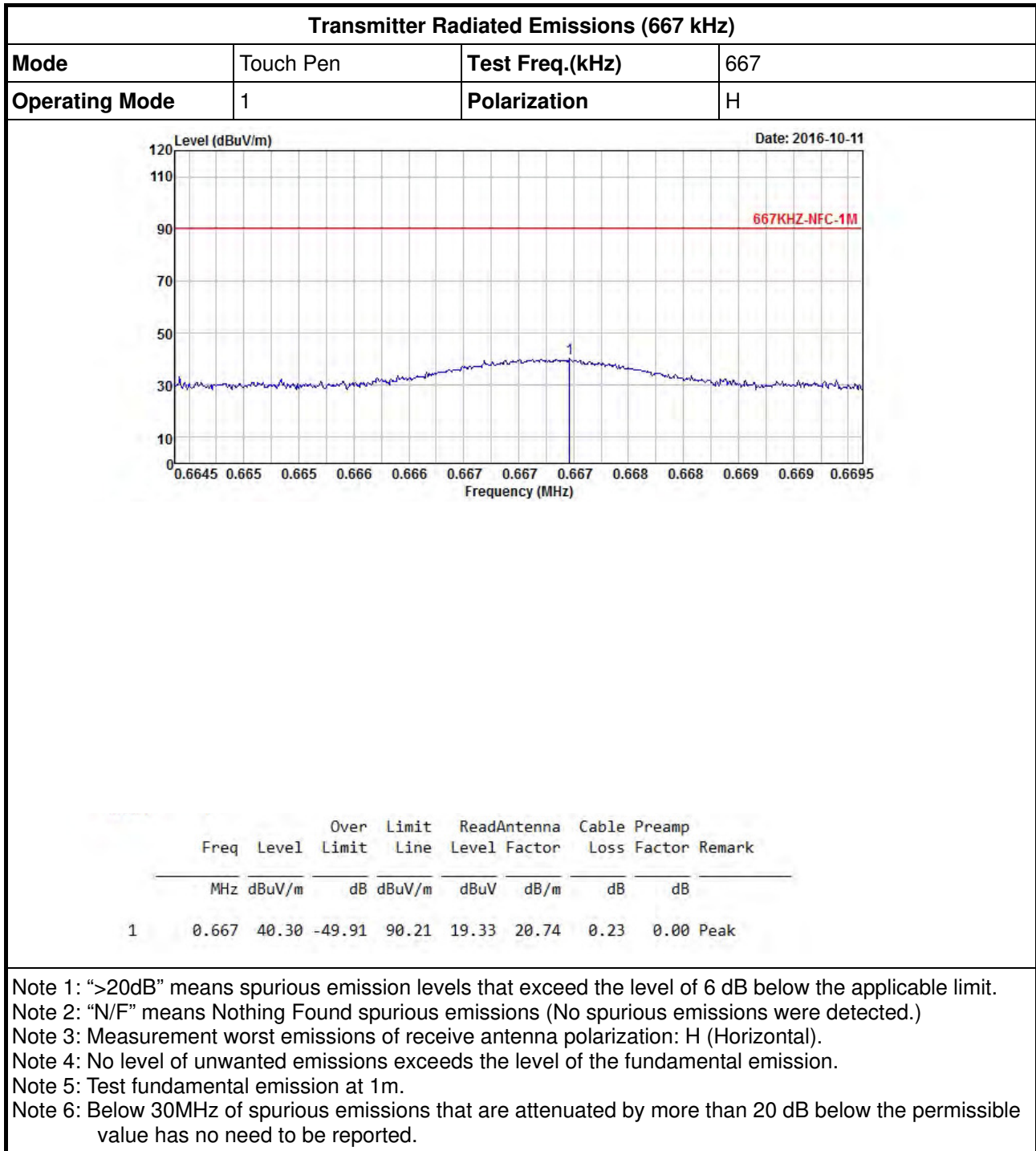
| Test Method | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m. |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz. The frequency bands 9-90 kHz, 110-490 kHz measurements employing an average detector and other below 30MHz measurements employing a CISPR quasi-peak detector. Test distance is 3m. |
| <input checked="" type="checkbox"/> | At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be following below methods. Note : if fundamental emission level is smaller than noise at 3m , we will change distance to 1m. |
| <input type="checkbox"/> | The results shall be extrapolated to the specified distance by making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor. |
| <input checked="" type="checkbox"/> | The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade). |
| <input checked="" type="checkbox"/> | For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level. |
| <input checked="" type="checkbox"/> | The any unwanted emissions level shall not exceed the fundamental emission level. |
| <input checked="" type="checkbox"/> | All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported. |

3.2.4 Test Setup





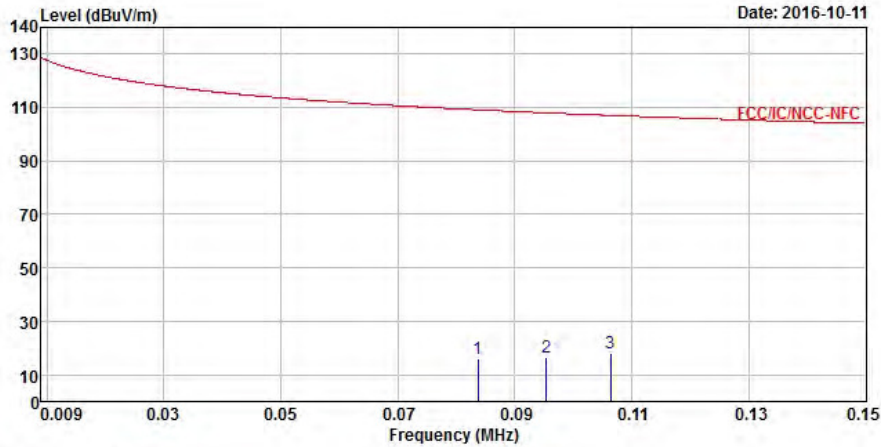
3.2.5 Transmitter Radiated Emissions (Below 30MHz)





Transmitter Radiated Emissions (9kHz~150kHz)

| | | | |
|----------------|-----------|-----------------|-----|
| Mode | Touch Pen | Test Freq.(kHz) | 667 |
| Operating Mode | 1 | Polarization | H |

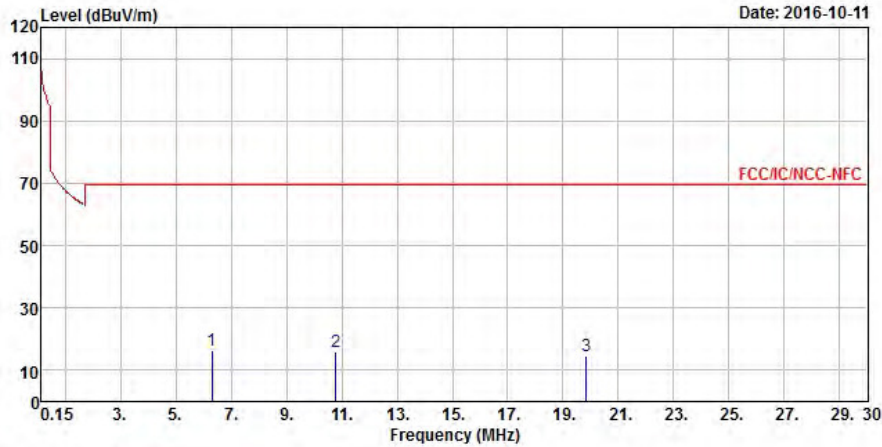


| | Freq | Level | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|-------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 0.084 | 16.06 | -93.09 | 109.15 | -5.09 | 21.00 | 0.15 | 0.00 | QP |
| 2 | 0.095 | 16.62 | -91.39 | 108.01 | -4.64 | 21.10 | 0.16 | 0.00 | QP |
| 3 | 0.106 | 18.20 | -88.87 | 107.07 | -3.06 | 21.10 | 0.16 | 0.00 | QP |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement worst emissions of receive antenna polarization: H (Horizontal).
- Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
- Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.
- Note 6: Below 30MHz of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.



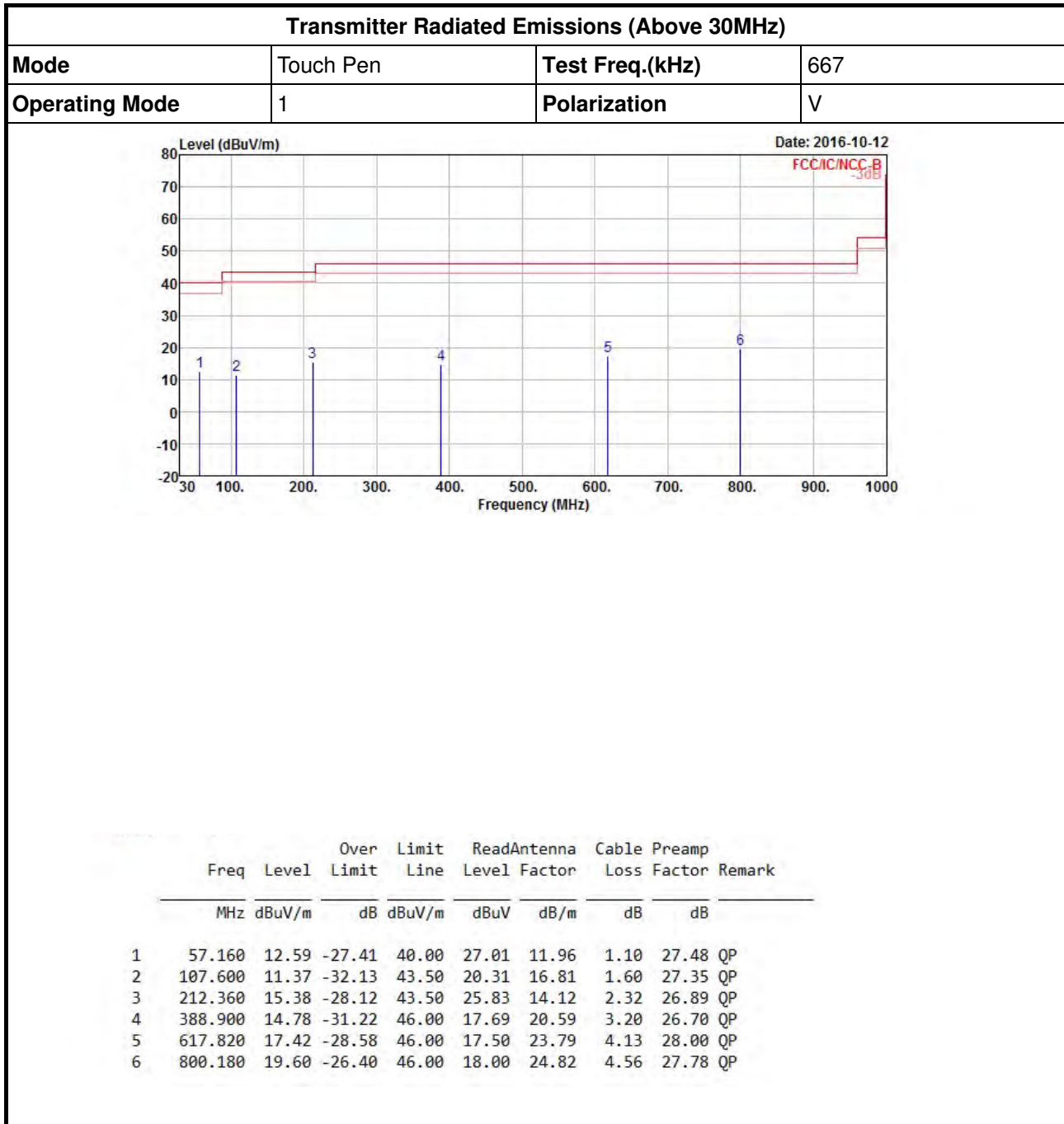
| Transmitter Radiated Emissions (150kHz~30MHz) | | | |
|---|-----------|-----------------|-----|
| Mode | Touch Pen | Test Freq.(kHz) | 667 |
| Operating Mode | 1 | Polarization | H |



| | Freq | Level | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark |
|---|--------|--------|------------|------------|-------------------|----------------|------------|---------------|--------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | |
| 1 | 6.299 | 16.43 | -53.11 | 69.54 | -4.97 | 21.01 | 0.39 | 0.00 | QP |
| 2 | 10.777 | 16.12 | -53.42 | 69.54 | -5.64 | 21.32 | 0.44 | 0.00 | QP |
| 3 | 19.851 | 14.77 | -54.77 | 69.54 | -7.39 | 21.50 | 0.66 | 0.00 | QP |

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement worst emissions of receive antenna polarization: H (Horizontal).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
 Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.
 Note 6: Below 30MHz of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

3.2.6 Transmitter Radiated Emissions (Above 30MHz)

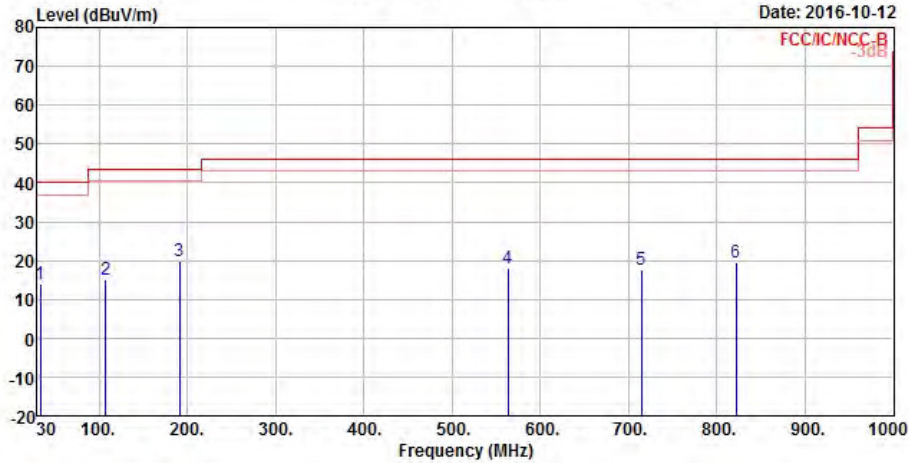


Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
 Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.



Transmitter Radiated Emissions (Above 30MHz)

| | | | |
|----------------|-----------|-----------------|-----|
| Mode | Touch Pen | Test Freq.(kHz) | 667 |
| Operating Mode | 1 | Polarization | H |



| | Freq | Level | Over Limit | Limit Line | ReadAntenna Level | Cable Factor | Preamp Loss | Remark |
|---|---------|--------|------------|------------|-------------------|--------------|-------------|----------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB |
| 1 | 33.880 | 14.13 | -25.87 | 40.00 | 20.48 | 20.36 | 0.83 | 27.54 QP |
| 2 | 107.600 | 14.89 | -28.61 | 43.50 | 23.83 | 16.81 | 1.60 | 27.35 QP |
| 3 | 191.020 | 19.91 | -23.59 | 43.50 | 30.52 | 14.14 | 2.21 | 26.96 QP |
| 4 | 563.500 | 17.98 | -28.02 | 46.00 | 18.38 | 23.78 | 3.76 | 27.94 QP |
| 5 | 714.820 | 17.66 | -28.34 | 46.00 | 16.95 | 24.18 | 4.44 | 27.91 QP |
| 6 | 821.520 | 19.33 | -26.67 | 46.00 | 17.42 | 25.01 | 4.62 | 27.72 QP |

Note 1: ">20dB" means spurious emission levels that exceed the level of 6 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical).
 Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.
 Note 5: Except fundamental emission, other emissions from digital circuitry used to control additional panel functions or display capabilities other than the touch panel radio transmission. While disable touch panel radio transmission, other emissions have the same levels. Therefore other emissions level could be exceed the fundamental emission level.

3.3 Emission Bandwidth

3.3.1 Emission Bandwidth Limit

| Emission Bandwidth Limit |
|--------------------------|
| N/A |

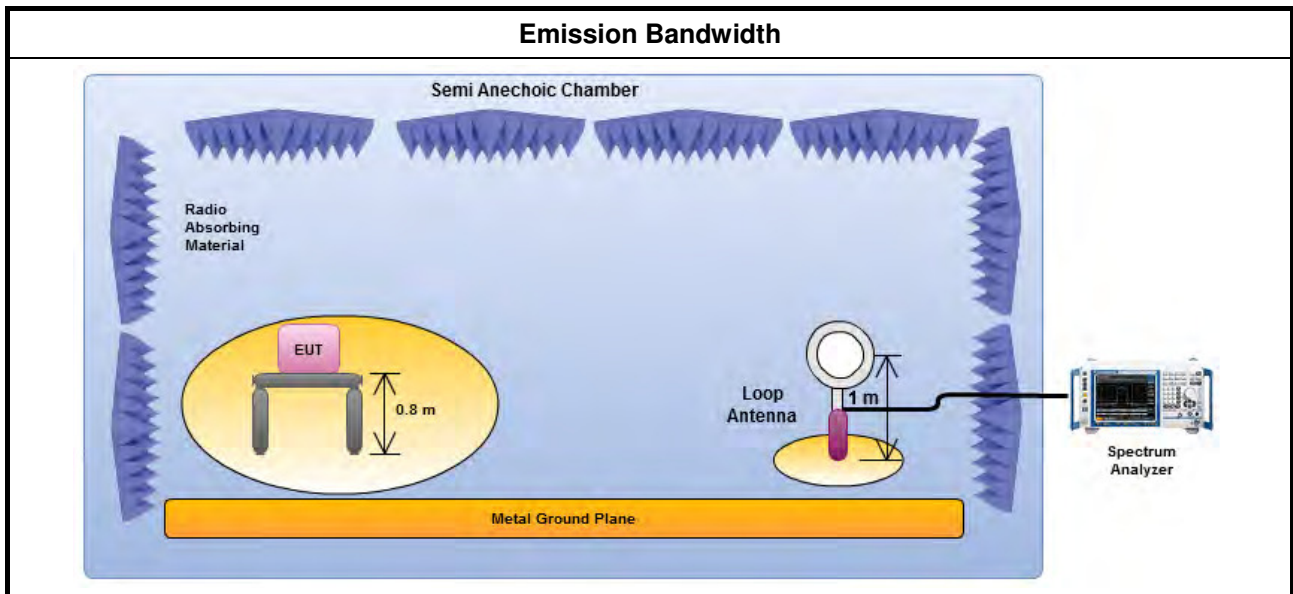
3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

| Test Method |
|---|
| <input checked="" type="checkbox"/> For the emission bandwidth refer ANSI C63.10, clause 6.9.3 for occupied bandwidth testing. |
| <input checked="" type="checkbox"/> For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level. |

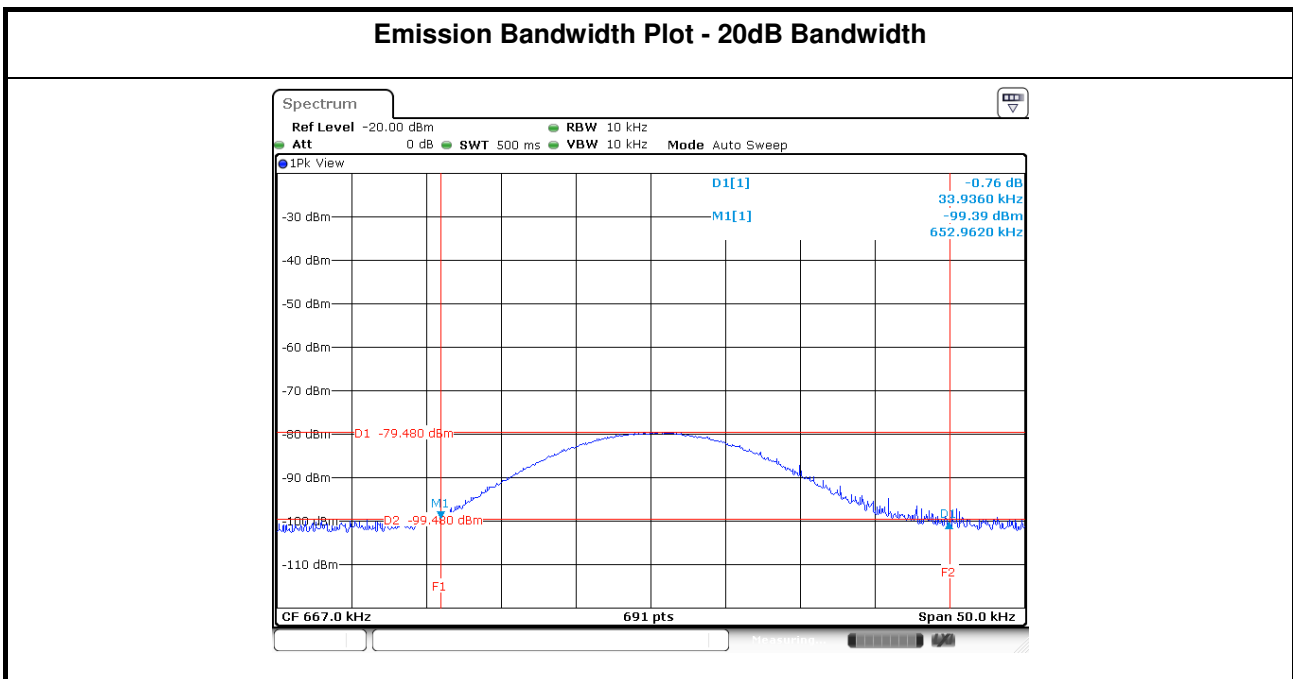
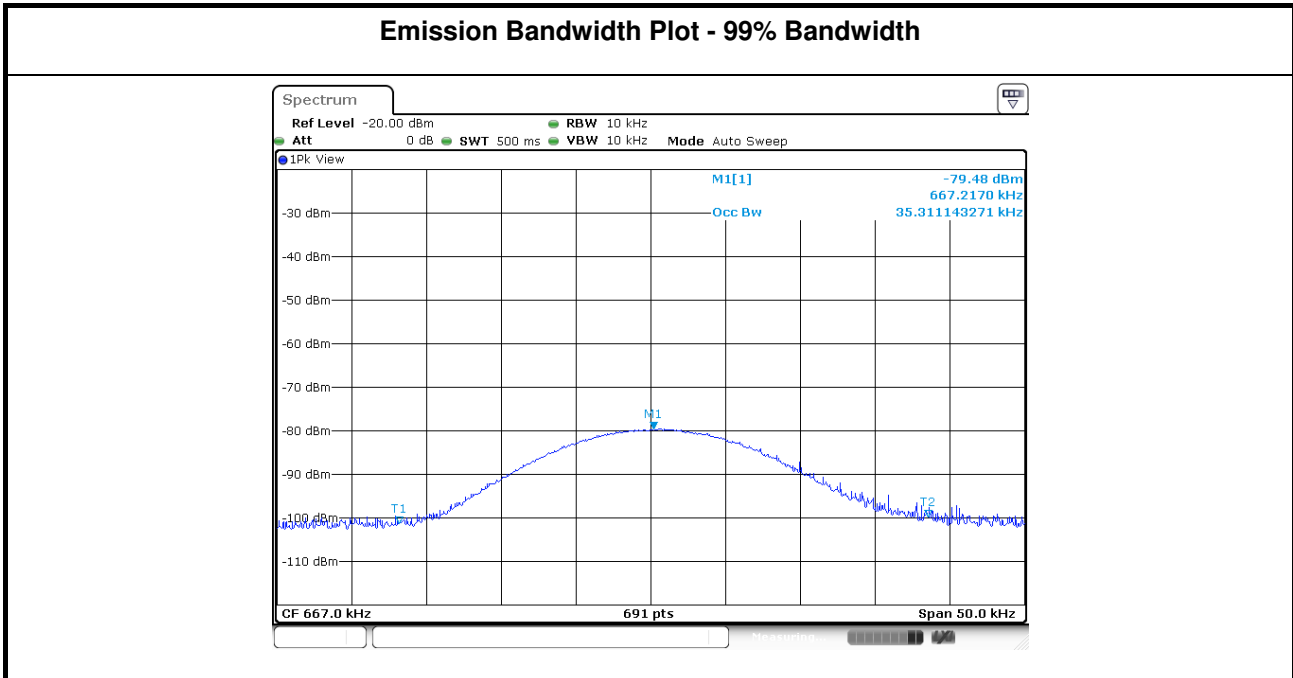
3.3.4 Test Setup





3.3.5 Test Result of Emission Bandwidth

| Occupied Channel Bandwidth Result | | | |
|-----------------------------------|-----------------|---------------------|----------------------|
| Transmitter Mode | Frequency (kHz) | 99% Bandwidth (kHz) | 20dB Bandwidth (kHz) |
| Touch Pen | 667 | 35.310 | 33.930 |
| Limit | | N/A | |
| Result | | Complied | |





4 Test Equipment and Calibration Data

<AC Power-line Conducted Emissions>

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date |
|------------------------|--------------------------------|-----------|----------------|-----------------|------------------|----------------------|
| EMC Receiver | R&S | ESR-3 | 102051 | 9 kHz ~ 3.6 GHz | 19/04/2016 | 18/04/2017 |
| LISN | SCHWARZBECK MESS-ELEKTRONIK | NSLK 8127 | 8127-477 | 9 kHz ~ 30 MHz | 26/01/2016 | 25/01/2017 |
| LISN (Support Unit) | R&S | ENV216 | 101295 | 9 kHz ~ 30 MHz | 04/11/2015 | 03/11/2016 |
| RF Cable-CON | HUBER+SUHNER | RG213/U | 07611832020001 | 9 kHz ~ 30 MHz | 30/10/2015 | 29/10/2016 |
| EMI Filter | LINDGREN | LRE-2030 | 2651 | < 450 Hz | NCR | NCR |

NCR : Non-Calibration Require.

<RF Conducted>

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date |
|-------------------|--------------|-----------|------------|-----------------|------------------|----------------------|
| Spectrum Analyzer | R&S | FSV 40 | 101013 | 9 kHz ~ 40 GHz | 16/02/2016 | 15/02/2017 |

<Radiated Emission>

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date |
|--------------------------|----------------|-----------|------------|----------------------|------------------|----------------------|
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 30 MHz ~ 1 GHz 3m | 28/11/2015 | 27/11/2016 |
| 3m Semi Anechoic Chamber | SIDT FRANKONIA | SAC-3M | 03CH03-HY | 1 GHz ~ 18 GHz 3m | 16/12/2015 | 15/12/2016 |
| Amplifier | HP | 8447D | 2944A08033 | 10 kHz ~ 1.3 GHz | 10/05/2016 | 09/05/2017 |
| Spectrum | R&S | FSP 40 | 100305 | 9 kHz ~ 40 GHz | 16/02/2016 | 15/02/2017 |
| Bilog Antenna | SCHAFFNER | CBL 6112B | 2723 | 30 MHz ~ 1 GHz | 01/10/2016 | 30/09/2017 |
| Loop Antenna | TESEQ | HLA 6120 | 31244 | 9 kHz~30 MHz | 02/02/2015 | 01/02/2017 |