

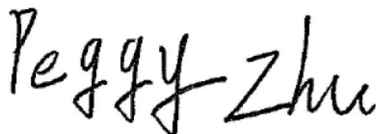
FCC Radio Test Report

FCC ID: 2AYOTTPA-M001P

This report concerns: Original Grant

Project No. : 2012C109
Equipment : HP USI Garaged Pen
Brand Name : HP
Test Model : TPA-M001P
Series Model : N/A
Applicant : Shenzhen qianfenyi intelligent technology co., LTD
Address : 302, Floor 3 Chuangxingda Commercial Center Building, Bao'an District, Shenzhen, PRC
Manufacturer : Shenzhen qianfenyi intelligent technology co., LTD
Address : 302, Floor 3 Chuangxingda Commercial Center Building, Bao'an District, Shenzhen, PRC
Date of Receipt : Dec. 18, 2020
Date of Test : Jan. 04, 2021 ~ Jan. 15, 2021
Issued Date : Jan. 28, 2021
Report Version : R00
Test Sample : Sample No.: DG2020121878
Standard(s) : FCC Part15, Subpart C (15.209)
ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.



Prepared by : Peggy Zhu



Approved by : Ethan Ma



Certificate #5123.02

Add: No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

Tel: +86-769-8318-3000

Web: www.newbtl.com

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, A2LA, or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

| Table of Contents | Page |
|--|-------------|
| REPORT ISSUED HISTORY | 4 |
| 1 . SUMMARY OF TEST RESULTS | 5 |
| 1.1 TEST FACILITY | 6 |
| 1.2 MEASUREMENT UNCERTAINTY | 6 |
| 1.3 TEST ENVIRONMENT CONDITIONS | 6 |
| 2 . GENERAL INFORMATION | 7 |
| 2.1 GENERAL DESCRIPTION OF EUT | 7 |
| 2.2 DESCRIPTION OF TEST MODES | 7 |
| 2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED | 8 |
| 2.4 DESCRIPTION OF SUPPORT UNITS | 8 |
| 3 . RADIATED EMISSION TEST | 9 |
| 3.1 LIMIT | 9 |
| 3.2 TEST PROCEDURE | 9 |
| 3.3 DEVIATION FROM TEST STANDARD | 9 |
| 3.4 TEST SETUP | 10 |
| 3.5 EUT OPERATING CONDITIONS | 11 |
| 3.6 TEST RESULT - 9 KHZ TO 30 MHZ | 11 |
| 3.7 TEST RESULTS - 30 MHZ TO 1000 MHZ | 11 |
| 4 . MEASUREMENT INSTRUMENTS LIST | 12 |
| 5 . EUT TEST PHOTO | 13 |
| APPENDIX A - RADIATED EMISSION - 9 KHZ TO 30 MHZ | 16 |
| APPENDIX B - RADIATED EMISSION - 30 MHZ TO 1000 MHZ | 23 |

REPORT ISSUED HISTORY

| Report Version | Description | Issued Date |
|----------------|-----------------|---------------|
| R00 | Original Issue. | Jan. 28, 2021 |

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

| FCC Part15, Subpart C (15.209) | | | | |
|--------------------------------|-----------------------------------|--------------------------|----------|--------|
| Standard(s) Section | Test Item | Test Result | Judgment | Remark |
| 15.207 | AC Power Line Conducted Emissions | N/A | N/A | ----- |
| 15.209(a) | Radiated Emissions | APPENDIX A APPENDIX B | PASS | ----- |
| ----- | Bandwidth | N/A | N/A | ----- |

NOTE:

(1) "N/A" denotes test is not applicable to this device.

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's Test Firm Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

1.2 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))

The BTL measurement uncertainty as below table:

A. Radiated emissions Measurement:

| Test Site | Method | Measurement Frequency Range | Ant. H / V | U, (dB) |
|-----------|--------|-----------------------------|------------|---------|
| DG-CB03 | CISPR | 9kHz ~ 30MHz | - | 3.02 |
| | | 30MHz ~ 200MHz | V | 4.26 |
| | | 30MHz ~ 200MHz | H | 3.38 |
| | | 200MHz ~ 1,000MHz | V | 3.98 |
| | | 200MHz ~ 1,000MHz | H | 3.94 |

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

| Test Item | Temperature | Humidity | Test Voltage | Tested By |
|--------------------------------------|-------------|----------|--------------|-----------|
| Radiated Emissions-9K-30MHz | 25°C | 60% | DC 5V | Kwok Guo |
| Radiated Emissions-30 MHz to 1000MHz | 26°C | 52% | DC 5V | Kwok Guo |

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

| | |
|---------------------|--|
| Equipment | HP USI Garaged Pen |
| Brand Name | HP |
| Test Model | TPA-M001P |
| Series Model | N/A |
| Model Difference(s) | N/A |
| Power Rating | DC 1.0-2.7V via built-in supercap or DC 5V, 500mA via DC source. |
| Operation Frequency | 120-480kHz (declared by manufacturer) |

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

The radiated power for this device is too to be observed in normal radiated emission testing.

2.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

| Pretest Mode | Description |
|--------------|-------------|
| Mode 1 | TX Mode |

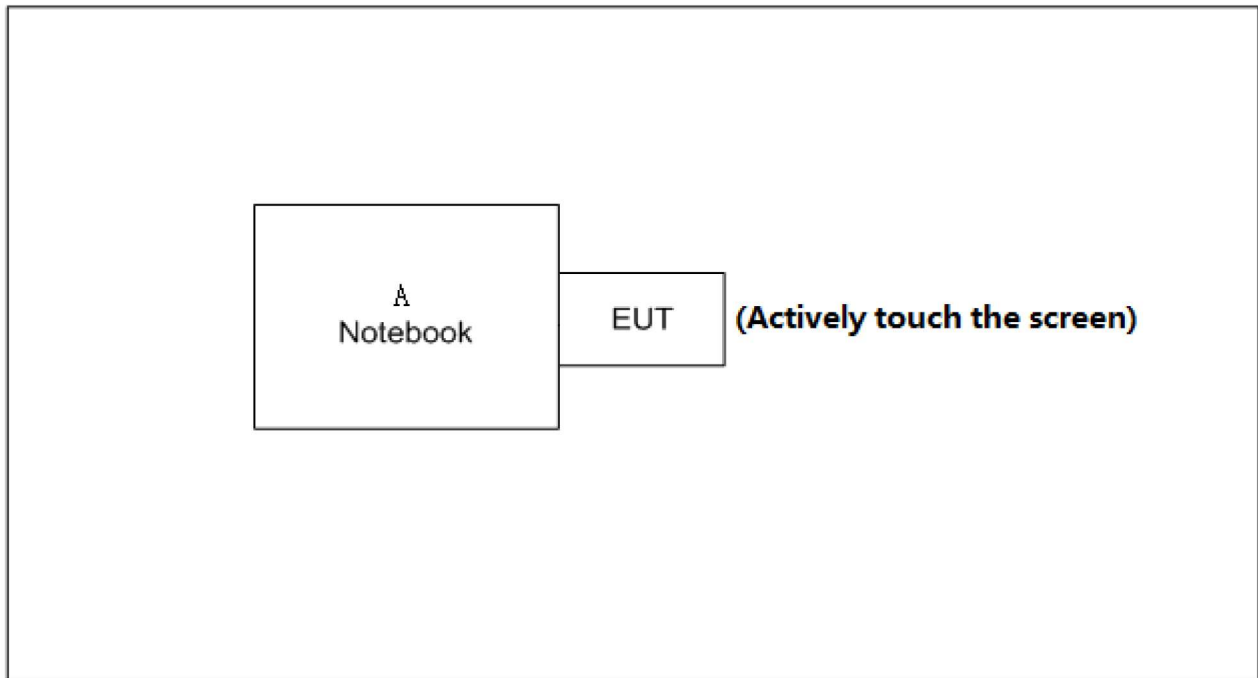
Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

| Radiated emissions test | |
|-------------------------|-------------|
| Final Test Mode | Description |
| Mode 1 | TX Mode |

Note:

- The EUT has the maximum average output power when the support unit is in low power and being charged by EUT.

2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.4 DESCRIPTION OF SUPPORT UNITS

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.

| Item | Equipment | Brand | Model No. | Series No. |
|------|-----------|-------|-----------|----------------|
| A | Notebook | ASUS | C436F | KBNTCVN0001449 |

| Item | Cable Type | Shielded Type | Ferrite Core | Length |
|------|------------|---------------|--------------|--------|
| - | - | - | - | - |

3. RADIATED EMISSION TEST

3.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT(9 kHz-1000 MHz)

| Frequency (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|--------------------|--------------------------------------|----------------------------------|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

Note:

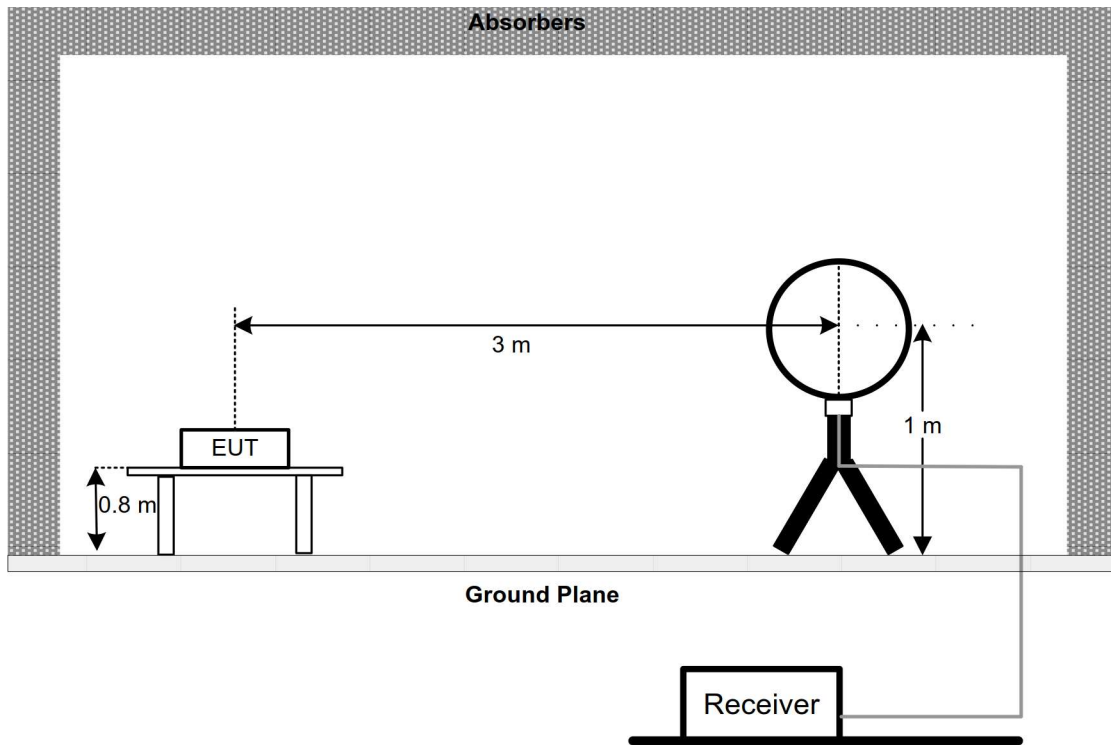
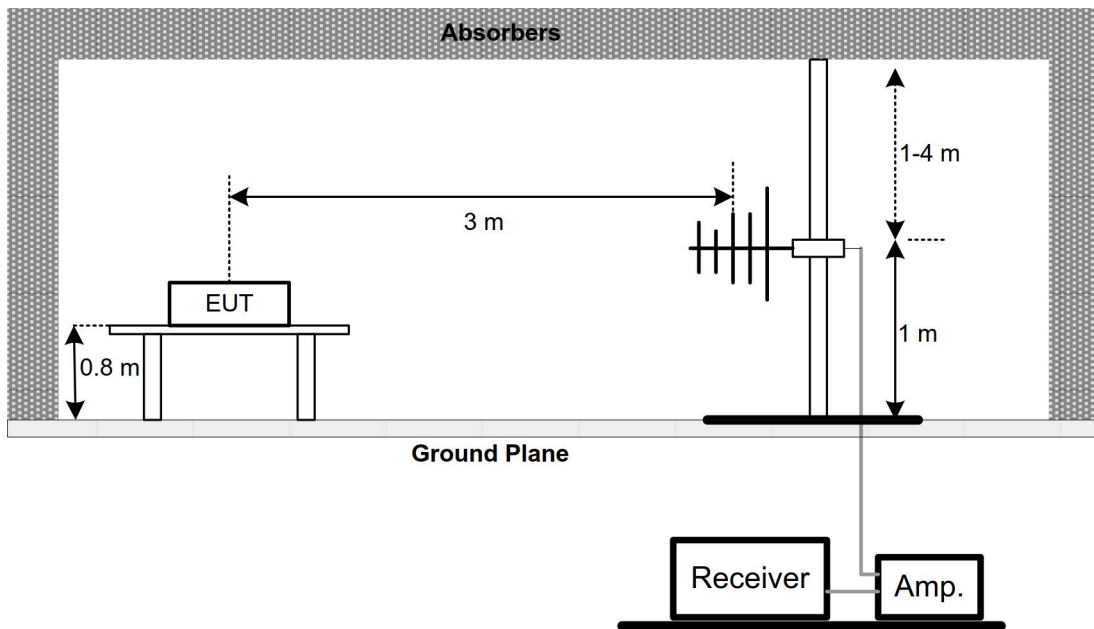
- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

3.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- d. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
(below 1 GHz)
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP**9 kHz-30 MHz****30 MHz to 1 GHz**

3.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULT - 9 kHz TO 30 MHz

Please refer to the APPENDIX A.

Remark:

- (1) Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

3.7 TEST RESULTS - 30 MHz TO 1000 MHz

Please refer to the APPENDIX B.

4. MEASUREMENT INSTRUMENTS LIST

| Radiated Emissions - 9 kHz to 30 MHz | | | | | |
|--------------------------------------|----------------------|--------------|--------------------------|------------|------------------|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Antenna | EM | EM-6876-1 | 230 | Apr. 16, 2021 |
| 2 | Cable | N/A | RG 213/U | N/A | May 29, 2021 |
| 3 | EMI Test Receiver | R&S | ESCI | 100895 | Feb. 28, 2021 |
| 4 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |
| 5 | 966 Chambe Room | RM | 9*6*6m | N/A | Jul. 25, 2021 |

| Radiated Emissions - 30 MHz to 1 GHz | | | | | |
|--------------------------------------|----------------------|--------------|--------------------------------|-------------|------------------|
| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
| 1 | Antenna | Schwarzbeck | VULB9160 | 9160-3232 | Mar. 09, 2021 |
| 2* | Amplifier | HP | 8447D | 2944A09673 | Aug. 11, 2021 |
| 3 | Receiver | Agilent | N9038A | MY52130039 | Jul. 25, 2021 |
| 4 | Cable | emci | LMR-400(30MHz-1 GHz)(8m+5m) | N/A | May 22, 2021 |
| 5 | Controller | CT | SC100 | N/A | N/A |
| 6 | Controller | MF | MF-7802 | MF780208416 | N/A |
| 7 | Measurement Software | Farad | EZ-EMC Ver.NB-03A1-01 | N/A | N/A |
| 8 | 966 Chambe Room | RM | 9*6*6m | N/A | Jul. 25, 2021 |

Remark: "N/A" denotes no model name, serial no. or calibration specified.

"**" calibration period of equipment list is three year.

Except * item, all calibration period of equipment list is one year.

5. EUT TEST PHOTO

Radiated Emissions Test Photos

9 kHz to 30 MHz (Polarization:X)

Refer to set up photos

9 kHz to 30 MHz (Polarization:Y)

Refer to set up photos

9 kHz to 30 MHz (Polarization:Z)

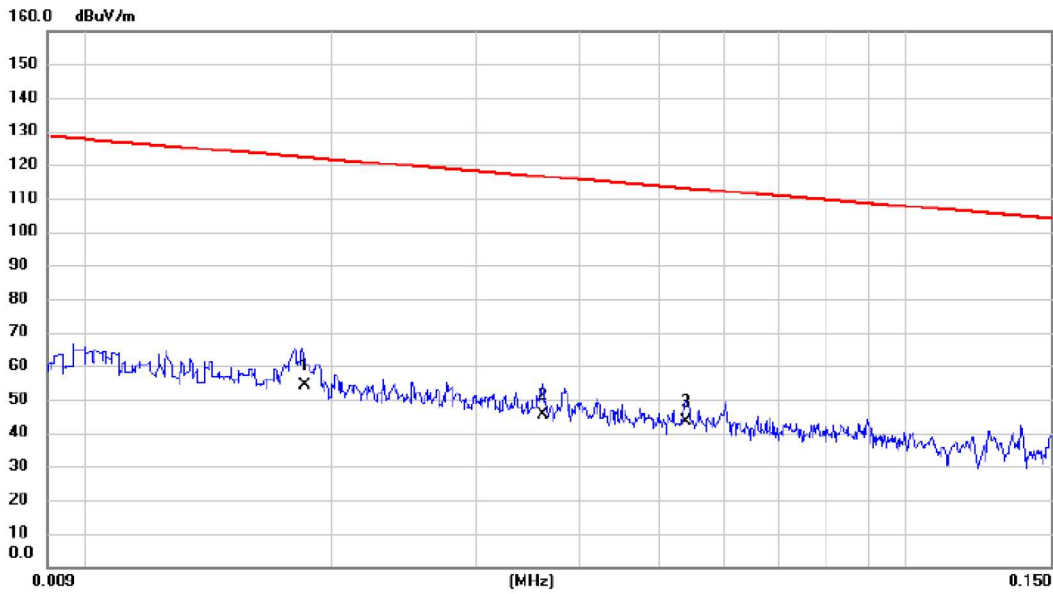
Refer to set up photos

Radiated Emissions Test Photos**30 MHz to 1000 MHz****Refer to set up photos**

APPENDIX A - RADIATED EMISSION - 9 KHZ TO 30 MHZ

| | |
|-----------|---------|
| Test Mode | TX Mode |
|-----------|---------|

Polarization:X



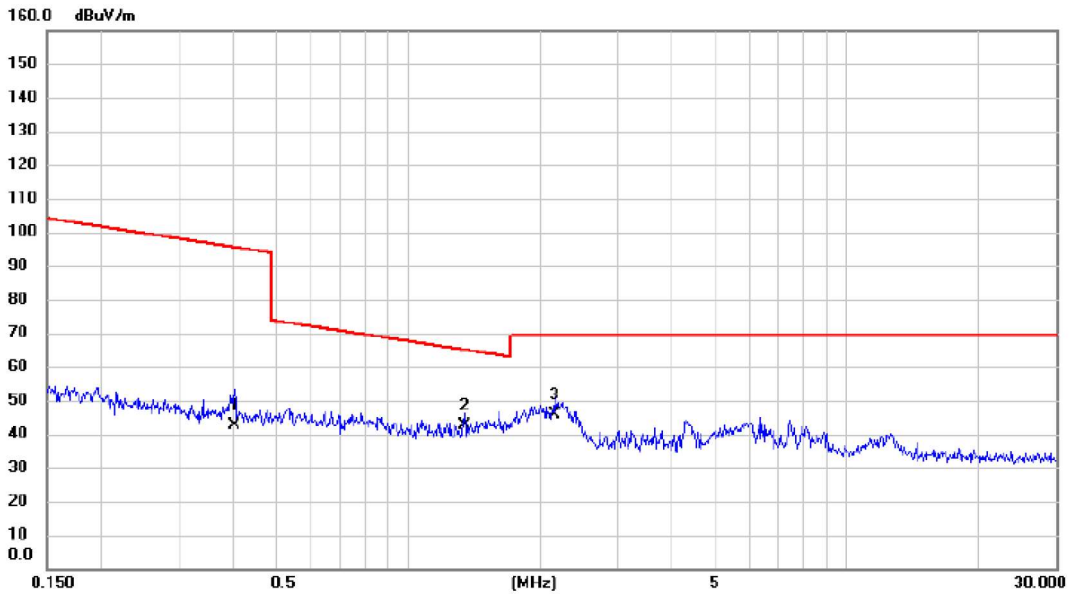
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Antenna Height | Table Degree | |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | degree | Comment |
| 1 | * | 0.0185 | 40.58 | 13.68 | 54.26 | 122.26 | -68.00 | | | AVG |
| 2 | | 0.0361 | 32.67 | 12.79 | 45.46 | 116.45 | -70.99 | | | AVG |
| 3 | | 0.0540 | 30.82 | 12.44 | 43.26 | 112.96 | -69.70 | | | AVG |

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

| | |
|-----------|---------|
| Test Mode | TX Mode |
|-----------|---------|

Polarization: X



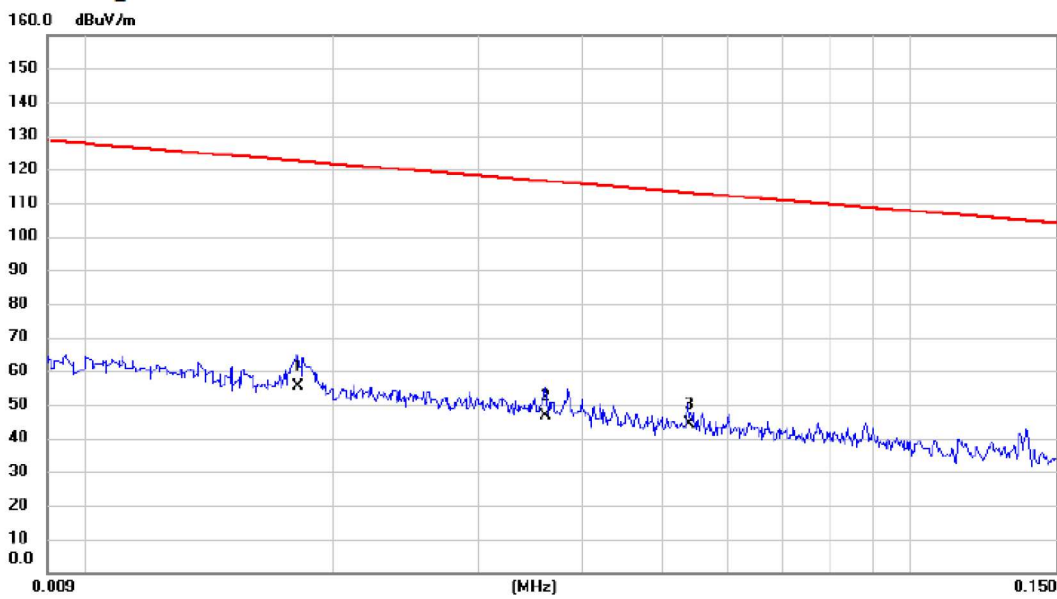
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Antenna Height | Table Degree | |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | degree | Comment |
| 1 | | 0.4020 | 30.25 | 12.25 | 42.50 | 95.52 | -53.02 | AVG | | |
| 2 | * | 1.3450 | 30.93 | 11.63 | 42.56 | 65.03 | -22.47 | QP | | |
| 3 | | 2.1552 | 34.75 | 11.23 | 45.98 | 69.54 | -23.56 | QP | | |

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

| | |
|-----------|---------|
| Test Mode | TX Mode |
|-----------|---------|

Polarization:Y



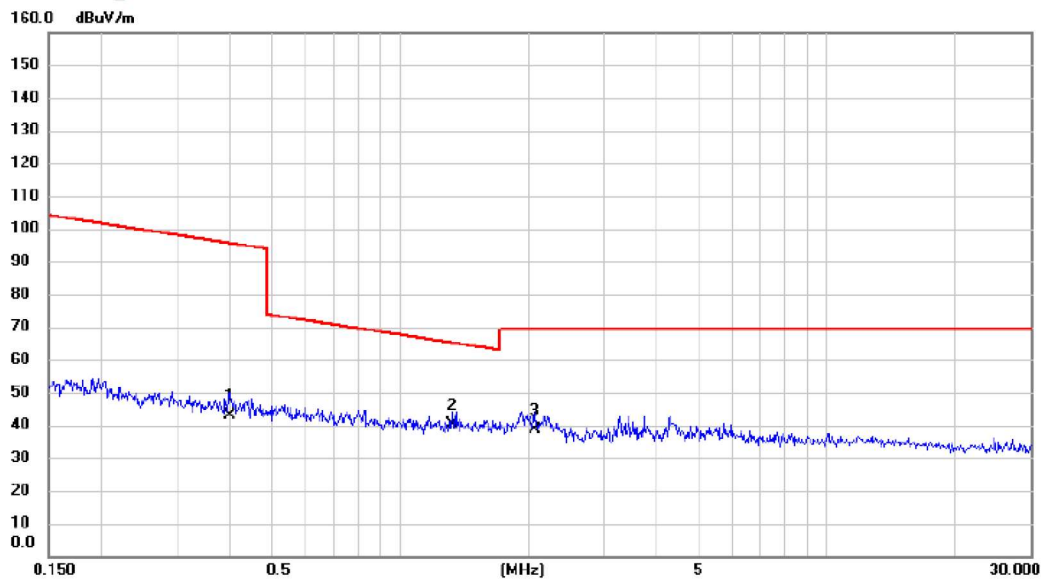
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Antenna Height | Table Degree | |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | degree | Comment |
| 1 | * | 0.0181 | 41.55 | 13.81 | 55.36 | 122.45 | -67.09 | AVG | | |
| 2 | | 0.0361 | 33.93 | 12.79 | 46.72 | 116.45 | -69.73 | AVG | | |
| 3 | | 0.0540 | 31.57 | 12.44 | 44.01 | 112.96 | -68.95 | AVG | | |

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

| | |
|-----------|---------|
| Test Mode | TX Mode |
|-----------|---------|

Polarization:Y



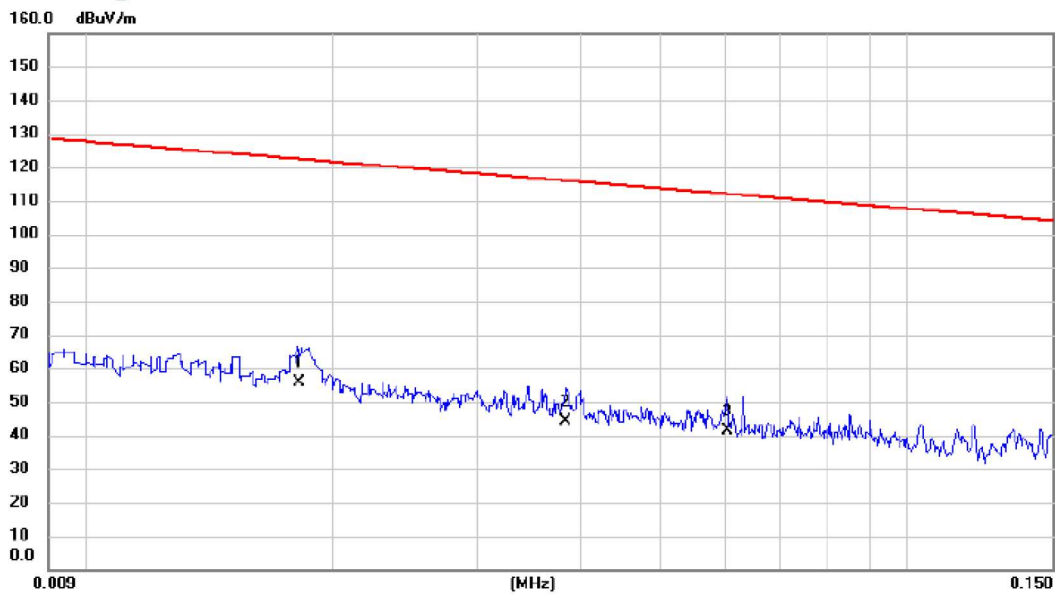
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Antenna Height | Table Degree | |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | degree | Comment |
| 1 | | 0.3997 | 30.75 | 12.26 | 43.01 | 95.57 | -52.56 | AVG | | |
| 2 | * | 1.3238 | 28.49 | 11.64 | 40.13 | 65.17 | -25.04 | QP | | |
| 3 | | 2.0660 | 27.37 | 11.27 | 38.64 | 69.54 | -30.90 | QP | | |

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

| | |
|-----------|---------|
| Test Mode | TX Mode |
|-----------|---------|

Polarization:Z



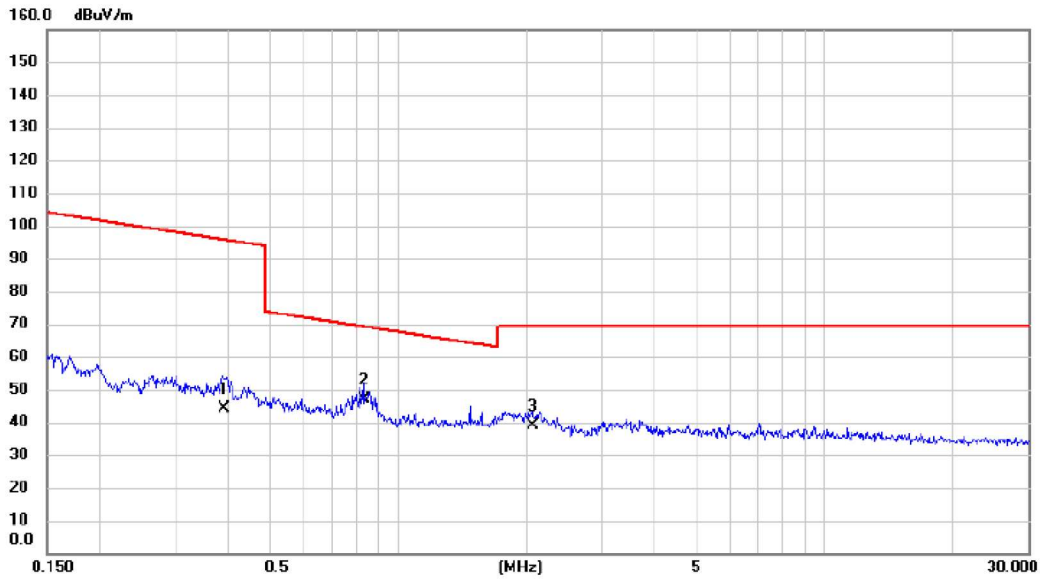
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Antenna Height | Table Degree | |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | degree | Comment |
| 1 | * | 0.0182 | 42.16 | 13.78 | 55.94 | 122.40 | -66.46 | AVG | | |
| 2 | | 0.0384 | 31.62 | 12.73 | 44.35 | 115.92 | -71.57 | AVG | | |
| 3 | | 0.0603 | 28.76 | 12.48 | 41.24 | 112.00 | -70.76 | AVG | | |

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

| | |
|-----------|---------|
| Test Mode | TX Mode |
|-----------|---------|

Polarization:Z



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Antenna Height | Table Degree | |
|-----|-----|--------|---------------|----------------|-------------|--------|--------|----------------|--------------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | cm | degree | Comment |
| 1 | | 0.3893 | 31.92 | 12.29 | 44.21 | 95.80 | -51.59 | AVG | | |
| 2 | * | 0.8305 | 35.26 | 11.87 | 47.13 | 69.22 | -22.09 | QP | | |
| 3 | | 2.0660 | 27.84 | 11.27 | 39.11 | 69.54 | -30.43 | QP | | |

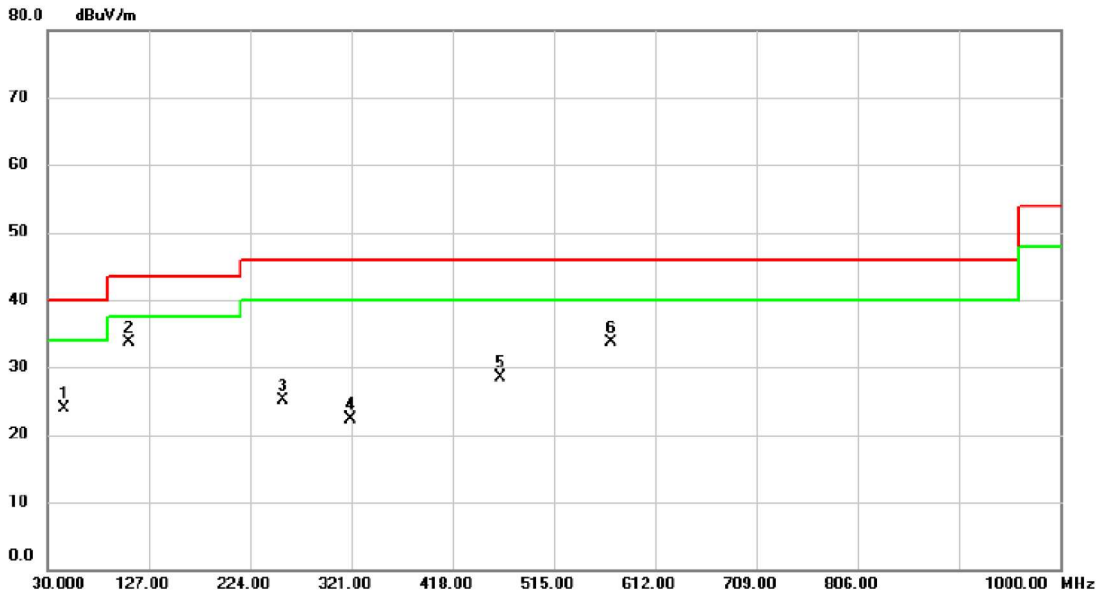
REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX B - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

| | |
|-----------|---------|
| Test Mode | TX Mode |
|-----------|---------|

Vertical



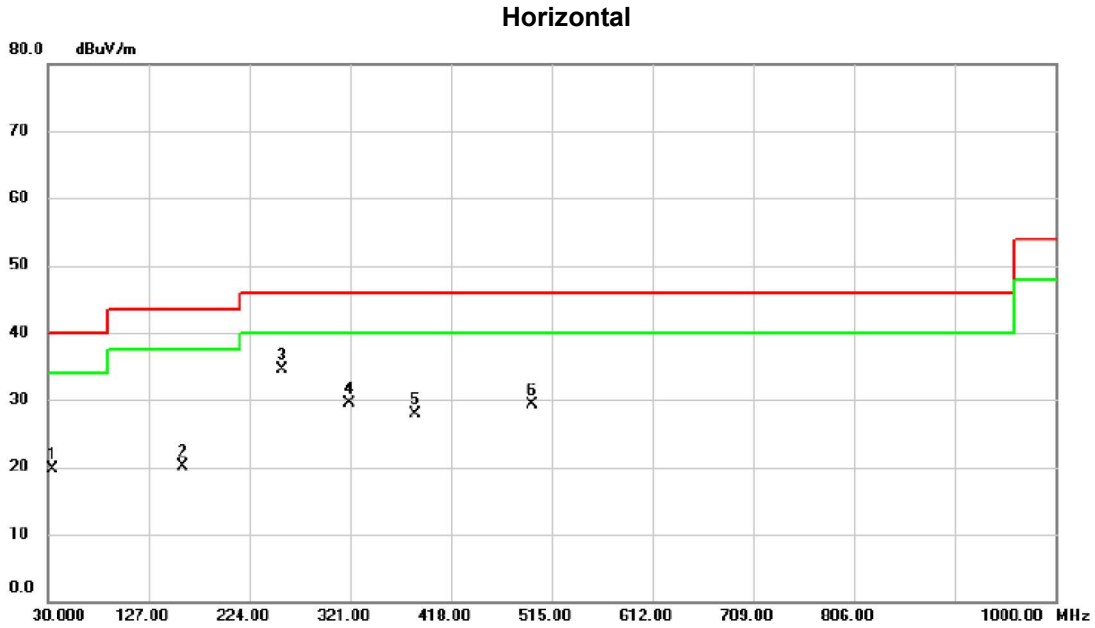
| No. | Mk. | Freq. MHz | Reading Level dBuV | Correct Factor dB | Measure- ment dBuV/m | Limit dBuV/m | Margin dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|--------------|----------|---------|
| 1 | | 46.490 | 37.94 | -13.97 | 23.97 | 40.00 | -16.03 | peak | |
| 2 | * | 108.570 | 48.13 | -14.33 | 33.80 | 43.50 | -9.70 | peak | |
| 3 | | 256.010 | 37.74 | -12.65 | 25.09 | 46.00 | -20.91 | peak | |
| 4 | | 320.030 | 33.06 | -10.68 | 22.38 | 46.00 | -23.62 | peak | |
| 5 | | 463.590 | 36.02 | -7.54 | 28.48 | 46.00 | -17.52 | peak | |
| 6 | | 569.320 | 39.88 | -6.24 | 33.64 | 46.00 | -12.36 | peak | |

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

| | |
|-----------|---------|
| Test Mode | TX Mode |
|-----------|---------|



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measurement | Limit | Margin | Detector | Comment |
|-----|-----|---------|---------------|----------------|-------------|--------|--------|----------|---------|
| | | MHz | dBuV | dB | dBuV/m | dBuV/m | dB | | |
| 1 | | 33.880 | 34.55 | -14.80 | 19.75 | 40.00 | -20.25 | peak | |
| 2 | | 159.980 | 30.83 | -10.67 | 20.16 | 43.50 | -23.34 | peak | |
| 3 | * | 256.010 | 47.14 | -12.65 | 34.49 | 46.00 | -11.51 | peak | |
| 4 | | 320.030 | 40.23 | -10.68 | 29.55 | 46.00 | -16.45 | peak | |
| 5 | | 384.050 | 37.35 | -9.38 | 27.97 | 46.00 | -18.03 | peak | |
| 6 | | 495.600 | 36.70 | -7.30 | 29.40 | 46.00 | -16.60 | peak | |

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

End of Test Report