EXHIBIT B

FCC/MELLON OCT 16 1998

# FCC TEST REPORT

for

## PART 15, SUBPART B CLASS B

EQUIPMENT : FAX MODEM CARD

MODEL NO. : PT-3027

**F C C I D** : H52PT-3027

**FILING TYPE** : ORIGINAL CERTIFICATION

APPLICANT : **PURETEK INDUSTRIAL CO., LTD.**
4F, No. 12, LANE 235, PAO-CHIAO RD., HSIN TIEN CITY,
TAIPEI, TAIWAN, R.O.C.

- The test result refers exclusively to the test presented test model / sample.
- Without the written authorization of the test lab., the Test Report may not be copied.

***SPORTON INTERNATIONAL INC.***

*6F, No. 106, Hsin Tai Wu Rd., Sec. 1, Hsi Chih, Taipei Hsien, Taiwan, R.O.C.*

# TABLE OF CONTENT

# CERTIFICATE OF COMPLIANCE

for

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I **HEREBY** CERTIFY THAT :

The measurement shown in this report were made in accordance with the procedures given in **ANSI C63.4 -1992** and the energy emitted by this equipment was ***passed*** both radiated and conducted emissions **Class B** limits. Testing was carried out on **Sep. 14, 1998** at **SPORTON International Inc.** LAB.

OCT 13, 98

W. L. Huang
General Manager

***SPORTON INTERNATIONAL INC.***

*6F, No. 106, Hsin Tai Wu Rd., Sec. 1, Hsi Chih, Taipei Hsien, Taiwan, R.O.C.*

# 1. GENERAL DESCRIPTION OF EQUIPMENT UNDER TEST

## 1.1. APPLICANT

**Puretek Industrial Co., LTD.**

4F, No. 12, LANE 235, PAO-CHIAO RD.,

HSIN TIEN CITY, TAIPEI, TAIWAN, R.O.C.

## 1.2. MANUFACTURER

Same as 1.1.

## 1.3. BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

EQUIPMENT : FAX MODEM CARD

MODEL NO. : PT-3027

FCC ID : H52PT-3027

TRADE NAME : PURETEK

Microphone, Speaker, Telephone CABLE : Non-shielded

POWER SUPPLY TYPE : N/A

POWER CORD : N/A

## 1.4. FEATURE OF EQUIPMENT UNDER TEST

- 32bit PCI Local Bus Interface ( Plug and Play )
- Supporting V.90 and K56flex technology
- Auto-detecting V.90 and K56flex
- Data receiving rate up to 56Kbps from V.90 and K56flex-compatible ISP supplier
- Error correction ( V.42 / MNP2-4 ) and Data compression ( V.42bis / MNP 5 ) maximize data transfer integrity and boost average data throughput.
- Full-Duplex speakerphone function.
- Supports fax Group 3 send and receive rates up to 14,400bps and T.30 protocol.
- V.80 and H.324 video conferencing.
- Supports telephone answering machine, voice annotation and audio record / playback applications.

# 2. TEST CONFIGURATION OF EQUIPMENT UNDER TEST

## 2.1. TEST MANNER

a. The EUT has been associated with personal computer and peripherals pursuant to ANSI C63.4-1992 and configuration operated in a manner, which tended to maximize its emission characteristics in a typical application.

b. The SONY monitor, DELL keyboard, PRIMAX PS2 mouse, HP printer, ACEEX modem, KOKA microphone, two TRANBON telephones, JUSTER speaker and EUT were connected to the F.I.C. P.C. for EMI test.

c. The phone jack and line jack was both connected to the TRANBON telephone by telephone line.

d. Frequency range investigated : Conduction 450 KHz to 30 MHz, Radiation 30 MHz to 1000 MHz.

## 2.2. DESCRIPTION OF TEST SYSTEM

Support Device 1. --- P.C. (FIC)

| | |
|---|---|
| FCC ID | : N/A |
| Model No. | : P2L97 |
| Serial No. | : SP1005 |
| Data Cable | : Shielded |
| Power Cord | : Non-shielded |
| Power Supply Type | : Switching |

( Remark : This support device was tested to comply with FCC standards and authorized under a declaration of conformity.)

Support Device 2. --- MONITOR (SONY)

| | |
|---|---|
| FCC ID | : AK8GDM17SE2T |
| Model No. | : GDM-17SE2T |
| Serial No. | : SP1009 |
| Data Cable | : Shielded, 360 degree via metal backshells, 1.7m |
| Power Supply Type | : Switching |
| Power Cord | : Non-shielded |

Support Device 3. --- KEYBOARD (DELL)

| | |
|---|---|
| FCC ID | : GYUM92SK |
| Model No. | : AT101 (DE8M) |
| Serial No. | : SP1021 |
| Data Cable | : Shielded, 360 degree via metal backshells, 1.9m |

Support Device 4. --- PS/2 MOUSE (PRIMAX)

| | |
|---|---|
| FCC ID | : EMJMUSJQ |
| Model No. | : MUS9J |
| Serial No. | : SP1025 |
| Data Cable | : Shielded, 360 degree via metal backshells,1.7m |

Support Device 5. --- PRINTER (HP)

| | |
|---|---|
| FCC ID | : B94C2642X |
| Model No. | : DESK JET 400 |
| Serial No. | : SP1040 |
| Data Cable | : Shielded, 360 degree via metal backshells, 1.35m |
| Power Supply Type | : Linear, Adapter |
| Power Cord | : Non-shielded |

Support Device 6. -- MODEM (ACEEX)

| | |
|---|---|
| FCC ID | : IFAXDM1414 |
| Model No. | : DM1414 |
| Power Supply Type | : Linear, AC Adapter |
| Power Cord | : Non-shielded |
| Serial No. | : SP1045 |
| Data Cable | : Shielded, 360 degree via metal backshells, 1.15m |

Support Device 7. -- MICROPHONE (KOKA)

| | |
|---|---|
| FCC ID | : N/A |
| Model No. | : SR-M02 |
| Serial No. | : SP1057 |
| Data Cable | : Non-shielded, 2.1m |

Support Device 8. --- TELEPHONE (TRANBON)

| | |
|---|---|
| FCC ID | : N/A |
| Model No. | : TE-003 |
| Serial No. | : SP1065 |
| Data Cable | : Non-shielded, 2.1m |

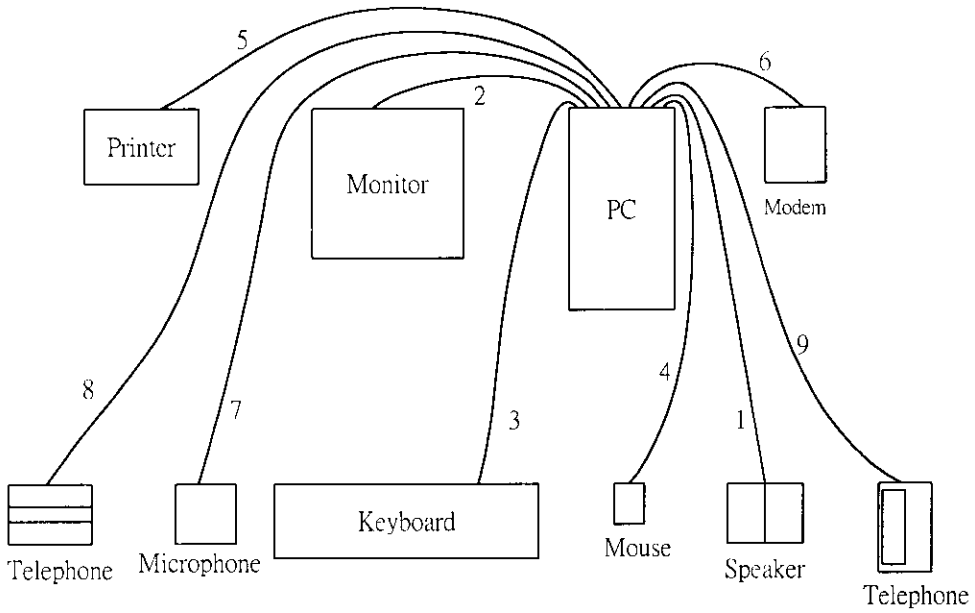
Support Device 9. --- TELEPHONE (TRANBON)

| | |
|---|---|
| FCC ID | : N/A |
| Model No. | : TE-258 |
| Serial No. | : SP1067 |
| Data Cable | : Non-shielded, 2.1m |

Support Device 10. -- SPEAKER (JUSTER)

| | |
|---|---|
| FCC ID | : N/A |
| Model No. | : SP-480 |
| Serial No. | : SP1053 |
| Data Cable | : Non-shielded, 1.2m |

## 2.3. CONNECTION DIAGRAM OF TEST SYSTEM




1. The I/O cable is connected from the EUT to the support device 10.
2. The I/O cable is connected to the support device 2.
3. The I/O cable is connected to the support device 3.
4. The I/O cable is connected to the support device 4.
5. The I/O cable is connected to the support device 5.
6. The I/O cable is connected to the support device 6.
7. The I/O cable is connected from the EUT to the support device 7.
8. The I/O cable is connected from the EUT to the support device 8.
9. The I/O cable is connected from the EUT to the support device 9.

# 3. TEST SOFTWARE

An executive program, EMITEST.EXE under WIN98, which generates a complete line of continuously repeating " H " pattern is used as the test software.

The program was executed as follows :

a. Turn on the power of all equipment.

b. The PC reads the test program from the floppy disk drive and runs it.

c. The PC sends " H " messages to the monitor, and the monitor displays " H " patterns on the screen.

d. The PC sends " H " messages to the printer, then the printer prints them on the paper.

e. The PC sends " H " messages to the modem.

f. The PC sends " H " messages to the internal Hard Disk, and the Hard Disk reads and writes the message.

g. Repeat the steps from b to f.

# 4. GENERAL INFORMATION OF TEST

## 4.1. TEST FACILITY

This test was carried out by SPORTON INTERNATIONAL INC. in an openarea test site.

Openarea Test Site Location : No. 30-1, Lin 6, Diing-Fwu Tsuen, Lin-Kou-Hsiang, Taipei Hsien, Taiwan, R.O.C.

TEL : 886-2-2601-1640

FAX : 886-2-2601-1695

## 4.2. STANDARD FOR METHODS OF MEASUREMENT

ANSI C63.4-1992

## 4.3 .TEST IN COMPLIANCE WITH

FCC PART 15, SUBPART B CLASS B

## 4.4. FREQUENCY RANGE INVESTIGATED

a. Conduction : from 450 KHz to 30 MHz

b. Radiation : from 30 MHz to 1000 MHz.

## 4.5. TEST DISTANCE

The test distance of radiated emission from antenna to EUT is 3M.

# 5. TEST OF CONDUCTED POWERLINE

Conducted Emissions were measured from 450 KHz to 30 MHz with a bandwidth of 9 KHz on the 115 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-1992 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in Figure 5-3. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

## 5.1. MAJOR MEASURING INSTRUMENTS

| | |
|---|---|
| • Test Receiver | ( HP 8591EM ) |
| Attenuation | 0 dB |
| Start Frequency | 0.45 MHz |
| Stop Frequency | 30 MHz |
| Step MHz | 0.007 MHz |
| IF Bandwidth | 9 KHz |

## 5.2. TEST PROCEDURES

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room and was kept at least 80 centimeters from any other grounded conducting surface.

b. Connect EUT to the power mains through a line impedance stabilization network ( LISN ).

c. All the support units are connect to the other LISN.

d. The LISN provides 50 ohm coupling impedance for the measuring instrument.

e. The FCC states that a 50 ohm , 50 microhenry LISN should be used.

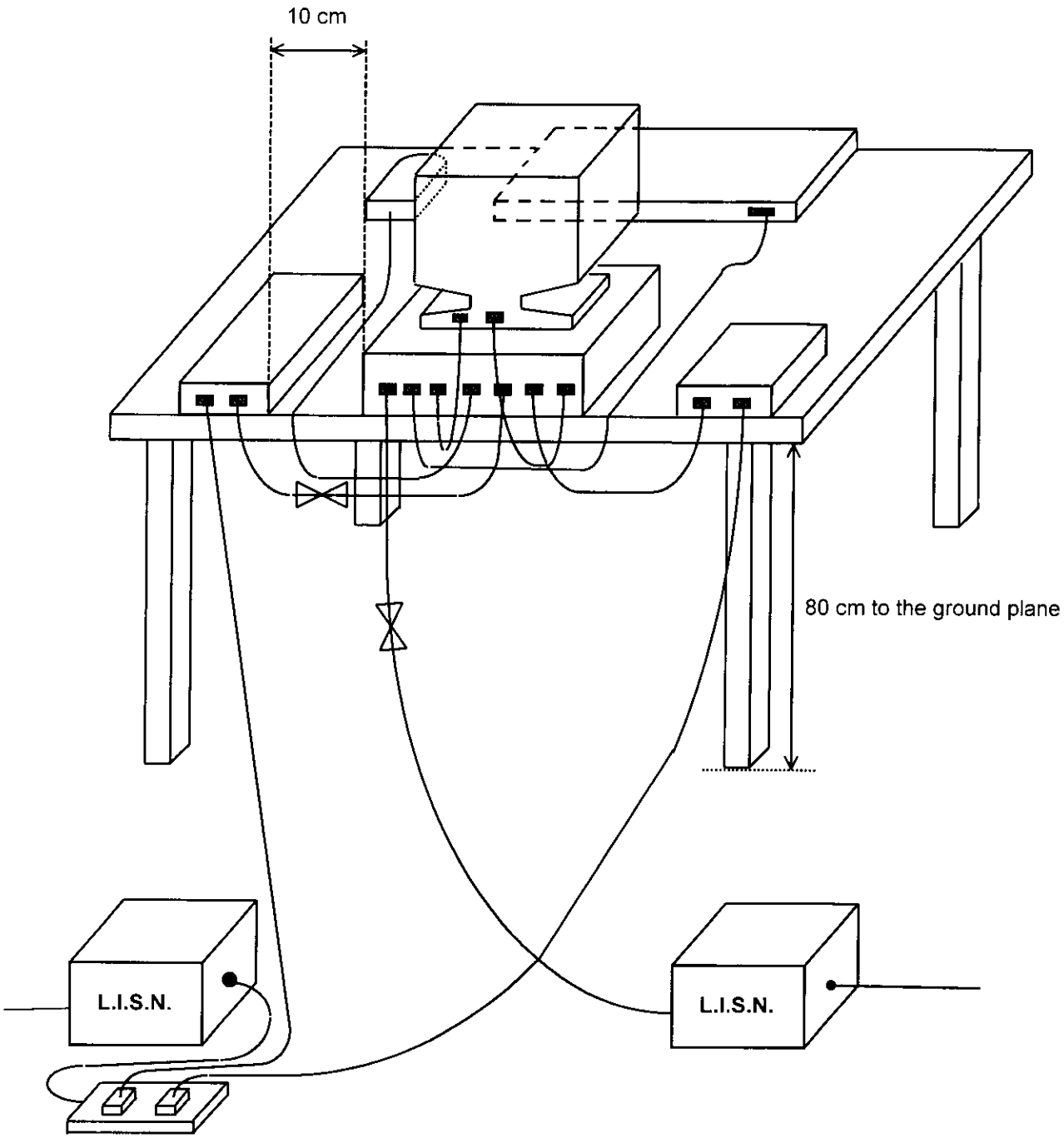
f. Both sides of AC line were checked for maximum conducted interference.

g. The frequency range from 450 KHz to 30 MHz was searched.

h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

i. If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported otherwise the emissions which do not have 6 dB margin will be retested on by one using the quasi-peak method and reported.

## 5.3. TYPICAL TEST SETUP LAYOUT OF CONDUCTED POWERLINE



## 5.4. TEST RESULT OF AC POWERLINE CONDUCTED EMISSION

- Frequency Range of Test : from 0.45 MHz to 30 MHz
- All emissions not reported here are more than 10 dB below the prescribed limit.
- Temperature : 27°C
- Relative Humidity : 43 % RH
- Test Date : Sep. 14, 1998

**The Conducted Emission test was passed at Neutral 11.00 MHz/ 34.80 dBuV.**

| Frequency | Line / Neutral | Meter Reading | | Limits | | Margin |
|---|---|---|---|---|---|---|
| ( MHz ) | | ( dBuV ) | ( uV ) | ( dBuV ) | ( uV ) | ( dB ) |
| 0.46 | N | 34.50 | 53.09 | 48.00 | 251.19 | -13.50 |
| 11.00 | N | 34.80 | 54.95 | 48.00 | 251.19 | -13.20 |
| 23.50 | N | 32.80 | 43.65 | 48.00 | 251.19 | -15.20 |
| 0.46 | L | 32.80 | 43.65 | 48.00 | 251.19 | -15.20 |
| 11.00 | L | 33.30 | 46.24 | 48.00 | 251.19 | -14.70 |
| 23.50 | L | 31.70 | 38.46 | 48.00 | 251.19 | -16.30 |

Test Engineer : Kenny Chuang

Kenny Chuang

# 6. TEST OF RADIATED EMISSION

Radiated emissions from 30 MHz to 1000 MHz were measured with a bandwidth of 120 KHz according to the methods defines in ANSI C63.4-1992. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane, as shown in Figure 6-3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

## 6.1. MAJOR MEASURING INSTRUMENTS

- Amplifier ( HP 8447D )
  - Attenuation 0 dB
  - RF Gain 25 dB
  - Signal Input 0.1 MHz to 1.3 GHz

- Spectrum Analyzer ( HP 8568B )
  - Attenuation 0 dB
  - Start Frequency 30 MHz
  - Stop Frequency 1000 MHz
  - Resolution Bandwidth 1 MHz
  - Video Bandwidth 1 MHz
  - Signal Input 100 Hz to 1.5 GHz

- Quasi-Peak Adapter ( HP 85650A )
  - Resolution Bandwidth 120 KHz
  - Frequency Band 30 MHz to 1 GHz
  - Quasi-Peak Detector ON for Quasi-Peak Mode
    OFF for Peak Mode

## 6.2. TEST PROCEDURES

a. The EUT was placed on a rotatable table top 0.8 meter above ground.

b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.

c. The table was rotated 360 degrees to determine the position of the highest radiation.

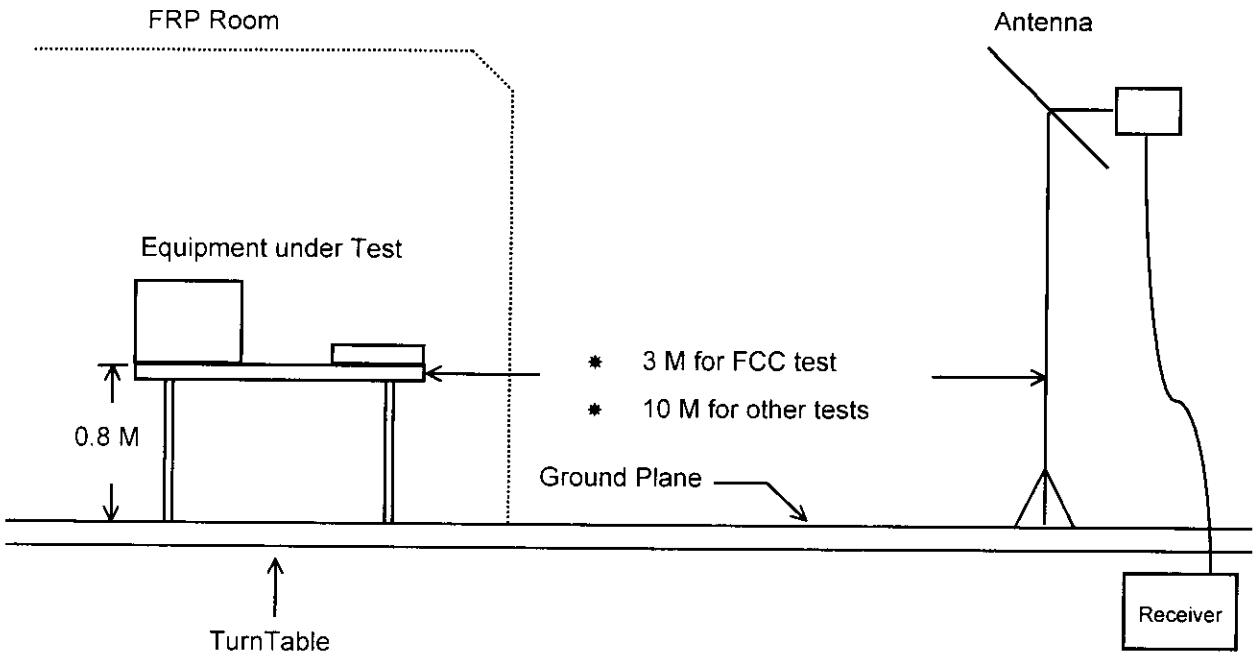
d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.

e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower ( from 1 M to 4 M ) and turn table ( from 0 degree to 360 degrees ) to find the maximum reading.

f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported otherwise the emissions which do not have 6 dB margin will be repeated one by one using the quasi-peak method and reported.

## 6.3. TYPICAL TEST SETUP LAYOUT OF RADIATED EMISSION



## 6.4. TEST RESULT OF RADIATED EMISSION

- Equipment meets the technical specifications of 15.109
- Frequency Range of Test : from 30 MHz to 1000 MHz
- Test Distance : 3 M
- Temperature : 35°C
- Relative Humidity : 49 % RH
- Test Date : Sep. 10, 1998

- Emission level ( dBuV/m ) = 20 log Emission level ( uV/m )
- Sample Calculation at 56.16 MHz

  Corrected Reading = 3.43 + 1.13 + 28.55 = 33.11 (dBuV/m )

**The Radiated Emission test was passed at**

**Vertical 400.80 MHz / 40.67 dBuV**

**Antenna Height 2.0 Meter , Turntable Degree 143 °.**

| Frequency | Polarity | Antenna Factor | Cable Loss | Reading | Limits | | Emission | Level | Margin |
|---|---|---|---|---|---|---|---|---|---|
| ( MHz ) | | ( dB ) | ( dB ) | ( dBuV ) | ( dBuV ) | ( uV ) | ( dBuV ) | ( uV ) | ( dB ) |
| 56.16 | V | 3.43 | 1.13 | 28.55 | 40.00 | 100 | 33.11 | 45.24 | -6.89 |
| 333.60 | V | 18.80 | 3.17 | 16.22 | 46.00 | 200 | 38.19 | 81.19 | -7.81 |
| 400.80 | V | 22.29 | 3.60 | 14.78 | 46.00 | 200 | 40.67 | 108.02 | -5.33 |
| 465.60 | V | 22.37 | 3.89 | 13.86 | 46.00 | 200 | 40.13 | 101.51 | -5.87 |
| 66.59 | V | 5.28 | 1.20 | 26.57 | 40.00 | 100 | 33.05 | 44.93 | -6.95 |
| 334.40 | H | 18.84 | 3.17 | 16.63 | 46.00 | 200 | 38.64 | 85.51 | -7.36 |

Test Engineer : Terry Chang

Terry Chang

# 7. ANTENNA FACTOR AND CABLE LOSS

| Frequency ( MHz ) | Antenna Factor ( dB ) | Cable Loss ( dB ) |
|---|---|---|
| 30 | -1.91 | 0.90 |
| 35 | -0.50 | 0.92 |
| 40 | 0.61 | 1.04 |
| 45 | 1.40 | 1.28 |
| 50 | 2.39 | 1.10 |
| 55 | 3.54 | 1.11 |
| 60 | 4.40 | 1.30 |
| 65 | 4.84 | 1.40 |
| 70 | 5.59 | 1.37 |
| 75 | 6.21 | 1.24 |
| 80 | 7.60 | 1.51 |
| 85 | 7.73 | 1.60 |
| 90 | 8.22 | 1.60 |
| 95 | 8.90 | 1.70 |
| 100 | 9.36 | 1.70 |
| 110 | 10.01 | 1.70 |
| 120 | 10.41 | 1.90 |
| 130 | 10.84 | 1.90 |
| 140 | 11.42 | 1.91 |
| 150 | 11.91 | 2.01 |
| 160 | 12.25 | 2.11 |
| 170 | 12.72 | 2.21 |
| 180 | 13.02 | 2.30 |
| 190 | 13.50 | 2.30 |
| 200 | 14.05 | 2.40 |
| 220 | 15.11 | 2.50 |
| 240 | 16.81 | 2.60 |
| 260 | 17.51 | 2.71 |
| 280 | 17.70 | 2.90 |
| 300 | 17.89 | 2.91 |
| 320 | 18.00 | 3.10 |
| 340 | 18.33 | 3.20 |
| 360 | 19.44 | 3.30 |
| 380 | 20.31 | 3.40 |
| 400 | 21.19 | 3.50 |
| 450 | 21.10 | 3.70 |
| 500 | 22.21 | 4.10 |
| 550 | 23.42 | 4.30 |
| 600 | 24.01 | 4.50 |
| 650 | 25.11 | 4.70 |
| 700 | 26.00 | 4.90 |
| 750 | 26.41 | 5.11 |
| 800 | 27.10 | 5.50 |
| 850 | 27.51 | 5.60 |
| 900 | 27.90 | 5.80 |
| 950 | 28.01 | 5.90 |