

# **EMISSION TEST REPORT**

**Test Report No. : 21BE0027-YW-1**

**Applicant:**

**DENSO CORPORATION**

**Type of Equipment:**

**Barcode Handy Terminal  
Optical Communication Unit**

**Model No.:**

**BHT-7500 / CU-7001**

**Test standard:**

**FCC Part 15 Subpart B Class A  
Industry Canada ICES-003 Issue 3  
CSA C108.8 Class A**

**Test Result:**

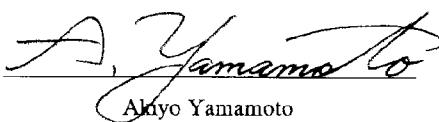
**Complies**

This report may not be reproduced in full, partial reproduction may only be made with the written consent of the laboratory.

The results in this report apply only to the sample tested.

**Date of test:** September 22, 2000

**Tested by:**



Akiyo Yamamoto

**Approved by:**



Kazutoyo Nakanishi

**Issued date:** October 13, 2000

Section Manager of EMC section

**Testing Laboratory**

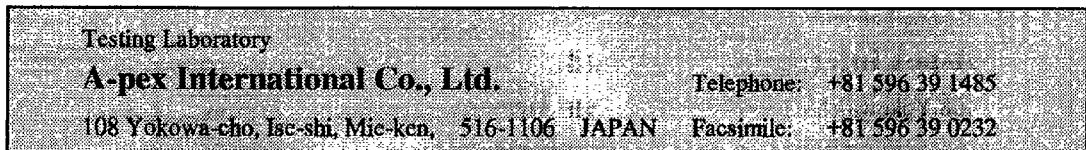
**A-pex International Co., Ltd.**

**Telephone: +81 596 39 1485**

**108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN Facsimile: +81 596 39 0232**

## Table of Contents

	Page
<b>1 GENERAL INFORMATION</b>	<b>3</b>
1.1 Product Description	3
1.2 Tested System Details	4
1.3 Tested Methodology	5
1.4 Test Facility	5
<b>2 SYSTEM TEST CONFIGURATION</b>	<b>6</b>
2.1 Operation Environment	6
2.2 Justification	6
2.3 EUT Exercise Software	7
2.4 Test Procedure	8
Figure 2.1 Configuration of Tested System	9
<b>3 CONDUCTED AND RADIATED MEASUREMENT PHOTOS</b>	<b>11</b>
Figure 3.1 Conducted Measurement Photos(Optical)	11
Figure 3.2 Radiated Measurement Photos(Optical)	12
Figure 3.3 Radiated Measurement Photos(Connector)	13
3.1 Measurement Uncertainty	14
<b>4 CONDUCTED EMISSION DATA</b>	<b>15</b>
<b>5 RADIATED EMISSION DATA</b>	<b>16</b>
5.1 Field Strength Calculation	17
<b>6 TEST EQUIPMENT USED</b>	<b>18</b>
<b>APPENDIX</b>	<b>19</b>
Test Data	A1 - A8



## 1 GENERAL INFORMATION

APPLICANT : DENSO CORPORATION

ADDRESS : 1-1 Showa-cho, Kariya-shi, Aichi-ken  
448-8661 JAPAN  
Tel: +81-566-61-3817  
Fax: +81-566-25-4741

REGULATION(S) : FCC Part 15 Subpart B, Class A

MODEL NUMBER : BHT-7500 / CU-7001

SERIAL NUMBER : 116 / 351

KIND OF EQUIPMENT : Barcode Handy Terminal /  
Optical Communication Unit

TESTED DATE : September 22, 2000

RECEIPT DATE OF SAMPLE : September 22, 2000

TEST REPORT NUMBER : 21BE0027-YW-1

TEST SITE : A-PEX Yokowa NO.2 Open Test Site

### 1.1 Product Description

DENSO CORPORATION Model BHT-7500 / CU-7001(referred to as the EUT in this report) are Barcode Handy Terminal / Optical Communication Unit.

The clock frequency used is as follows;

18.432MHz (BHT-7500)  
1.8432MHz (CU-7001)

Testing Laboratory

A-pex International Co., Ltd.

108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN

Telephone: +81-596-39-1485

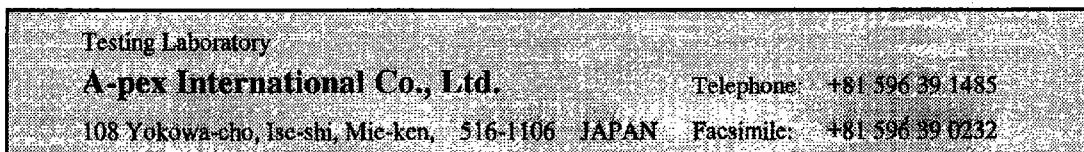
Faxsimile: +81-596-39-0232

**Test report**  
**Our reference** : 21BE0027-YW-1  
**Page** : 4 of 19  
**Issued date** : 2000-10-13  
**Revised date** : 2001-01-22

## 1.2 Tested System Details

The FCC IDs for all equipment, plus description of all cables used in the tested system are:

Model	FCC ID	Description	Cable description	Backshell Material
(1) DENSO CORPORATION M/N: BHT-7500 S/N: 116 (EUT)	N/A	Barcode Handy Terminal	—	—
(2) DENSO CORPORATION M/N: CU-7001 S/N: 351 (EUT)	N/A	Optical Communication Unit	Unshielded DC Power Cable Shielded EIA-232 Cable	P.V.C. P.V.C.
(3) DENSO CORPORATION M/N: 4964600381 S/N: N/A (EUT)	N/A	AC Adapter	—	—
(4) Hewlett Packard M/N: D3993A S/N: 5G73400494	DoC	PC	Unshielded AC Power Cable	P.V.C.
(5) IBM M/N: 2115-011 S/N: 23-35374	BEJC551	Monitor	Unshielded AC Power Cable Shielded RGB Cable	P.V.C. P.V.C.
(6) Hewlett Packard M/N: 895Cxi S/N: SG8AR231X4	DoC	Printer	Shielded Printer Cable Unshielded DC Power Cable	P.V.C. P.V.C.
(7) Hewlett Packard M/N: RT6656TWJP S/N: 42972432	AQ6-MTN4C15	Keyboard	Shielded Keyboard Cable	P.V.C.
(8) Microsoft M/N: 90741 S/N: 02197737	C3KKMP3	Mouse	Shielded Mouse Cable	P.V.C.
(9) Hewlett Packard M/N: C4557-60004 S/N: N/A	N/A	AC Adapter	Unshielded AC Power Cable	P.V.C.



Test report  
Our reference : 21BE0027-YW-1  
Page : 5 of 19  
Issued date : 2000-10-13

### 1.3 Tested Methodology

Both conducted and radiated testing were performed according to the procedures in FCC/ANSI C63.4(1992). Radiated testing was performed at a distance of 10 meters from the antenna to EUT.

### 1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on 108, Yokowa-cho, Ise-shi, Mie-ken, 516-1106 Japan.

The open area test site and conducted measurement facility used to collect the radiated data is located on 108 Yokowa-cho, Ise-shi, Mie-ken 516-1106 Japan. This site has been fully described in a report submitted to FCC office, and listed on May 15, 2000(Registration number: 90411).

Testing Laboratory

A-pex International Co., Ltd.

108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN

Telephone: +81 596 39 1485

Faxsimile: +81 596 39 0232

## 2 SYSTEM TEST CONFIGURATION

### 2.1 Operation Environment

Conduction	Radiation
Temperature : See data	: See data
Humidity : See data	: See data
Power supply : AC 120V/60Hz	: AC 120V/60Hz

### 2.2 Justification

The system was configured in typical fashion (as a customer would normally use it) for testing.

Testing Laboratory

**A-pex International Co., Ltd.**

108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN

Telephone: +81 596 39 1485

Faxsimile: +81 596 39 0232

Test report  
Our reference : 21BE0027-YW-1  
Page : 7 of 19  
Issued date : 2000-10-13

## 2.3 EUT Exercise Software

The EUT exercise program used during radiated testing was designed to exercise the various system components in a manner similar to typical use.

Operation: Running mode (Optical, Connector)

Testing Laboratory

**A-pex International Co., Ltd.**

108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN

Telephone: +81-596 39 1485

Faximile: +81-596 39 0232

## 2.4 Test Procedure

### 2.4.1 Tabletop Equipment Conducted Emissions

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flush with rear of tabletop. All other surfaces of tabletop was at least 80cm from any other grounded conducting surface. I/O cables and AC cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane. Each EUT current-carrying power lead, except the ground (safety) lead, were individually connected through a LISN to the input power source. All unused  $50\Omega$  connectors of the LISN were resistively terminated in  $50\Omega$  when not connected to the measuring equipment.

### 2.4.2 Tabletop Equipment Radiated Emissions

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane. The rear of EUT, including peripherals was aligned and flush with rear of tabletop. I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged 40cm height to the ground plane. Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength. The measurement distance was 10m.

Testing Laboratory

**A-pex International Co., Ltd.**

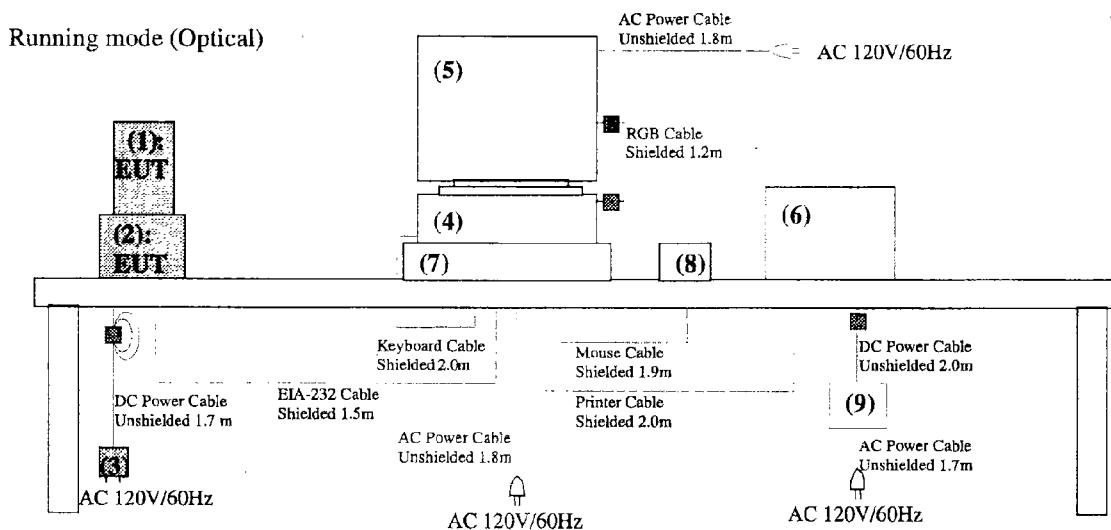
108 Yukawa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN

Telephone: +81 596 39 1485

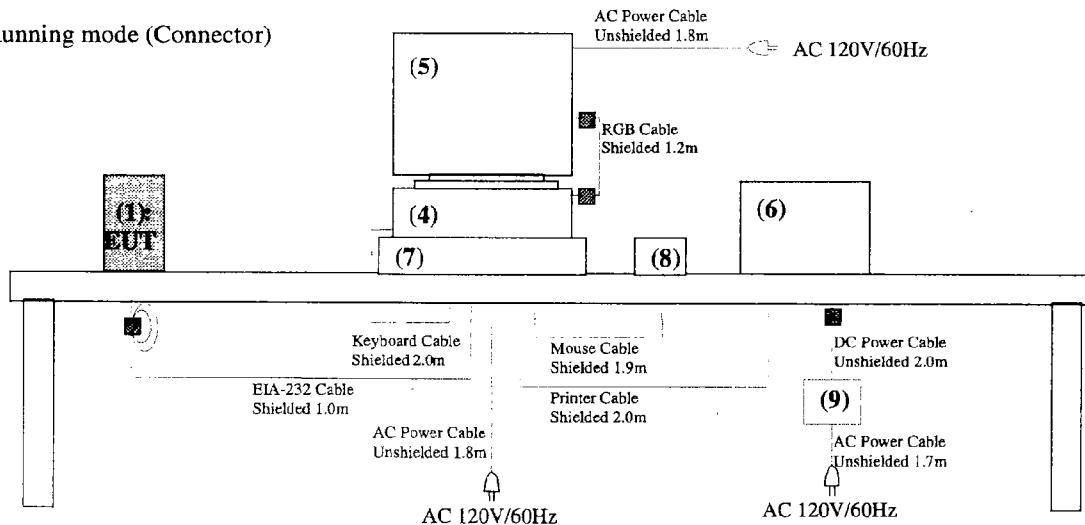
Faxsimile: +81 596 39 0232

Figure2.1 Configuration of Tested System

Front View

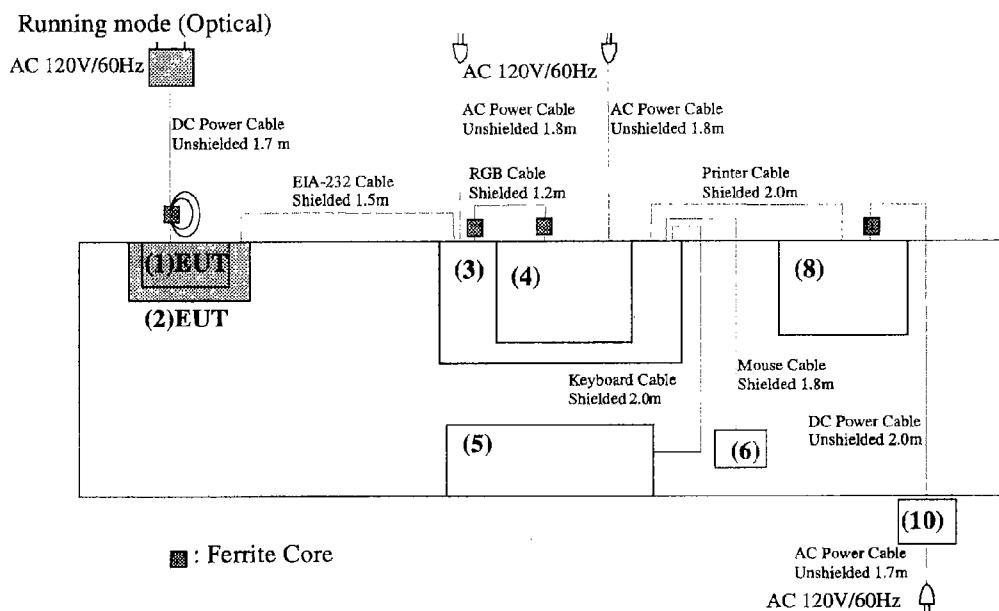


Running mode (Connector)

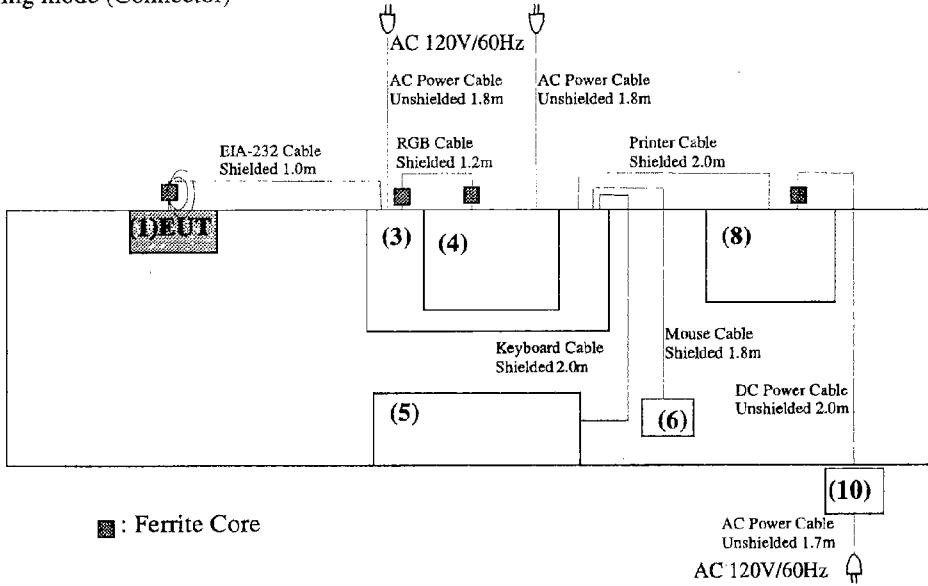


\*Cabling was taken into consideration and test data was taken under worse case conditions.

Top View



Running mode (Connector)

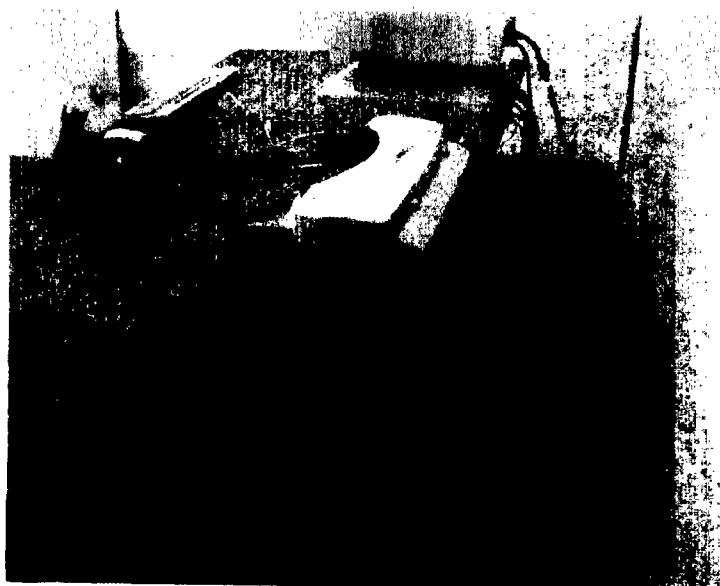
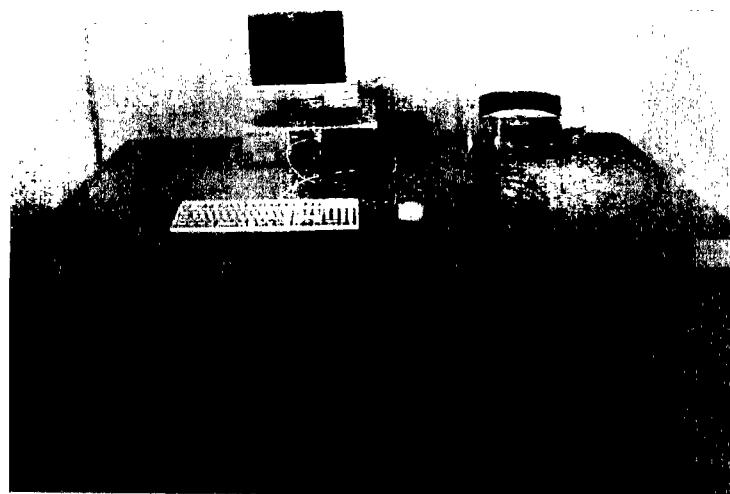


\* Cabling was taken into consideration and test data was taken under worse case conditions.

Test report  
Our reference : 21BE0027-YW-1  
Page : 11 of 19  
Issued date : 2000-10-13

### 3 CONDUCTED AND RADIATED MEASUREMENT PHOTOS

Figure 3.1 Conducted Measurement Photos (Optical)



Testing Laboratory

A-pep International Co., Ltd.

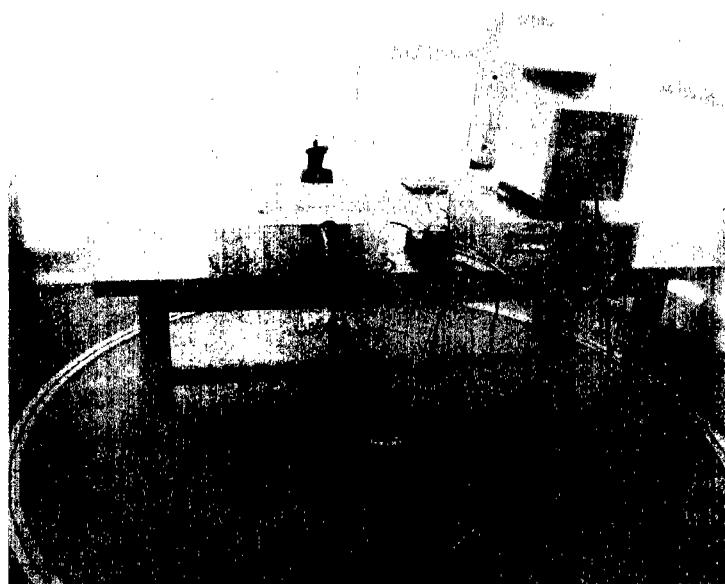
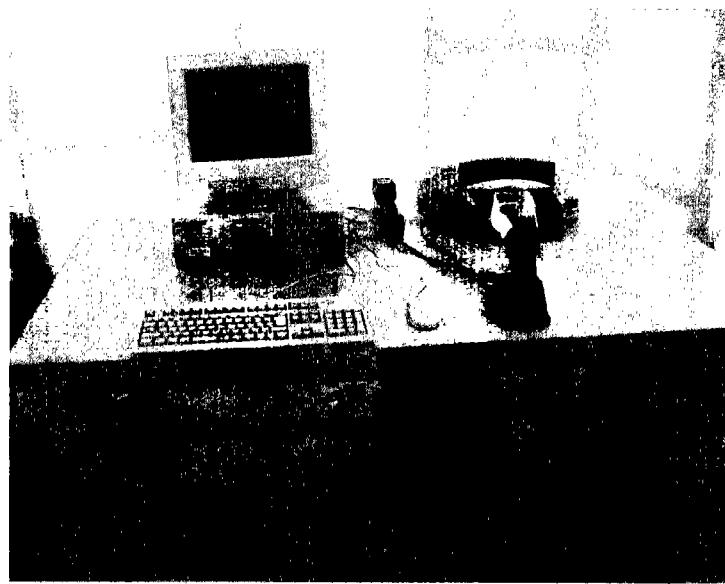
108 Yokogawa-cho, Ise-shi, Mie-ken, 516-1106, JAPAN

Telephone: 059-922-1485

Faxsimile: 059-922-0232

Test report  
Our reference : 21BE0027-YW-1  
Page : 12 of 19  
Issued date : 2000-10-13

Figure 3.2 Radiated Measurement Photos (Optical)



Testing Laboratory

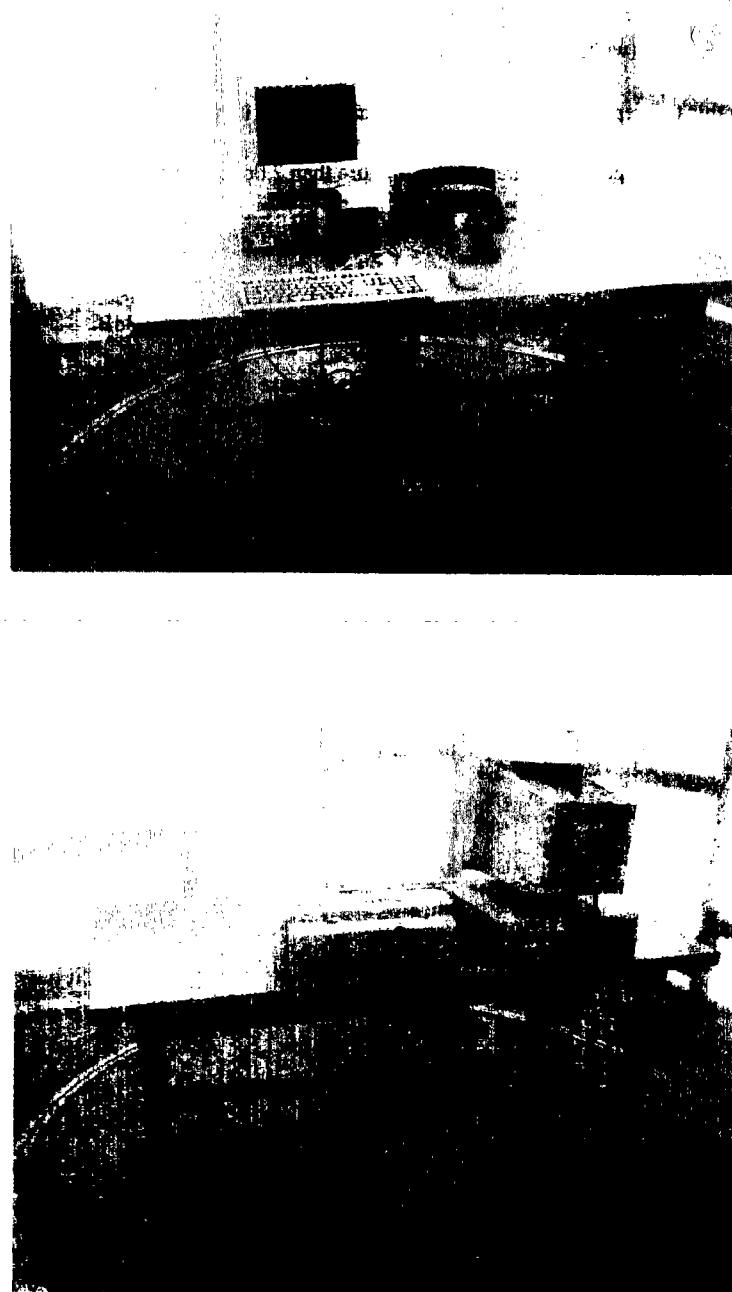
**A-pex International Co., Ltd.**

108 Yokawa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

Test report  
Our reference : 21BE0027-YW-1  
Page : 13 of 19  
Issued date : 2000-10-13

Figure 3.3 Radiated Measurement Photos (Connector)



Testing Laboratory

Asper International Co., Ltd.

108 Yodogawa-cho, Ise-shi, Mie-ken, 516-1103 JAPAN Telephone: +81-59-90 1485

Fax: +81-59-90 0232

### 3.1 Measurement Uncertainty

#### Conducted Emission Test

The measurement uncertainty (with a 95% confidence level) for this test was  $\pm 2.0\text{dB}$ .

- The data listed in this test report may exceed the test limit because it does not have enough margin (more than 2.0dB).
- The data listed in this test report has enough margin, more than 2.0dB.

#### Radiated Emission Test

The measurement uncertainty (with a 95% confidence level) for this test was  $\pm 3.3\text{dB}$ .

- The data listed in this test report may exceed the test limit because it does not have enough margin (more than 3.3dB).
- The data listed in this test report has enough margin, more than 3.3dB.

Testing Laboratory

**A-pex International Co., Ltd.**

108 Yokowa-cho, Isc-shi, Mic-ken, 516-1106 JAPAN

Telephone: +81 596 39 1485

Faxsimile: +81 596 39 0232

Test report  
Our reference : 21BE0027-YW-1  
Page : 15 of 19  
Issued date : 2000-10-13

## 4 CONDUCTED EMISSION DATA

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range(450KHz-30MHz).  
The final data represents worst-case emissions.  
The minimum margin to the limit is as follows :

Frequency (MHz)	Line (N/L)	Measured (dB $\mu$ V)	LISN Factor (dB)	Result (dB $\mu$ V)	Limit (dB $\mu$ V)	Margin (dB)
28.6361	L	40.1	2.3	42.4	69.5	27.1

\* All readings are quasi-peak mode.

Testing Laboratory  
**A-pex International Co., Ltd.**  
103 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN Telephone: 059-949-1485  
Facsimile: 059-949-0232

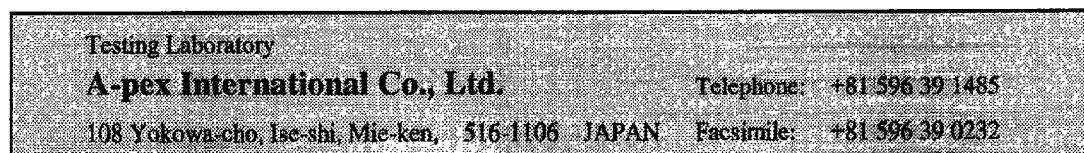
## 5 RADIATED EMISSION DATA

The initial step in collecting radiated data was a spectrum analyzer peak scan of the measurement range(30MHz-1000MHz). The final data was reported in the worst-case emissions.

The minimum margin to the limit is as follows :

<u>Optical</u>					
Frequency (MHz)	Receiver Reading (dB $\mu$ V)	Correction Factor (dB $\mu$ V)	Field Strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB $\mu$ V)
608.36	32.8	1.8	34.6	46.4	11.8
<u>Connector</u>					
Frequency (MHz)	Receiver Reading (dB $\mu$ V)	Correction Factor (dB $\mu$ V)	Field Strength (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB $\mu$ V)
608.36	31.7	1.8	33.5	46.4	12.9

\* 30MHz-1000MHz : All readings are quasi-peak mode.



## 5.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor, Cable Factor and Antenna Pad, and subtracting the Amplifier Gain from the measured reading. The sample calculation is as follows :

$$FS = RA + AF + CF + AT - AG$$

where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Factor

AT = Antenna Pad

AG = Amplifier Gain

### Optical

Assume a receiver reading of 32.8 dB  $\mu$  V is obtained. The antenna Factor of 19.6 dB, Cable Factor of 9.2 dB and Antenna Pad of 3.0 dB is added. The Amplifier Gain of 30.0 dB is subtracted, giving a field strength of 34.6 dB  $\mu$  V/m.

$$FS = 32.8 + 19.6 + 9.2 + 3.0 - 30.0 = 34.6 \text{ dB } \mu \text{ V/m}$$

### Connector

Assume a receiver reading of 31.7 dB  $\mu$  V is obtained. The antenna Factor of 19.6 dB, Cable Factor of 9.2 dB and Antenna Pad of 3.0 dB is added. The Amplifier Gain of 30.0 dB is subtracted, giving a field strength of 33.5 dB  $\mu$  V/m.

$$FS = 31.7 + 19.6 + 9.2 + 3.0 - 30.0 = 33.5 \text{ dB } \mu \text{ V/m}$$

Testing Laboratory

**A-pex International Co., Ltd.**

108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN

Telephone: +81-596-39-1485

Facsimile: +81-596-39-0232

## 6 TEST EQUIPMENT USED

INSTRUMENTS	Mfr.	MODEL	C/N	Calibrated Until
□ Pre Amplifier	Hewlett Packard	8447D	AF1	November 16, 2000
□ Pre Amplifier	Anritsu	MH648A	AF2	November 16, 2000
■ Pre Amplifier	Anritsu	MH648A	AF3	November 16, 2000
■ Attenuator	Anritsu	MP721A	AT7	June 8, 2001
■ Biconical Antenna	Schwarzbeck	BBA9106	BA5	April 28, 2001
■ Logperiodic Antenna	Schwarzbeck	UHALP9108A	LA8	April 29, 2001
□ LISN	Rohde & Schwarz	ESH2-Z5	LS1	November 15, 2000
■ LISN	Rohde & Schwarz	ESH3-Z5	LS2	November 15, 2000
□ LISN	Schwarzbeck	NSLK8127	LS3	November 15, 2000
□ LISN	Rohde & Schwarz	ESH3-Z5	LS4	November 15, 2000
□ LISN	Schwarzbeck	NNLK8121	LS5	November 15, 2000
■ LISN	Schwarzbeck	NSLK8126	LS7	November 15, 2000
■ Spectrum Analyzer	Hewlett Packard	8567A	SA3	December 13, 2000
■ Test Receiver	Rohde & Schwarz	ESHS-10	TR1	March 30, 2001
■ Test Receiver	Rohde & Schwarz	ESVS-10	TR2	July 13, 2001

■ indicates EMI Test Equipment used.

\*All measurement equipment is traceable to national standard.

Testing Laboratory

**A-pex International Co., Ltd.**

108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

## APPENDIX

### **A:Test Data**

Conducted emissions	<u>A1- A4</u>
Radiated emissions (Optical)	<u>A5- A6</u>
Radiated emissions (Connector)	<u>A7- A8</u>

Testing Laboratory

**A-pex International Co., Ltd.**

108 Yokowa-cho, Ise-shi, Mie-ken, 516-1106 JAPAN

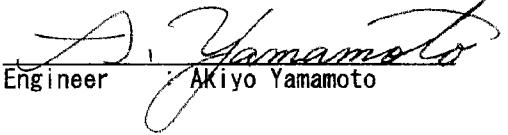
Telephone: +81 596 39 1485

Facsimile: +81 596 39 0232

# DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.2 OPEN TEST SITE  
Report No. : 21BE0027-YW-1

Applicant	DENSO CORPORATION	
Kind of Equipment	BARCODE HANDY TERMINAL / OPTICAL COMMUNICATION UNIT	
Model No.	BHT-7500 / CU-7001	
Serial No.	116 / 351	
Power	AC120V/60Hz	
Mode	Running (Optical)	
Remarks		
Date	9/22/2000	
Phase	Single Phase	
Temperature	26 °C	
Humidity	42 %	
Regulation	FCC Part15B CLASS A	

Engineer   
Akiyo Yamamoto

No.	FREQ. [MHz]	READING(N)		READING(L1)		LISN FACTOR	CABLE LOSS	ATTEN.	RESULT		LIMITS		MARGIN	
		QP [dBuV]	AV	QP [dBuV]	AV				QP [dBuV]	AV	QP [dBuV]	AV	QP [dBuV]	AV
1.	0.4500	28.2	-	27.0	-	0.1	0.2	0.0	28.5	-	60.0	0.0	31.5	-
2.	0.8923	19.6	-	18.8	-	0.1	0.2	0.0	19.9	-	60.0	0.0	40.1	-
3.	7.4970	13.5	-	11.8	-	0.4	0.5	0.0	14.4	-	69.5	0.0	55.1	-
4.	15.9991	22.5	-	23.1	-	0.8	0.6	0.0	24.5	-	69.5	0.0	45.0	-
5.	20.5913	20.2	-	20.9	-	1.0	0.7	0.0	22.6	-	69.5	0.0	46.9	-
6.	28.6361	39.7	-	40.1	-	1.3	1.0	0.0	42.4	-	69.5	0.0	27.1	-

CALCULATION: READING + LISN FACTOR + CABLE LOSS + ATTEN.

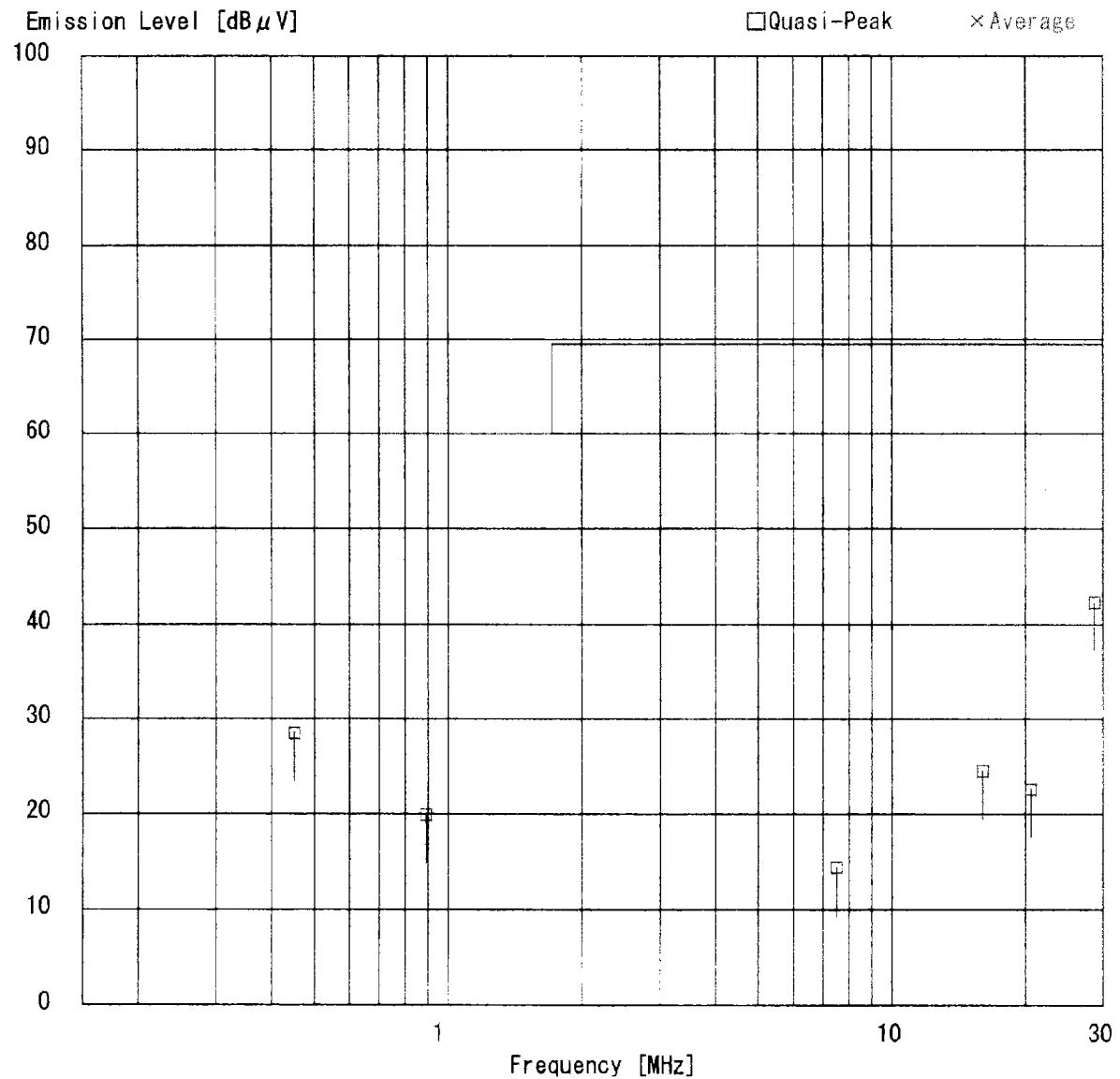
Except for the above table: adequate margin data below the limits.

## DATA OF CONDUCTION TEST

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.2 OPEN TEST SITE  
Report No. : 21BE0027-YW-1

Applicant : DENSO CORPORATION  
Kind of Equipment : BARCODE HANDY TERMINAL / OPTICAL COMMUNICATION UNIT  
Model No. : BHT-7500 / CU-7001  
Serial No. : 116 / 351  
Power : AC120V/60Hz  
Mode : Running (Optical)  
Remarks :  
Date : 9/22/2000  
Phase : Single Phase  
Temperature : 26 °C  
Humidity : 42 %  
Regulation : FCC Part15B CLASS A

*A. Yamamoto*  
Engineer : Akiyo Yamamoto



# DATA OF CONDUCTION TEST CHART

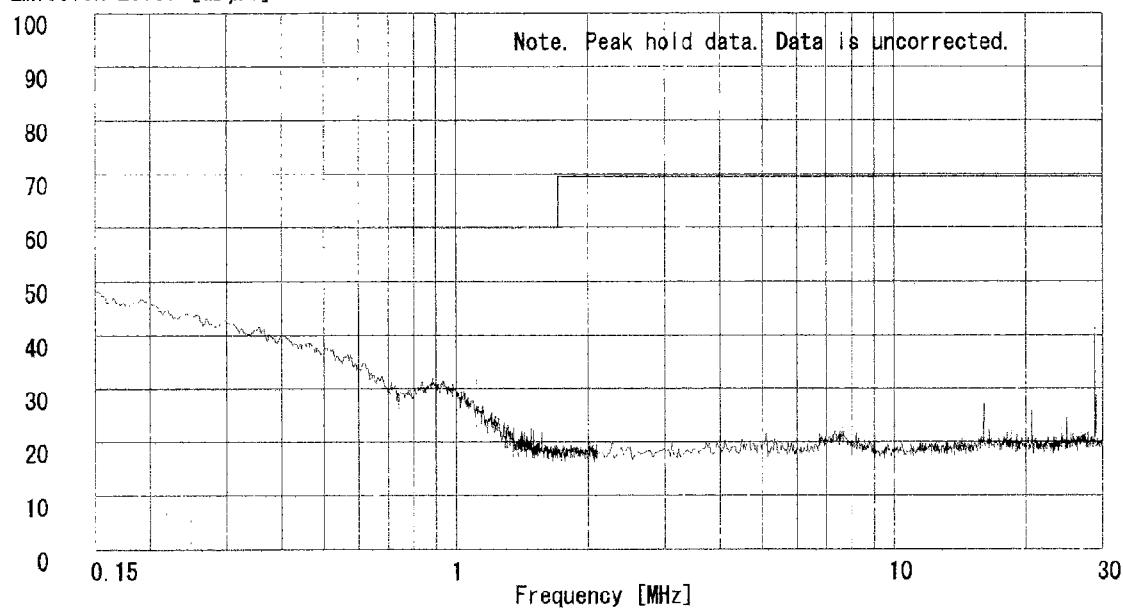
A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.2 OPEN TEST SITE  
Report No. : 21BE0027-YW-1

Applicant : DENSO CORPORATION  
Kind of Equipment : BARCODE HANDY TERMINAL / OPTICAL COMMUNICATION UNIT  
Model No. : BHT-7500 / CU-7001  
Serial No. : 116 / 351  
Power : AC120V/60Hz  
Mode : Running (Optical)  
Remarks :  
Date : 9/22/2000  
Phase : Single Phase  
Temperature : 26 °C  
Humidity : 42 %  
Regulation 1 : FCC Part15B CLASS A  
Regulation 2 : None

  
Engineer : Akiyo Yamamoto

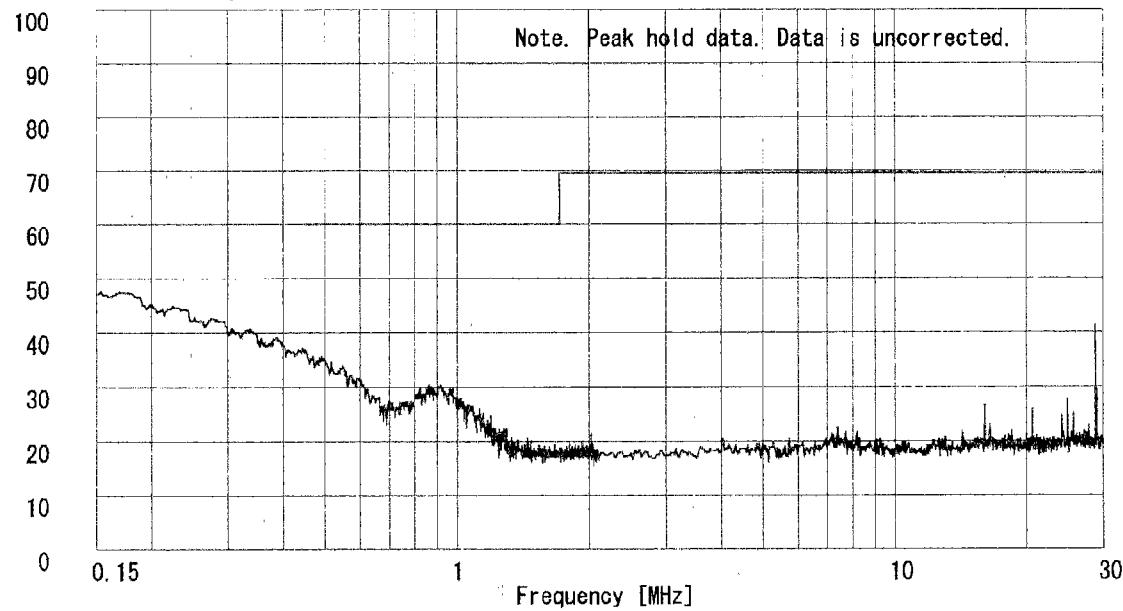
Emission Level [dB $\mu$ V]

PHASE:N



Emission Level [dB $\mu$ V]

PHASE:L1



# DATA OF CONDUCTION TEST CHART

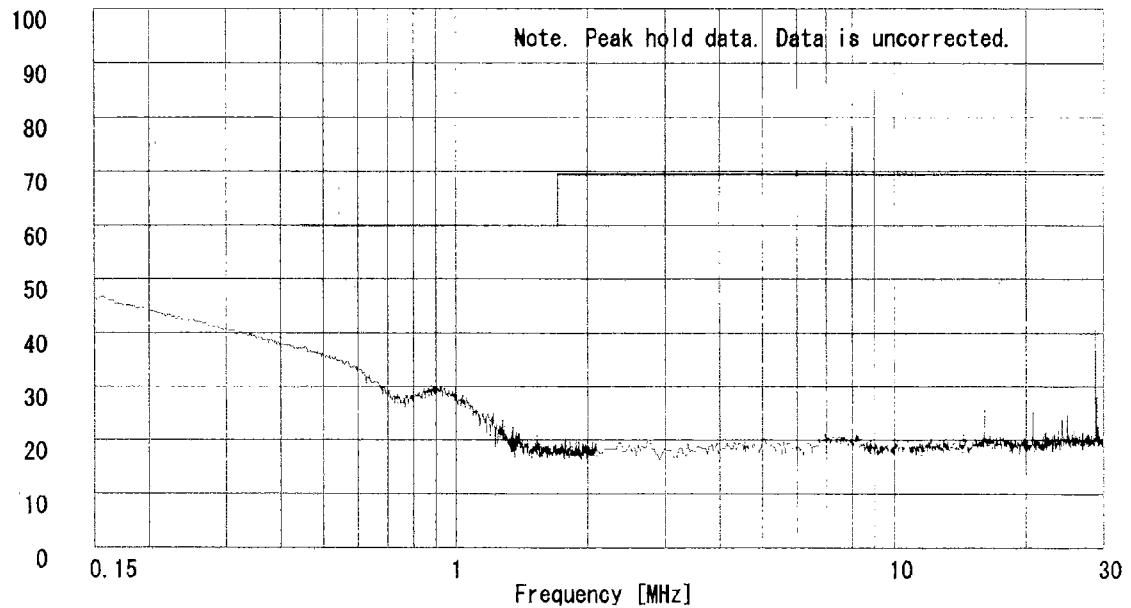
A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.2 OPEN TEST SITE  
Report No. : 21BE0027-YW-1

Applicant : DENSO CORPORATION  
 Kind of Equipment : BARCODE HANDY TERMINAL / OPTICAL COMMUNICATION UNIT  
 Model No. : BHT-7500 / CU-7001  
 Serial No. : 116 / 351  
 Power : AC120V/60Hz  
 Mode : Standby  
 Remarks :  
 Date : 9/22/2000  
 Phase : Single Phase  
 Temperature : 26 °C  
 Humidity : 42 %  
 Regulation 1 : FCC Part15B CLASS A  
 Regulation 2 : None

Engineer : *Akiyo Yamamoto* Akiyo Yamamoto

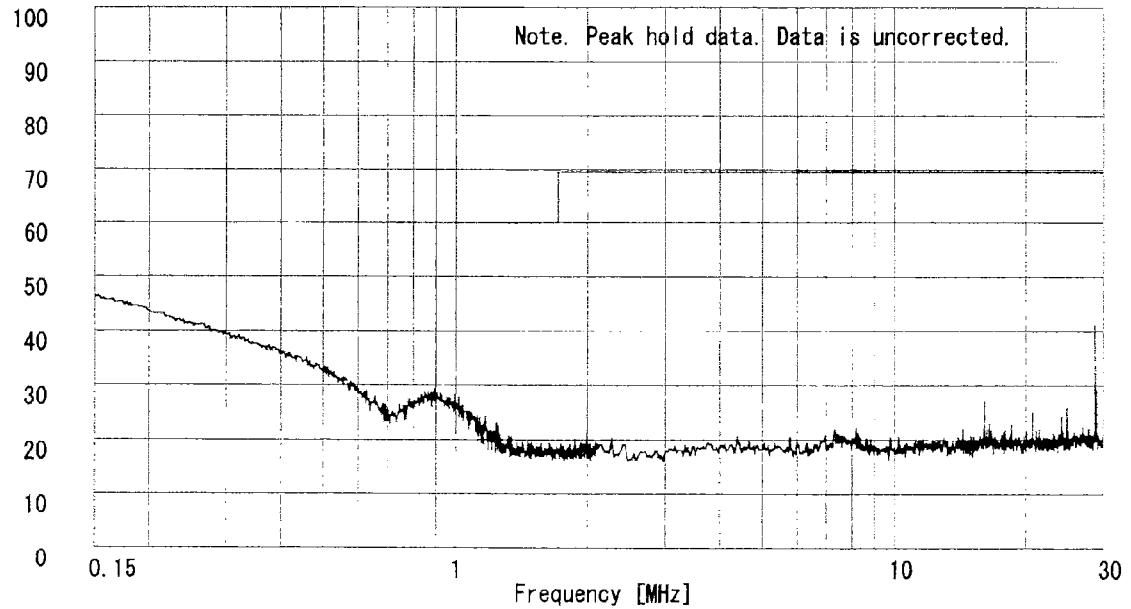
Emission Level [dB $\mu$ V]

PHASE:N



Emission Level [dB $\mu$ V]

PHASE:L1



## DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.2 OPEN TEST SITE  
Report No. : 21BE0027-YW-1

Applicant : DENSO CORPORATION  
 Kind of Equipment : BARCODE HANDY TERMINAL / OPTICAL COMMUNICATION UNIT  
 Model No. : BHT-7500 / CU-7001  
 Serial No. : 116 / 351  
 Power : AC120V/60Hz  
 Mode : Running (Optical)  
 Remarks :  
 Date : 9/22/2000  
 Test Distance : 10 m  
 Temperature : 24 °C  
 Humidity : 82 %  
 Regulation : FCC Part15B CLASS A

  
 Engineer : Akiyo Yamamoto

No.	FREQ. [MHz]	ANT TYPE	READING		AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB $\mu$ V]	VER [dB/ $\mu$ ]				HOR [dB $\mu$ V/m]	VER [dB $\mu$ V/m]	HOR [dB]	VER [dB]	HOR [dB]	VER [dB]
1.	92.18	BB	34.8	37.0	8.8	29.8	3.6	3.0	20.4	22.6	43.5	23.1	20.9
2.	147.49	BB	29.1	31.3	14.9	29.7	4.5	3.0	21.8	24.0	43.5	21.7	19.5
3.	165.92	BB	25.1	27.1	15.5	29.6	4.8	3.0	18.8	20.8	43.5	24.7	22.7
4.	221.22	BB	28.4	26.9	16.6	29.6	5.3	3.1	23.8	22.3	46.4	22.6	24.1
5.	368.68	BB	30.6	32.1	17.5	29.8	7.0	3.0	28.3	29.8	46.4	18.1	16.6
6.	405.57	BB	28.2	30.7	18.1	29.8	7.3	3.1	26.9	29.4	46.4	19.5	17.0
7.	479.30	BB	25.4	27.5	19.0	29.9	8.0	3.1	25.6	27.7	46.4	20.8	18.7
8.	571.49	BB	30.7	28.7	19.4	29.9	8.8	3.0	32.0	30.0	46.4	14.4	16.4
9.	608.36	BB	32.8	28.5	19.6	30.0	9.2	3.0	34.6	30.3	46.4	11.8	16.1

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.  
 ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-5GHz Horn

## DATA OF RADIATION TEST

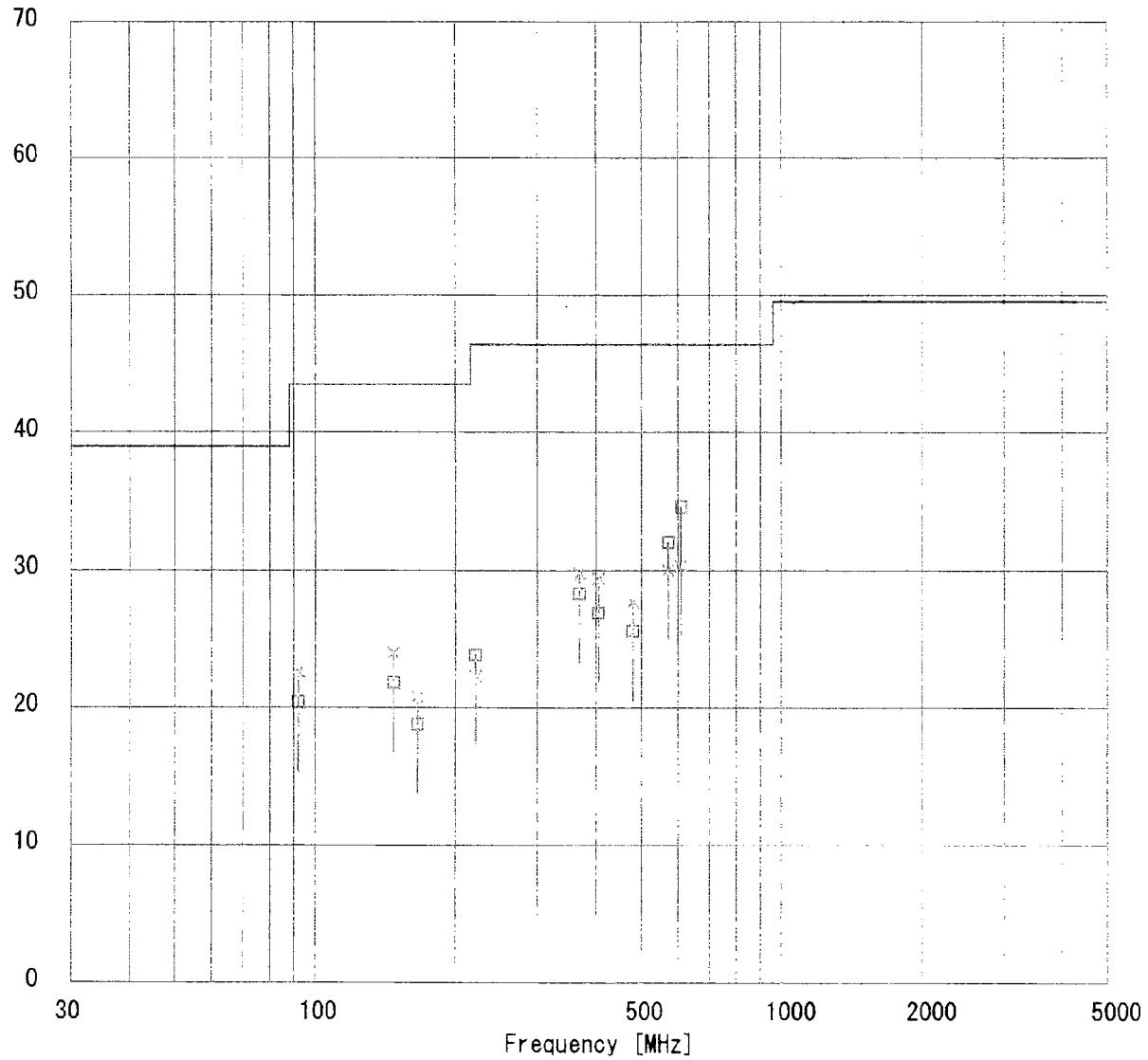
A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.2 OPEN TEST SITE  
Report No. : 21BE0027-YW-1

Applicant : DENSO CORPORATION  
Kind of Equipment : BARCODE HANDY TERMINAL / OPTICAL COMMUNICATION UNIT  
Model No. : BHT-7500 / CU-7001  
Serial No. : 116 / 351  
Power : AC120V/60Hz  
Mode : Running (Optical)  
Remarks :  
Date : 9/22/2000  
Test Distance : 10 m  
Temperature : 24 °C  
Humidity : 82 %  
Regulation : FCC Part15B CLASS A

  
Engineer : Akiyo Yamamoto

Emission Level [dB  $\mu$ V/m]

Horizontal



# DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.2 OPEN TEST SITE  
Report No. : 21BE0027-YW-1

Applicant : DENSO CORPORATION  
 Kind of Equipment : BARCODE HANDY TERMINAL  
 Model No. : BHT-7500  
 Serial No. : 116  
 Power : DC3.6V  
 Mode : Running (Connector)  
 Remarks :  
 Date : 9/22/2000  
 Test Distance : 10 m  
 Temperature : 24 °C  
 Humidity : 82 %  
 Regulation : FCC Part15B CLASS A

Engineer : *Akiyo Yamamoto*

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB $\mu$ V]	VER [dB/m]					HOR [dB $\mu$ V/m]	VER [dB $\mu$ V/m]	HOR [dB]	VER [dB]	HOR [dB]	VER [dB]
1.	184.35	BB	27.2	24.0	16.3	29.6	5.0	3.1	22.0	18.8	43.5	21.5	24.7	
2.	202.79	BB	30.8	28.1	16.5	29.6	5.2	3.1	26.0	23.3	43.5	17.5	20.2	
3.	221.22	BB	33.7	27.2	16.6	29.6	5.3	3.1	29.1	22.6	46.4	17.3	23.8	
4.	368.70	BB	35.5	28.9	17.5	29.8	7.0	3.0	33.2	26.6	46.4	13.2	19.8	
5.	405.57	BB	33.0	28.2	18.1	29.8	7.3	3.1	31.7	26.9	46.4	14.7	19.5	
6.	479.30	BB	29.3	24.2	19.0	29.9	8.0	3.1	29.5	24.4	46.4	16.9	22.0	
7.	571.49	BB	32.1	28.5	19.4	29.9	8.8	3.0	33.4	29.8	46.4	13.0	16.6	
8.	608.36	BB	31.7	27.0	19.6	30.0	9.2	3.0	33.5	28.8	46.4	12.9	17.6	

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

Except for the above table: adequate margin data below the limits.  
 ANT. TYPE: 30-300MHz Biconical, 300-1000MHz Logperiodic, 1-5GHz Horn

## DATA OF RADIATION TEST

A-PEX INTERNATIONAL CO., LTD.  
YOKOWA No.2 OPEN TEST SITE  
Report No. : 21BE0027-YW-1

Applicant : DENSO CORPORATION  
Kind of Equipment : BARCODE HANDY TERMINAL  
Model No. : BHT-7500  
Serial No. : 116  
Power : DC3.6V  
Mode : Running (Connector)  
Remarks :  
Date : 9/22/2000  
Test Distance : 10 m  
Temperature : 24 °C  
Humidity : 82 %  
Regulation : FCC Part15B CLASS A

*A. Yamamoto*  
Engineer : Akiyo Yamamoto

