

TOSHIBA TEC CORPORATION

570,OHITO,OHITO-CHO,TAGATA-GUN,SHIZUOKA-KEN,410-2392,JAPAN

PHONE:0558-76-9607 FAX 0558-76-9844

REPORT OF MEASUREMENT ON DIGITAL DEVICE

Data : October 15,2007

Report Number : OF-07011

- 1.Applicant : TOSHIBA TEC CORPORATION
Special Equipment & Printer Business Group
6-78 Minami-cho,Mishima-shi,Shizuoka-ken
411-8520,Japan
- 2.Manufacture : TOSHIBA TEC SINGAPORE ELECTRONICS
PTE LTD
2 ANG MO KIO STREET 62, SINGAPORE 569138
- 3.Produtc Tested : Dot Printer
- 4.Data of Application received : October 15,2007
- 5.Data of Measurement : October 2,2007 (Completed)
October 4,2007 (Completed)
- 6.Regulations Applied : FCC Part 15 ,Subpart B
- 7.Mesurement Procedure : ANSI C63.4-2003
- 8.Place of Measurement : TOSHIBA TEC CORPORATION, FUNABARA SITE
696-3,Kami-Funabara,Amagi-Yugashima-cho
Tagata-gun,Shizuoka-ken,410-3621,Japan
Registration Number :157527



Shoji Takemure Chief Specialist

Products Safety Group

Quality Planning Department, Quality Assurance Division

Document Processing & Telecommunication Systems

Company

I HEREBY CERTIFY THAT : The data shown in this report were made in coordinate with the procedures given in ANSI C63.4-2003 and the energy emitted by the device was found to be within the limits applicable. I assume full responsibility for accuracy and completeness of these data.

Note : These results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulation.

GENERAL EQUIPMENT INFORMATION :

DESCRIPTION OF EQUIPMENT :

- | | |
|-----------------|-----------------|
| 1) Category | : Class B |
| 2) Trade Name | : Tally Genicom |
| 3) Model No. | : 2440/24 |
| 4) Serial No | : DVT |
| 5) FCC-ID | : QRTS-0703 |
| 6) Power Rating | : 120V 60Hz |
| 7) Type of EUT | : Desktop |

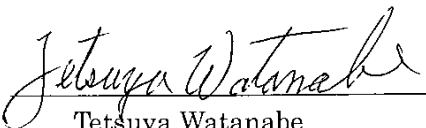
TEST CONDITION OF EQUIPMENT UNDER TEST(EUT)

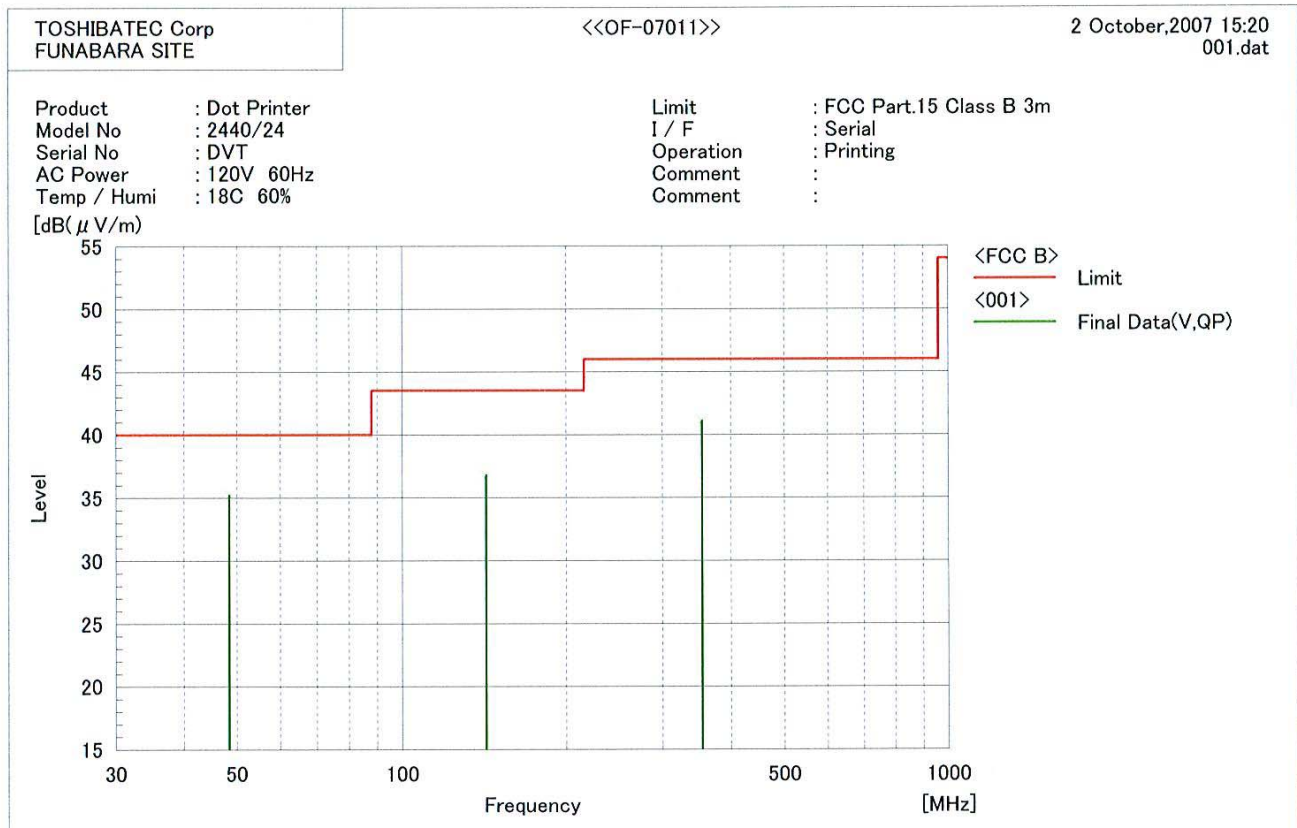
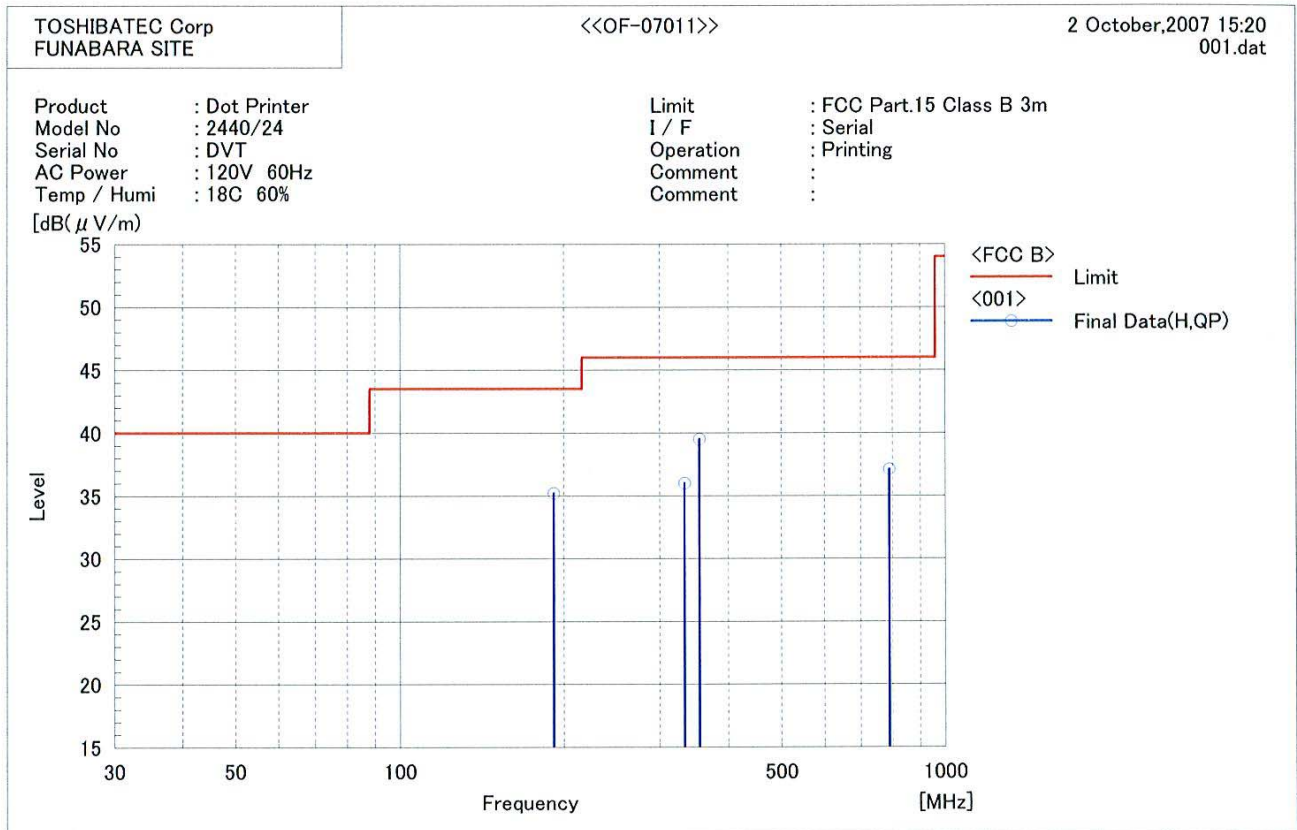
- | | |
|----------------------------------|--|
| 1) Test Configuration of the EUT | : Refer to Page Nos. 15 to 20 . |
| 2) Operating Mode | : Printing With the Program Prepared
by the applicant |
| 3) Power Supply | : 120V 60Hz |
| 4) EUT Grounding | : Grounded at the plug end of line cord. |
| 5) EUT Warm-up Time | : 5 minutes |
| 6) Temp/Humi. | : 10/2 Temp. 18 °C Humi. 60 %
: 10/4 Temp. 23 °C Humi. 39 % |

SUMMARY OF THE TEST RESULTS

- | | |
|-------------------------------------|----------|
| 1).Radiated Radio Noise Measurement | : Passed |
| 2).Line Conducted RF Voltage | : Passed |

Measurement

Tested by : 
Tetsuya Watanabe



***** TOSHIBATEC Corp *****
 <<OF-07011>> 2 October, 2007 15:20
 001.dat

Limit : FCC Part.15 Class B 3m
 Product : Dot Printer
 Model No : 2440/24
 Serial No : DVT
 AC Power : 120V 60Hz
 Temp / Humi : 18C 60%
 I / F : Serial
 Operation : Printing
 Comment :
 Comment :

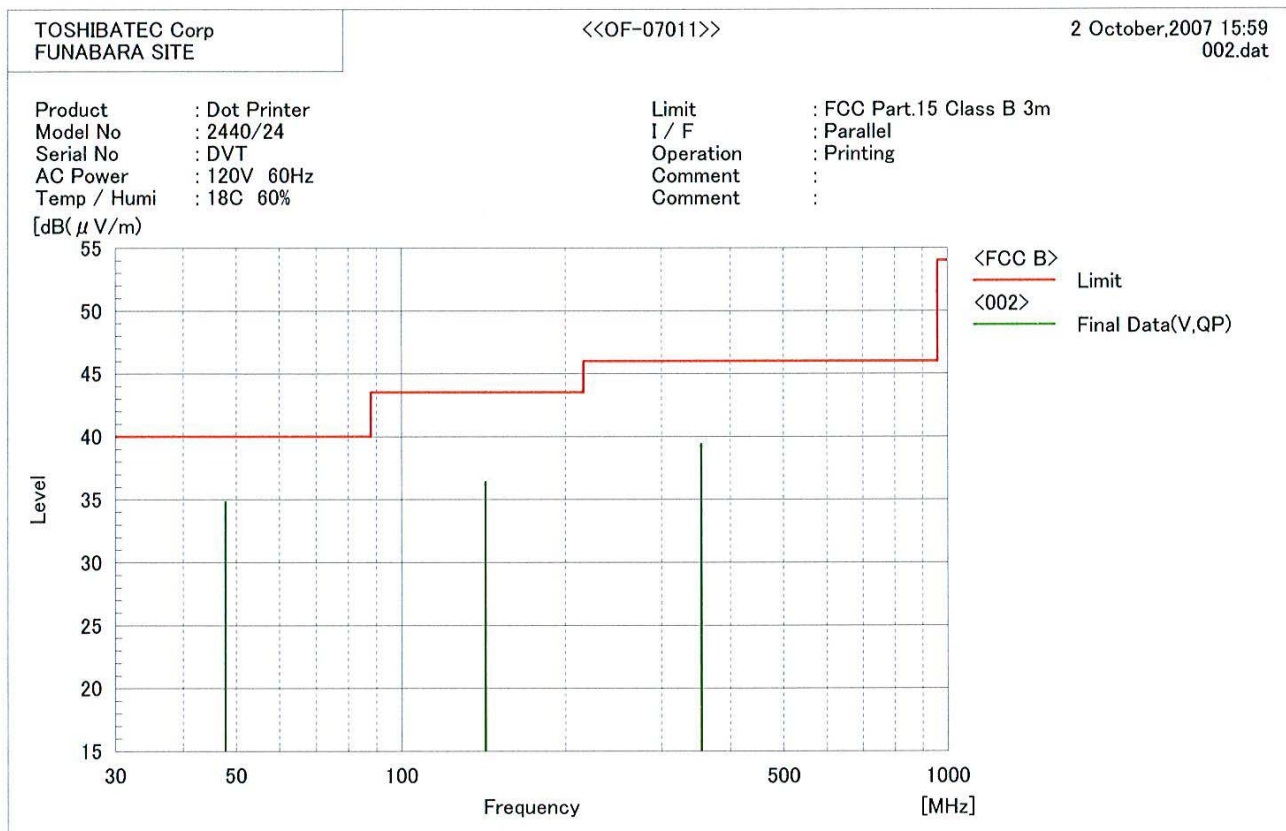
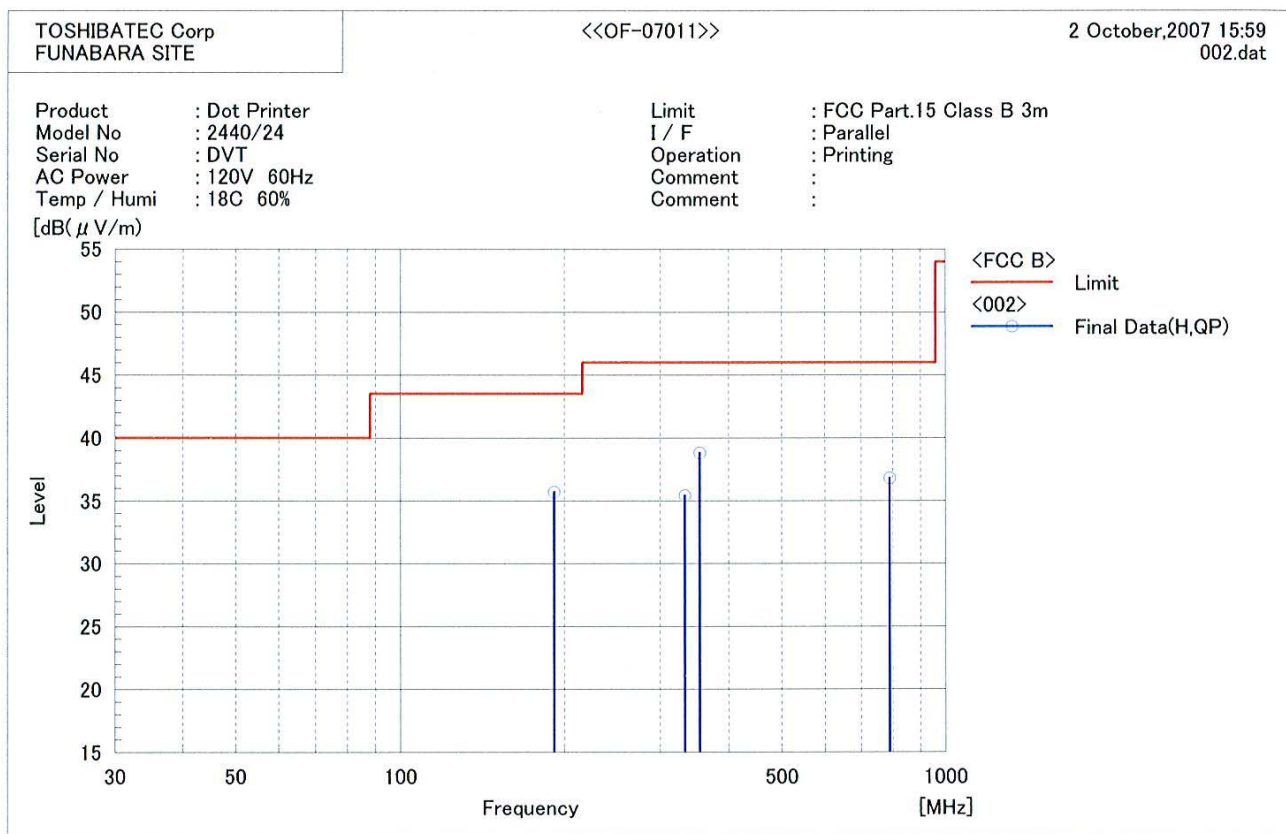
 Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μ V)]	c. f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Remark
1	191.770	46.9	-11.7	35.2	43.5	8.3	
2	333.190	50.2	-14.2	36.0	46.0	10.0	
3	354.420	53.1	-13.6	39.5	46.0	6.5	
4	789.810	42.2	-5.1	37.1	46.0	8.9	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μ V)]	c. f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Remark
1	48.430	53.3	-18.1	35.2	40.0	4.8	
2	142.810	50.2	-13.4	36.8	43.5	6.7	
3	354.420	54.8	-13.7	41.1	46.0	4.9	



***** TOSHIBATEC Corp *****
 <<OF-07011>> 2 October, 2007 15:59
 002.dat

Limit : FCC Part.15 Class B 3m
 Product : Dot Printer
 Model No : 2440/24
 Serial No : DVT
 AC Power : 120V 60Hz
 Temp / Humi : 18C 60%
 I / F : Parallel
 Operation : Printing
 Comment :
 Comment :

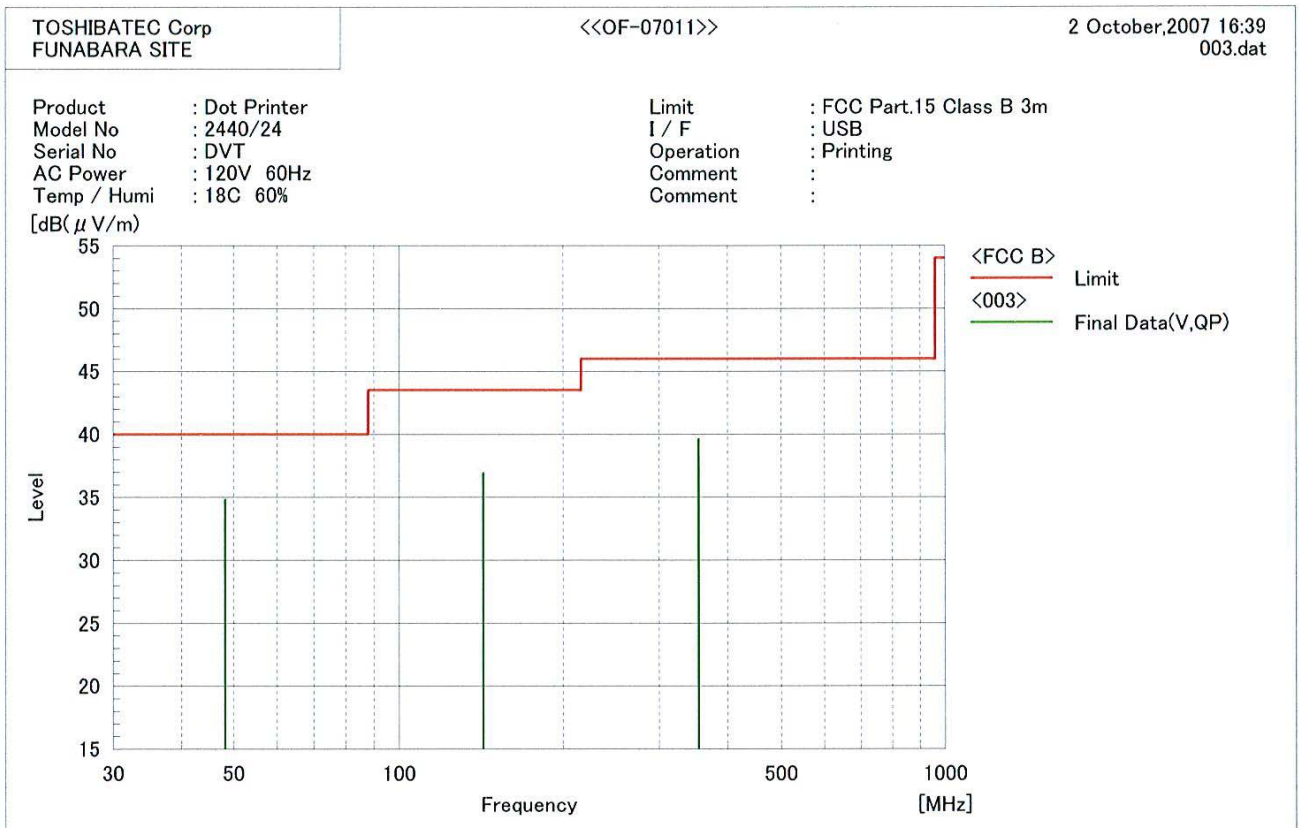
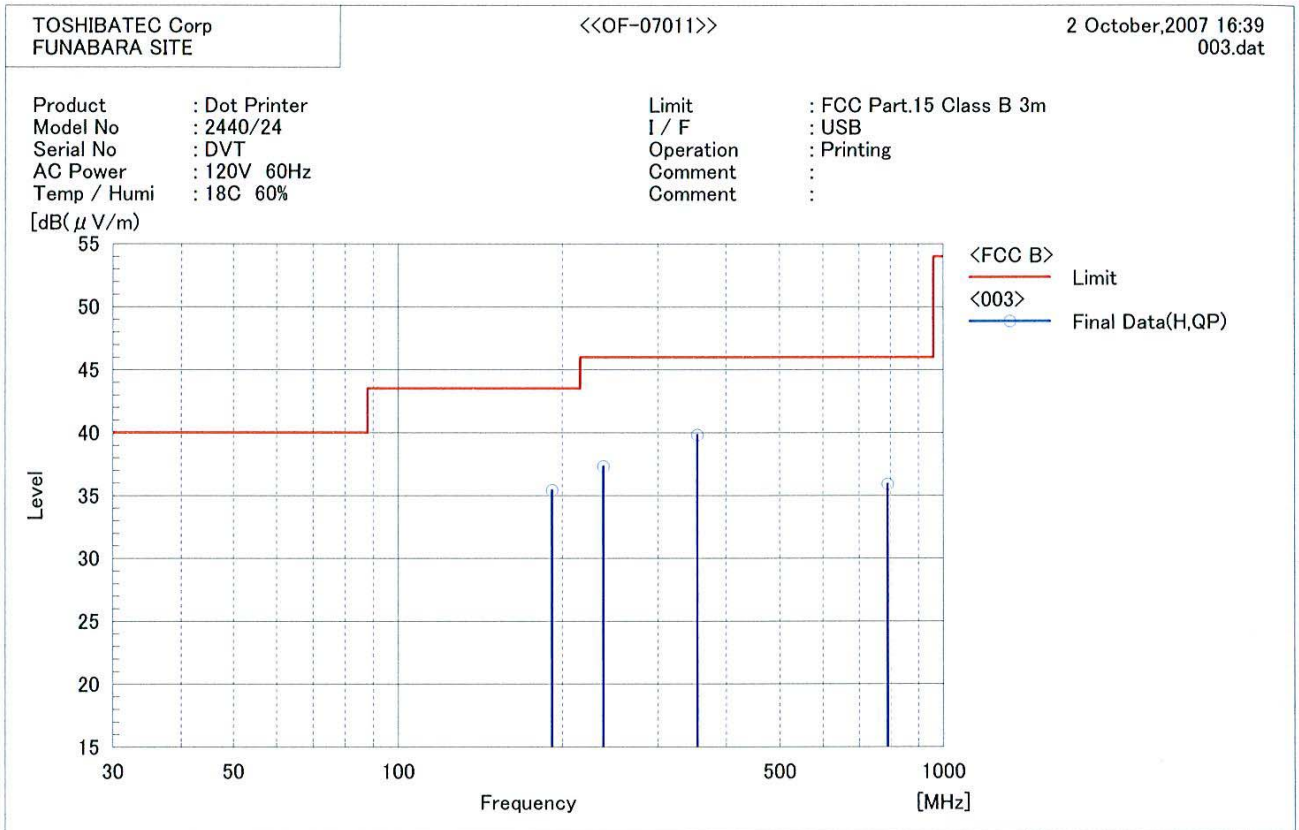
 Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μ V)]	c. f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Remark
1	191.790	47.4	-11.7	35.7	43.5	7.8	
2	333.200	49.6	-14.2	35.4	46.0	10.6	
3	354.420	52.4	-13.6	38.8	46.0	7.2	
4	789.810	41.9	-5.1	36.8	46.0	9.2	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μ V)]	c. f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Remark
1	47.800	52.6	-17.8	34.8	40.0	5.2	
2	142.820	49.8	-13.4	36.4	43.5	7.1	
3	354.420	53.1	-13.7	39.4	46.0	6.6	



***** TOSHIBATEC Corp *****
 <<OF-07011>> 2 October, 2007 16:39
 003.dat

Limit : FCC Part.15 Class B 3m
 Product : Dot Printer
 Model No : 2440/24
 Serial No : DVT
 AC Power : 120V 60Hz
 Temp / Humi : 18C 60%
 I / F : USB
 Operation : Printing
 Comment :
 Comment :

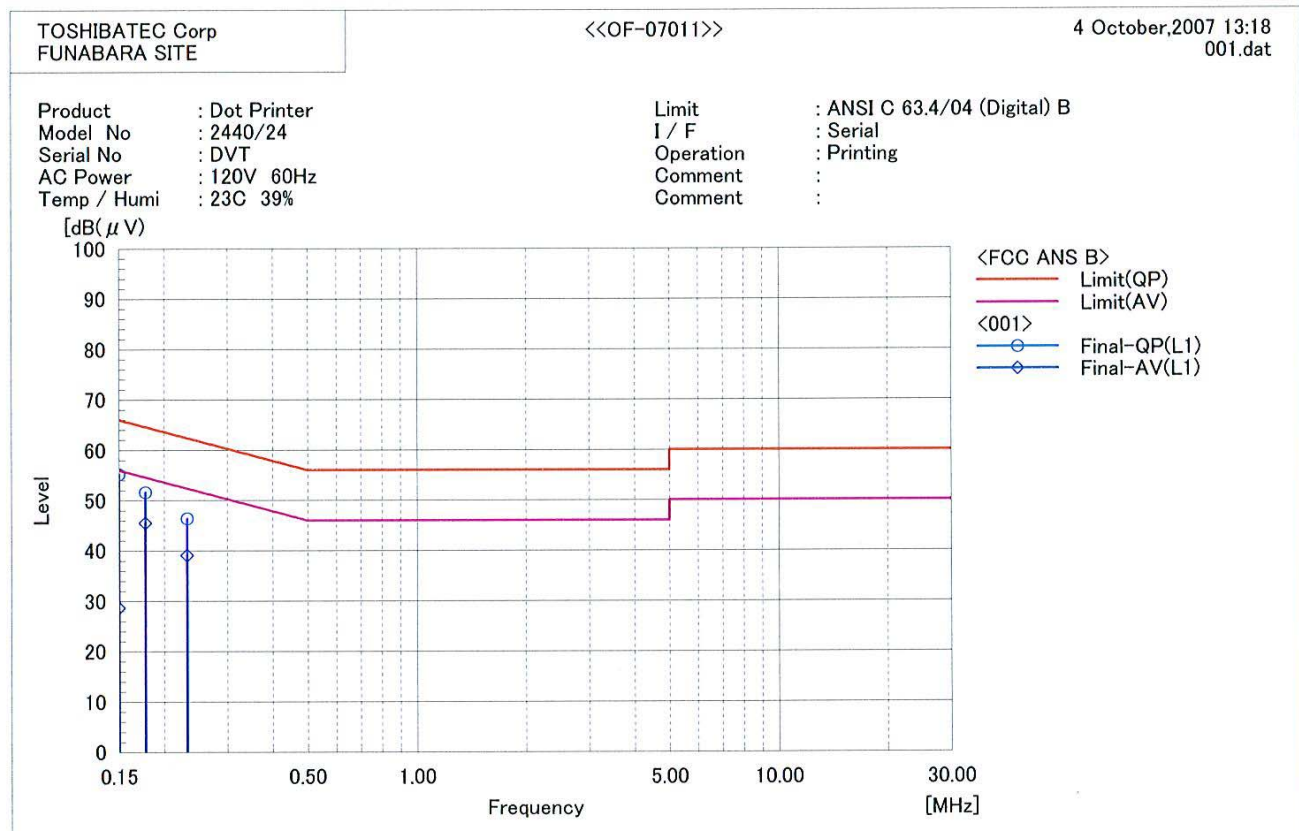
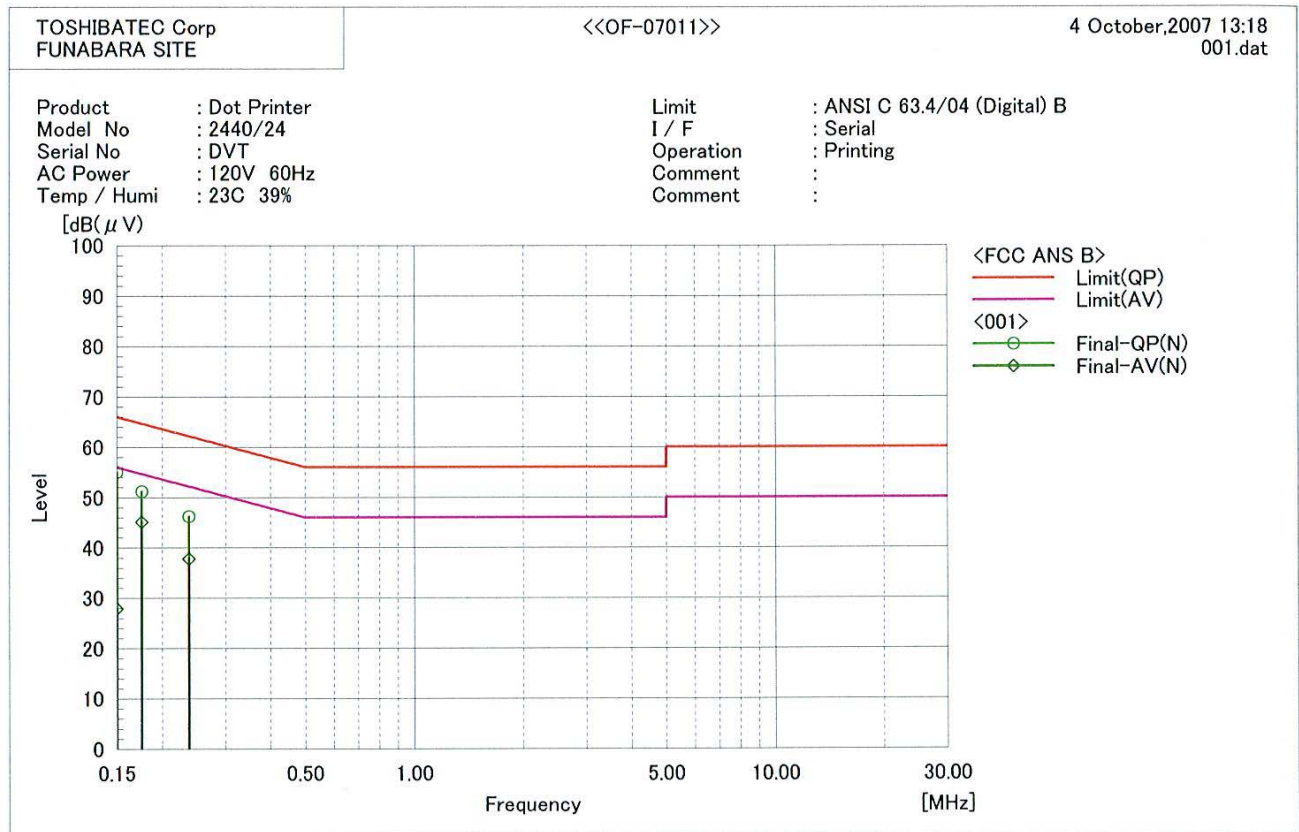
Final Result

--- Horizontal Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μ V)]	c. f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Remark
1	191.770	47.1	-11.7	35.4	43.5	8.1	
2	238.040	48.0	-10.7	37.3	46.0	8.7	
3	354.410	53.4	-13.6	39.8	46.0	6.2	
4	789.810	41.0	-5.1	35.9	46.0	10.1	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μ V)]	c. f [dB(1/m)]	Result [dB(μ V/m)]	Limit [dB(μ V/m)]	Margin [dB]	Remark
1	48.200	52.8	-18.0	34.8	40.0	5.2	
2	142.820	50.3	-13.4	36.9	43.5	6.6	
3	354.410	53.3	-13.7	39.6	46.0	6.4	



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 <<OF-07011>>

4 October, 2007 13:18
 001.dat

Limit : ANSI C 63.4/04 (Digital) B
 Product : Dot Printer
 Model No : 2440/24
 Serial No : DVT
 AC Power : 120V 60Hz
 Temp / Humi : 23C 39%
 I / F : Serial
 Operation : Printing
 Comment :
 Comment :

 Final Result

--- N Phase ---

No.	Frequency	Reading QP [dB(μ V)]	Reading AV [dB(μ V)]	c. f [dB]	Result QP [dB(μ V)]	Result AV [dB(μ V)]	Limit QP [dB(μ V)]	Limit AV [dB(μ V)]	Margin QP [dB]	Margin AV [dB]
1	0.150	45.3	18.2	9.7	55.0	27.9	66.0	56.0	11.0	28.1
2	0.17596	41.4	35.3	9.8	51.2	45.1	64.7	54.7	13.5	9.6
3	0.2371	36.4	28.0	9.8	46.2	37.8	62.2	52.2	16.0	14.4

--- L1 Phase ---

No.	Frequency	Reading QP [dB(μ V)]	Reading AV [dB(μ V)]	c. f [dB]	Result QP [dB(μ V)]	Result AV [dB(μ V)]	Limit QP [dB(μ V)]	Limit AV [dB(μ V)]	Margin QP [dB]	Margin AV [dB]
1	0.150	45.3	18.8	9.9	55.2	28.7	66.0	56.0	10.8	27.3
2	0.1775	41.6	35.5	10.0	51.6	45.5	64.6	54.6	13.0	9.1
3	0.2318	36.4	29.1	10.0	46.4	39.1	62.4	52.4	16.0	13.3

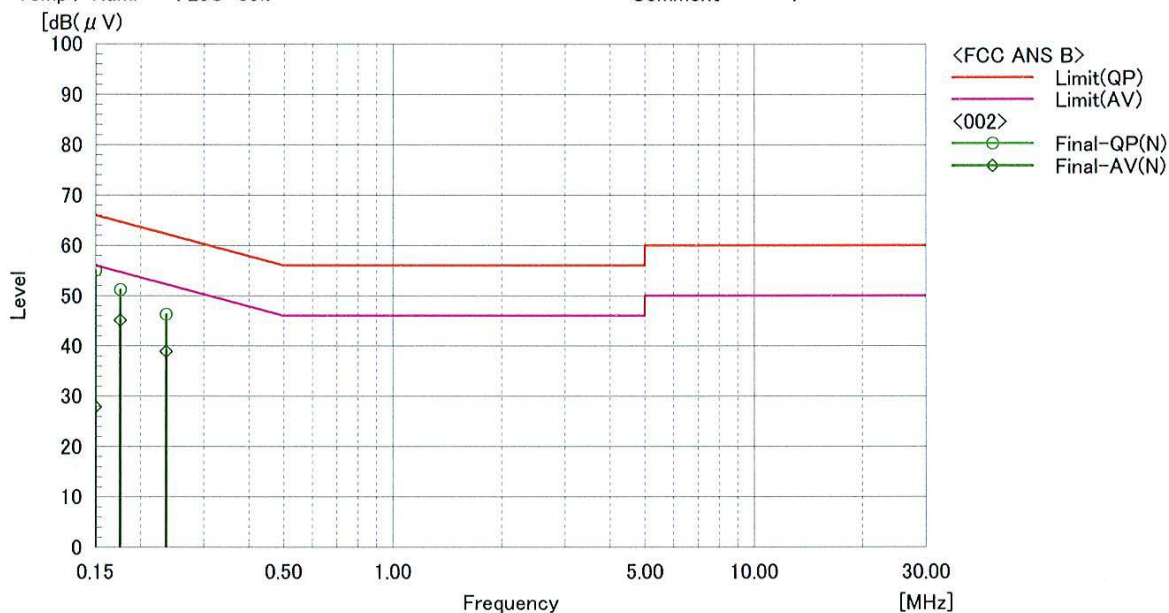
TOSHIBATEC Corp
FUNABARA SITE

<<OF-07011>>

4 October,2007 13:32
002.dat

Product : Dot Printer
Model No : 2440/24
Serial No : DVT
AC Power : 120V 60Hz
Temp / Humi : 23C 39%

Limit : ANSI C 63.4/04 (Digital) B
I / F : Parallel
Operation : Printing
Comment :
Comment :

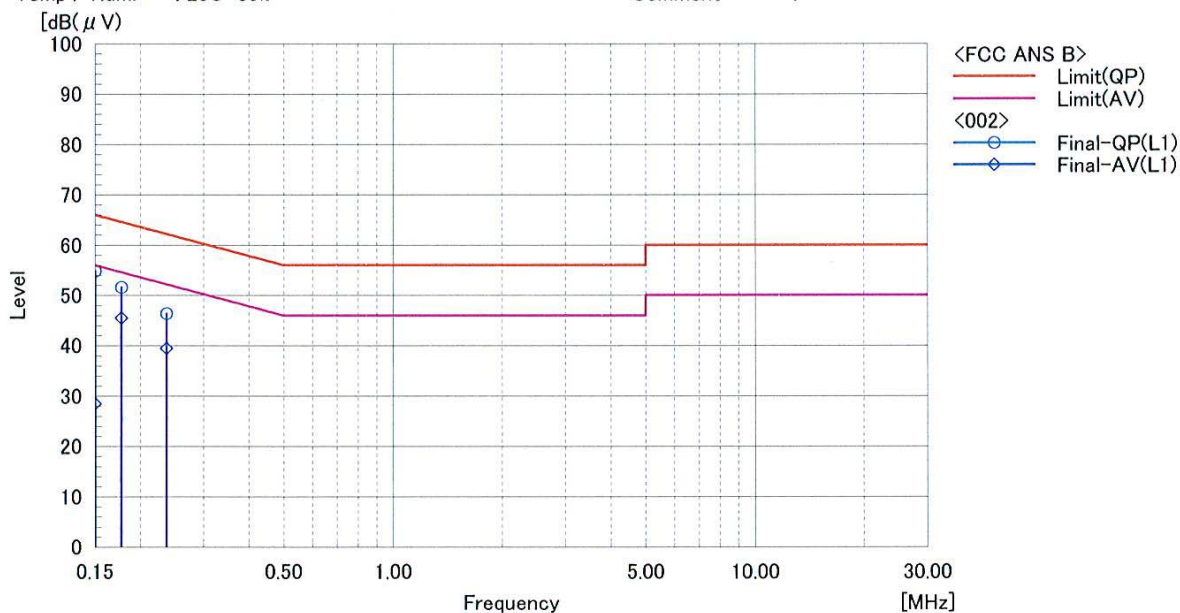
TOSHIBATEC Corp
FUNABARA SITE

<<OF-07011>>

4 October,2007 13:32
002.dat

Product : Dot Printer
Model No : 2440/24
Serial No : DVT
AC Power : 120V 60Hz
Temp / Humi : 23C 39%

Limit : ANSI C 63.4/04 (Digital) B
I / F : Parallel
Operation : Printing
Comment :
Comment :



***** TOSHIBATEC Corp *****
 <<OF-07011>>

4 October, 2007 13:32
 002.dat

Limit : ANSI C 63.4/04 (Digital) B
 Product : Dot Printer
 Model No : 2440/24
 Serial No : DVT
 AC Power : 120V 60Hz
 Temp / Humi : 23C 39%
 I / F : Parallel
 Operation : Printing
 Comment :
 Comment :

 Final Result

--- N Phase ---

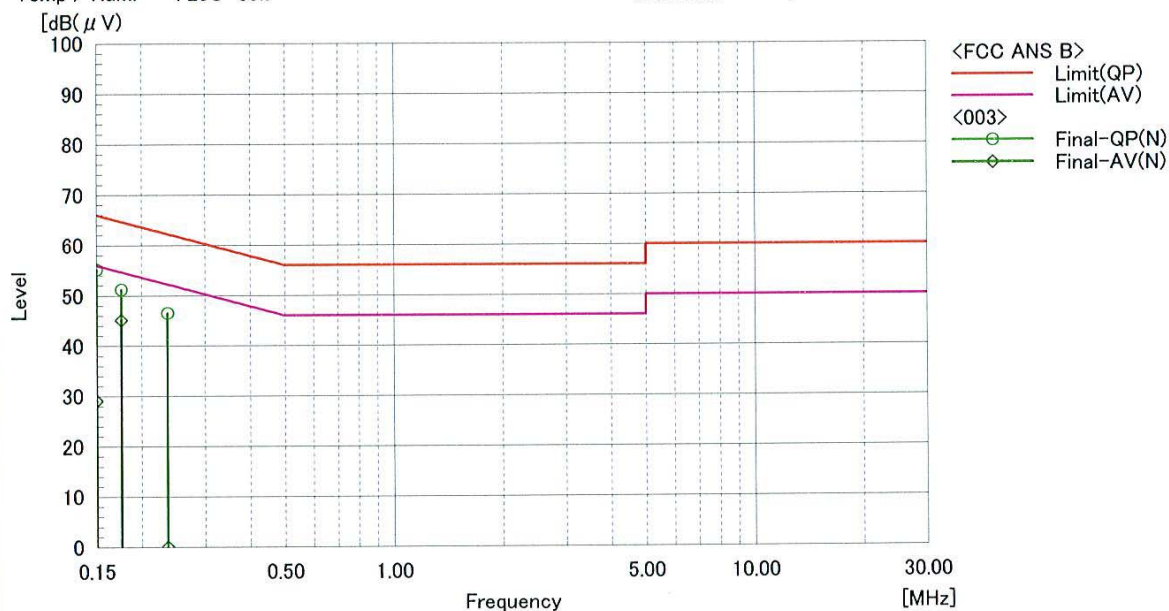
No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μ V)]	[dB(μ V)]	[dB]	[dB(μ V)]	[dB(μ V)]	[dB(μ V)]	[dB(μ V)]	[dB]	[dB]
1	0.150	45.3	18.2	9.7	55.0	27.9	66.0	56.0	11.0	28.1
2	0.176	41.4	35.3	9.8	51.2	45.1	64.7	54.7	13.5	9.6
3	0.2357	36.5	29.1	9.8	46.3	38.9	62.2	52.2	15.9	13.3

--- L1 Phase ---

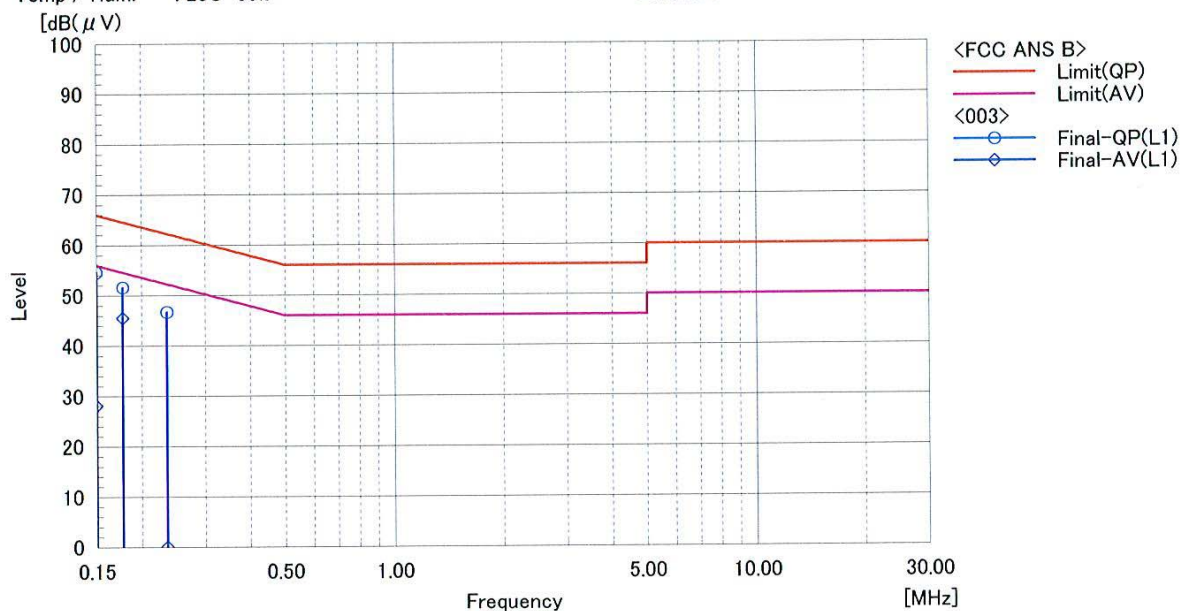
No.	Frequency	Reading QP	Reading AV	c. f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
	[MHz]	[dB(μ V)]	[dB(μ V)]	[dB]	[dB(μ V)]	[dB(μ V)]	[dB(μ V)]	[dB(μ V)]	[dB]	[dB]
1	0.150	44.9	18.6	9.9	54.8	28.5	66.0	56.0	11.2	27.5
2	0.1775	41.6	35.5	10.0	51.6	45.5	64.6	54.6	13.0	9.1
3	0.2367	36.4	29.5	10.0	46.4	39.5	62.2	52.2	15.8	12.7

TOSHIBATEC Corp
FUNABARA SITE

<<OF-07011>>

4 October,2007 13:39
003.datProduct : Dot Printer
Model No : 2440/24
Serial No : DVT
AC Power : 120V 60Hz
Temp / Humi : 23C 39%Limit : ANSI C 63.4/04 (Digital) B
I / F : USB
Operation : Printing
Comment :
Comment :TOSHIBATEC Corp
FUNABARA SITE

<<OF-07011>>

4 October,2007 13:39
003.datProduct : Dot Printer
Model No : 2440/24
Serial No : DVT
AC Power : 120V 60Hz
Temp / Humi : 23C 39%Limit : ANSI C 63.4/04 (Digital) B
I / F : USB
Operation : Printing
Comment :
Comment :

***** TOSHIBATEC Corp *****
 <<OF-07011>>

4 October, 2007 13:39
 003.dat

Limit : ANSI C 63.4/04 (Digital) B
 Product : Dot Printer
 Model No : 2440/24
 Serial No : DVT
 AC Power : 120V 60Hz
 Temp / Humi : 23C 39%
 I / F : USB
 Operation : Printing
 Comment :
 Comment :

Final Result

--- N Phase ---

No.	Frequency	Reading QP [dB(μ V)]	Reading AV [dB(μ V)]	c. f [dB]	Result QP [dB(μ V)]	Result AV [dB(μ V)]	Limit QP [dB(μ V)]	Limit AV [dB(μ V)]	Margin QP [dB]	Margin AV [dB]
1	0.150	45.5	19.4	9.7	55.2	29.1	66.0	56.0	10.8	26.9
2	0.176	41.4	35.3	9.8	51.2	45.1	64.7	54.7	13.5	9.6
3	0.23595	36.7		9.8	46.5		62.2	52.2	15.7	

--- L1 Phase ---

No.	Frequency	Reading QP [dB(μ V)]	Reading AV [dB(μ V)]	c. f [dB]	Result QP [dB(μ V)]	Result AV [dB(μ V)]	Limit QP [dB(μ V)]	Limit AV [dB(μ V)]	Margin QP [dB]	Margin AV [dB]
1	0.150	44.7	18.2	9.9	54.6	28.1	66.0	56.0	11.4	27.9
2	0.1775	41.6	35.5	10.0	51.6	45.5	64.6	54.6	13.0	9.1
3	0.2352	36.7		10.0	46.7		62.3	52.3	15.6	

TEST CONDITIONS AND CONFIGURATION OF ITE

1.The information technology equipment(ITE) consists of EUT

Description	Manufacturer	Model No.	Serial. No	FCC ID
Dot Printer	TOSHIBATEC	2440/24	DVT	QRTS-0703

2.The measurement was carried out with the following equipment connected:

Description	Manufacturer	Model No.	Serial. No	FCC ID
Personal Computer	EpsonDirect	AT951	220072740	-----
TFT Display	EIZO NANA0	FA-1562	96711079-JA-D	-----
Keyboard	ChiconyElectronics	KB-2971	5B15201301B	-----
Mouse	Logitech	M-S48a	HCA05201782	JNZ201213

3.Type of interface cable

Description	Shielded Cable	Ferrite core	Length(m)
Dot Printer / IEEE1284	Yes	No	2.0m
Personal Computer			
Dot Printer / RS-232C	Yes	No	1.6m
Personal Computer			
Dot Printer / USB	Yes	No	2.0m
Personal Computer			
Personal Computer /	Yes	Yes 2s	1.5m
TFT Display			
Personal Computer /	Yes	Yes	1.35m
Keyboard			
Personal Computer /	No	Yes	1.8m
Mouse			
Dot Printer /	No	No	1.8m
AC120V			
Personal Computer /	No	No	1.8m
AC100V			
TFT Display /	No	No	1.8m
AC100V			

4. Configuration of the equipment under test

Refer to Page No. 18 to 20

The System was configured to maximize emission. The test reflects the worst case with the System active Operating.

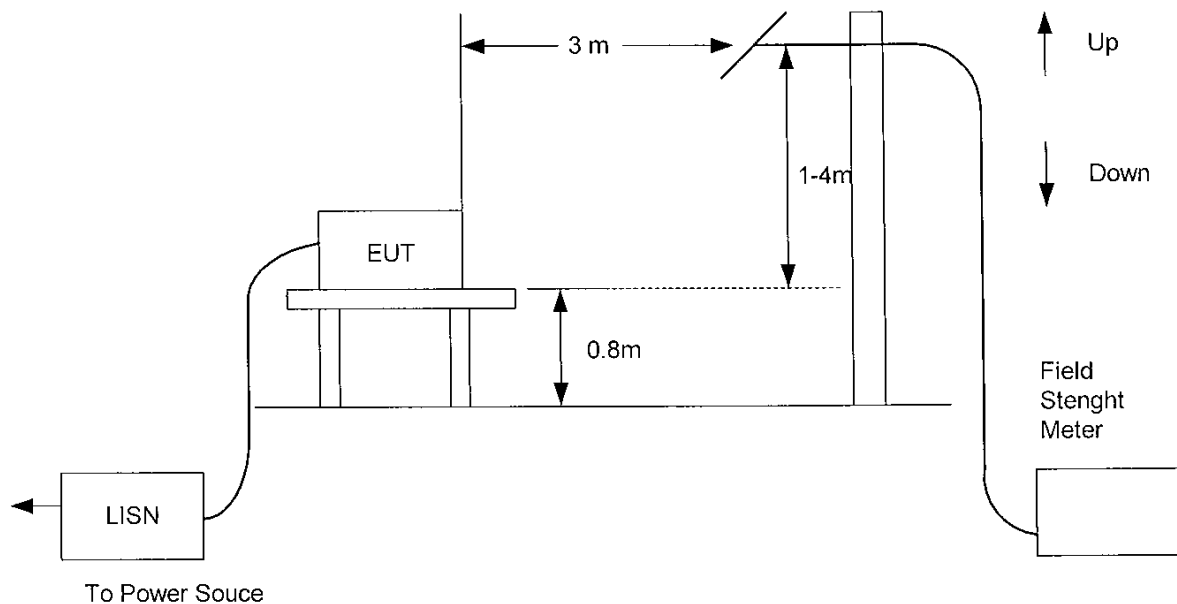
5. Arrangement of the Interface Cable(s)

Refer to sheet No 18 To 20

These interface cables were positioned so as to produce the highest maximum at every frequency between 30 MHz and 1000MHz, being within the manner assumed to be a typical operating condition.

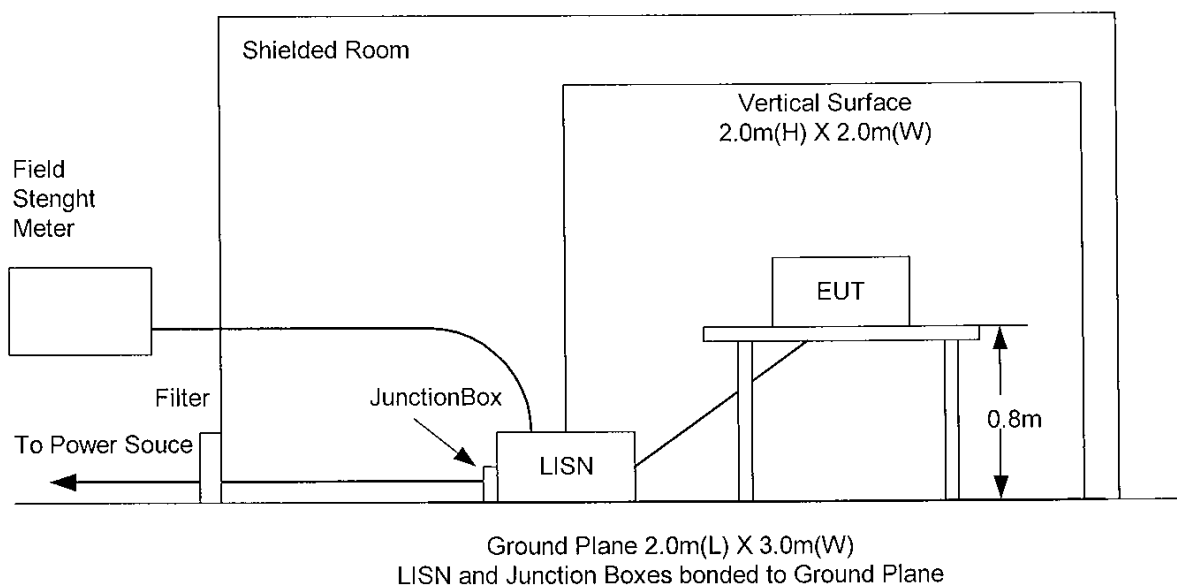
RADIATED RADIO NOISE MEASUREMENT

TEST SET-UP SKETCH

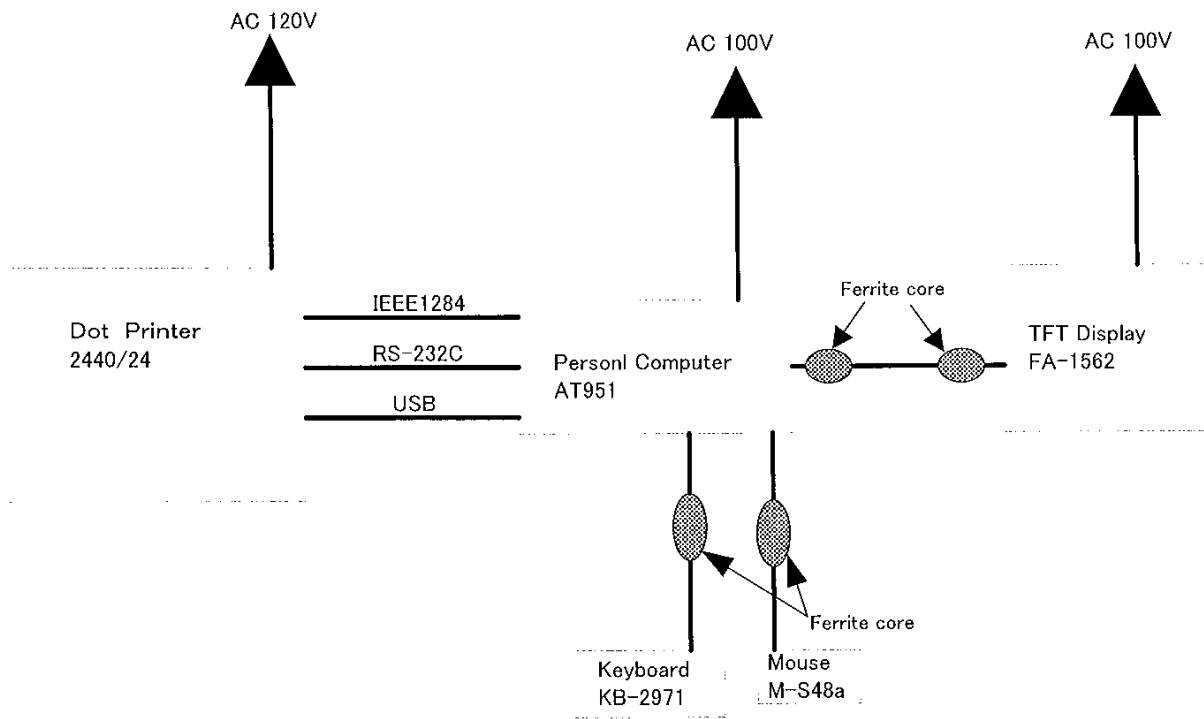


LINE CONDUCTED RF VOLTAGE MEASUREMENT

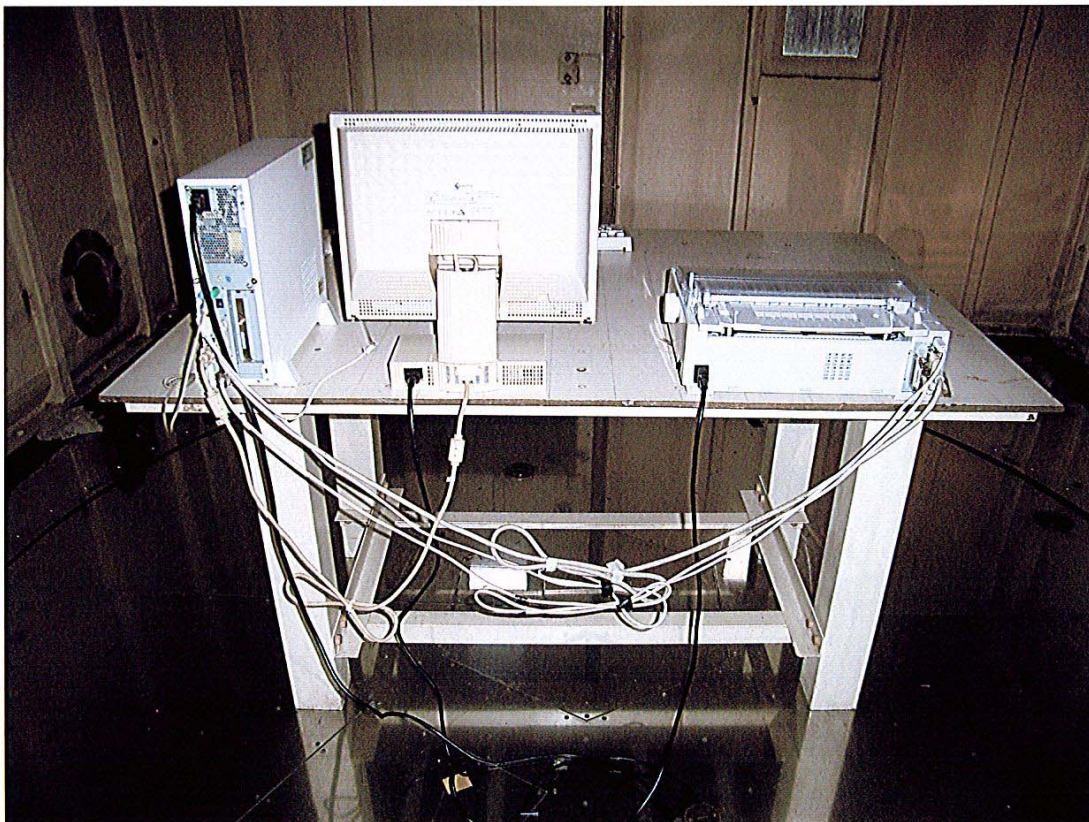
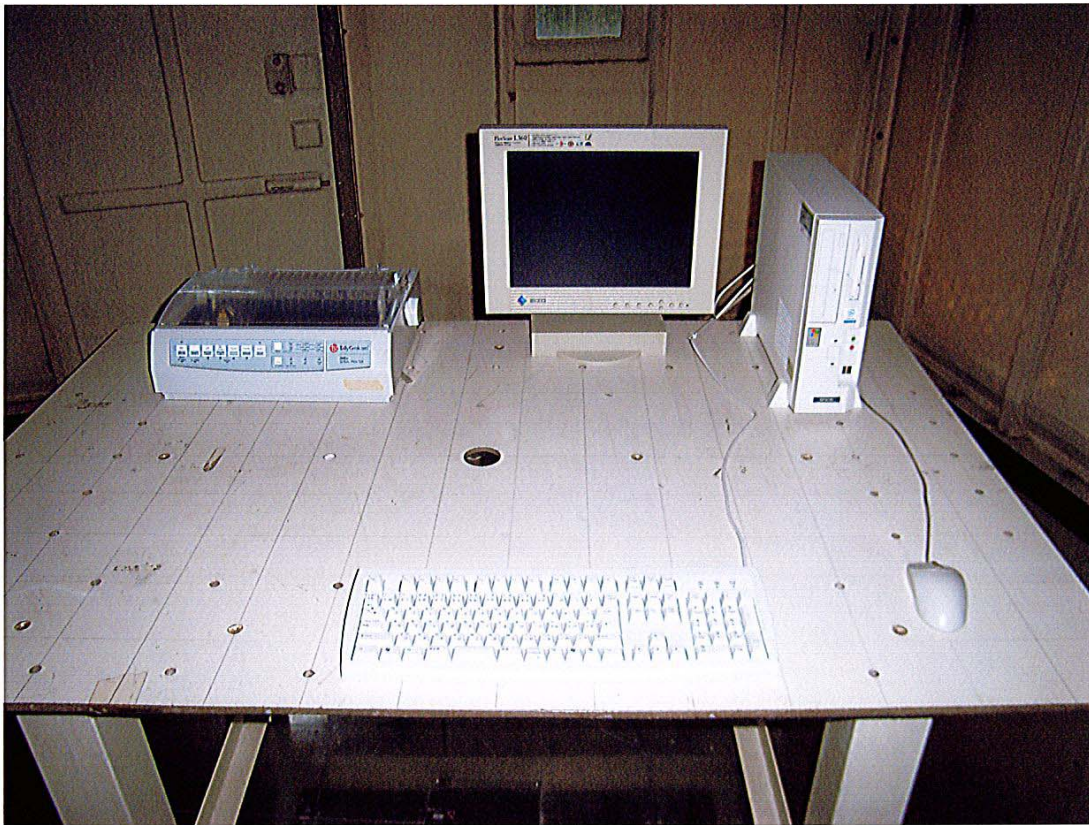
TEST SET-UP SKETCH



TEST CONDITIONS AND CONFIGURATION OF EUT



TEST CONDITIONS AND CONFIGURATION OF EUT



TOSHIBA TEC CORPORATION

TEST CONDITIONS AND CONFIGURATION OF EUT



TOSHIBA TEC CORPORATION

TEST INSTRUMENT:

Instrument Manufacturer	Model No. [Serial No.]	Specification	List Calibration [Cal. Intarval]
Test Receiver Rohde&Schwarz	ESCS30	0.009-2750MHz CISPR Q.P and Ave.	[1 year]
Test Receiver Rohde&Schwarz	ESCI	0.009-3000MHz CISPR Q.P	[1 year]
Spectrum Analyzer Advantest	R3132	0.01-3000MHz	[1 year]
Line Impedance Stabilization Network (LISN) Rohde&Schwarz	ESH2-Z5 [892107/016]	50 Ω // 50 μ H	[1 year]
Dipole Antenna Schwarzbeck	VHA9103	30-300MHz	[1 year]
Dipole Antenna Schwarzbeck	UHA9105	300-1000MHz	[1 year]
Broabband Antenna Schwarzbeck	BBA9106	30-300MHz	[1 year]
Broabband Antenna Schwarzbeck	UHALP9108A1	250-1000MHz	[1 year]