

APPLICATION FOR CERTIFICATION

On Behalf of
Bright Networking Inc.
Mini PC / Thin Client System

Model No. : TC300-XXXXXX-XXX

FCC ID. : QQU12995468300

Prepared for : Bright Networking Inc.
7F, 192-1, Sec. 3, Ta-Tung Rd.,
Shijr City, Taipei, Taiwan.

Prepared By : Taiwan Tokin EMC Eng. Corp.
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TEST REPORT CERTIFICATION

Applicant : Bright Networking Inc.
 Manufacturer : Bright Networking Inc.
 FCC ID : QQU12995468300
 EUT Description : Mini PC / Thin Client System
 (A) MODEL NO. : TC300-XXXXXX-XXX
 (B) SERIAL NO. : N/A
 (C) POWER SUPPLY : 100-240VAC, 47-63Hz
 (Test Voltage: AC 120V, 60Hz)

Measurement Procedure Used:

FCC RULES AND CISPR 22 (DOCKET NO. 92-152, SEP. 1993) AND
 FCC / ANSI C63.4-1992
 (FCC Part 15/2001 and CISPR 22/1998)

The device described above was tested by TAIWAN TOKIN EMC ENG. CORP. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the CISPR 22 Class B limits both radiated and conducted emissions.

The measurement results are contained in this test report and TAIWAN TOKIN EMC ENG. CORP. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Taiwan Tokin EMC Eng. corp.

Date of Test : Oct. 07 ~ 09, 2002

Prepared by : Monica Chang Dec. 12, 2002
 (Monica Chang/Officer)

Test Engineer : Allen Wang Dec 13, 2002
 (Allen Wang/Deputy Manager)

Approve & Authorized Signer : Jackie Deng 12/14/02
 (Jackie Deng/Assistant General Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description : Mini PC / Thin Client System

Model Number : TC300-XXXXXX-XXX

The description of TC300-XXXXXX-XXX:

TC300-	X	X	X	X	X	X	-XXX
Denotation	Color	Panel & LED Color	Panel	Tray	MIDI	PSU	CPU
"X" can be:	W, B, S, G	A, B, 1, 3, 5	B	A, D	1, 2	L, P	400, 533, 667, 800

Color – W: White; B: Black; S: Silver; G: Gray

Panel – A: Bright Panel w/ IR function; B: Bright TCP Panel; 1, 3, 5: For OEM & LED (1: OEM, 3: OEM-Acropolis, 5: OEM-ESeSIX/ TCP Blue LED or ESeSIX/ TCP Green LED)

Panel – B: Bezel

Tray – A: without Tray; D: HDD Tray

MIDI – 1: without MIDI; 2: with Sealed MIDI

PSU – L: 25W ATX PSU; P: 60W ATX PSU

CPU – 400 (CPU & External Speed: 400/100MHz)

533 (CPU & External Speed: 533/133MHz)

667 (CPU & External Speed: 667/133MHz)

800 (CPU & External Speed: 800/133MHz)

The models TC300-G5BD1L-800 & TC300-G5BD1P-800 are representative selected in the test and included in this report.

FCC ID : QQU12995468300

Applicant : Bright Networking Inc.

7F, 192-1, Sec. 3, Ta-Tung Rd.,
Shijr City, Taipei, Taiwan.

Manufacturer : Bright Networking Inc.

7F, 192-1, Sec. 3, Ta-Tung Rd.,
Shijr City, Taipei, Taiwan.

CPU & External Speed : C3/Ezra 800 MHz/ 133MHz

Hard Disk Drive : Fujitsu, M/N MHK2050AT
(Optional) S/N 01063448

RAM : 256MB

VGA Card	:	On Board
Power Supply #1 (25W, Optional)	:	Touch, M/N SP9919A
Power Supply #2 (60W, Optional)	:	Touch, M/N SP20112A
Power Cord	:	Detachable, Non-Shielded, 1.8m
Date of Receipt of Sample	:	Jul. 26, 2002
Date of Test	:	Oct. 07 ~ 09, 2002

1.2. Tested Supporting System Details

1.2.1. MONITOR

Model Number	:	GDM-500PS
Serial Number	:	2703701
FCC ID	:	By DoC
BSMI ID	:	3862A750
Manufacturer	:	Sony
D-Sub Data Cable	:	Shielded, Detachable, 1.8m Bonded two ferrite cores
Power Cord	:	Non-Shielded, Detachable, 1.5m

1.2.2. PRINTER

Model Number	:	C2642A (DeskJet 400)
Serial Number	:	TH85LIN25G
FCC ID	:	B94C2642X
Manufacturer	:	Hewlett Packard
Data Cable	:	Shielded, Detachable, 1.8m
Power Adapter	:	HP(NMB), M/N C2175A I/P: Non-Shielded, Undetachable, 0.9m O/P: Non-Shielded, Undetachable, 1.8m

1.2.3. USB KEYBOARD #1

Model Number	:	KU-8933
Serial Number	:	8H17800110
FCC ID	:	By DoC
BSMI ID	:	3872A728
Manufacturer	:	Chicony Electronics Co., Ltd.
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.4.USB KEYBOARD #2

Model Number	:	KU-8933
Serial Number	:	8C24400093
FCC ID	:	By DoC
BSMI ID	:	3872A728
Manufacturer	:	Chicony Electronics Co., Ltd.
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.5.KEYBOARD

Model Number	:	SK-2502C
Serial Number	:	M020235982
FCC ID	:	By DoC
BSMI ID	:	3872F107
Manufacturer	:	Silitek (Brand: HP)
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.2.6.MODEM #1

Model Number	:	DM-1414
Serial Number	:	980034395
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.7.MODEM #2

Model Number	:	DM-1414
Serial Number	:	980034389
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.8.MOUSE

Model Number	:	M-S48a
Serial Number	:	LZE20501511
FCC ID	:	JNZ201213
BSMI ID	:	4882A001
Manufacturer	:	Logitech (Brand: HP)
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.2.9.USB MOUSE USB #1

Model Number	:	MINI 801 USB
Serial Number	:	CE2300400415
FCC ID	:	By DoC
BSMI ID	:	3892B623
Manufacturer	:	GENIUS (Brand: LEMEL)
Data Cable	:	Shielded, Undetachable, 1.0m

1.2.10.USB MOUSE USB #2

Model Number	:	MINI 801 USB
Serial Number	:	CE2300400429
FCC ID	:	By DoC
BSMI ID	:	3892B623
Manufacturer	:	GENIUS (Brand: LEMEL)
Data Cable	:	Shielded, Undetachable, 1.0m

1.2.11.MICROPHONE

Model Number	:	HD-303
Serial Number	:	N/A
Manufacturer	:	Multimedia Microphone System
Data Cable	:	Non-Shielded, Undetachable, 2.2m

1.2.12.SPEAKER

Model Number	:	J-008
Serial Number	:	97-C-009784-T
Manufacturer	:	(J-S) JAZZ HIPSTER
Data Cable	:	Non-Shielded, Undetachable, 1m

1.2.13.WALKMAN

Model Number	:	RQ-P35LT-K
Serial Number	:	HA08631
Manufacturer	:	Panasonic
Data Cable	:	Non-Shielded, Detachable, 1.8m

1.2.14.HUB

Model Number	:	8222-008
Serial Number	:	23-F4014
FCC ID	:	By DoC
Manufacturer	:	IBM
RJ45 Cable (To EUT)	:	Non-Shielded, Detachable, 20m
RJ45 Cable (To PC)	:	Non-Shielded, Detachable, 1.8m
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.15.PARTNER PC SYSTEM

Model Number	:	HP VECTRA XE320
Serial Number	:	SG21102000
FCC ID	:	By DoC
BSMI ID	:	3912A318
Brand	:	HP
Manufacturer	:	First International Computer, Inc.
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.16. PARTNER 15" LCD MONITOR

Model Number	:	D5063M
Serial Number	:	CN206A6578
FCC ID	:	By DoC
BSMI ID	:	R33037
Manufacturer	:	Top Victory Electronics (Fujian) Co., Ltd.
Data Cable (D-Sub)	:	Shielded, Detachable, 1.8m Bonded two ferrite cores
AC Adapter	:	Delta, M/N ADP-40TB BSMI ID 3892D142 Cord: Shielded, Undetachable, 1.8m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.17. PARTNER KEYBOARD

Model Number	:	SK-2502C
Serial Number	:	M020235970
FCC ID	:	By DoC
BSMI ID	:	3872F107
Manufacturer	:	Silitek (Brand: HP)
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.2.18. PARTNER MOUSE

Model Number	:	M-S48a
Serial Number	:	LZE20501589
FCC ID	:	JNZ201213
BSMI ID	:	4882A001
Manufacturer	:	Logitech (Brand: HP)
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.3. Description of Test Facility

Site Description (No. 4 Open Site)	:	Mar. 31, 2000 Re-File on Federal Communication Commission Registration Number: 90991
Site Description (Anechoic Chamber)	:	May 16, 2000 Re-file on Federal Communication Commission Registration Number: 90993
Name of Firm	:	Taiwan Tokin EMC Eng. Corp.
Site Location #1	:	No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei Hsien, Taiwan, R.O.C.
Site Location #2	:	No. 67-4, Tin-Fu Tsun, Lin-Kou, Taipei Hsien, Taiwan, R.O.C.
NVLAP Lab Code	:	200077-0

1.4. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conduction Test	150KHz~30MHz	$\pm 2.66\text{dB}$
Radiation Test (Distance: 10m)	30MHz~300MHz	+4.5dB / -4.5dB
	300MHz~1000MHz	+3.88dB / -3.84dB
Radiation Test (Distance: 3m)	30MHz~300MHz	+4.26dB / -4.22dB
	300MHz~1000MHz	+5.28dB / -4.0dB

Remark : Uncertainty = $K\mu c(y)$

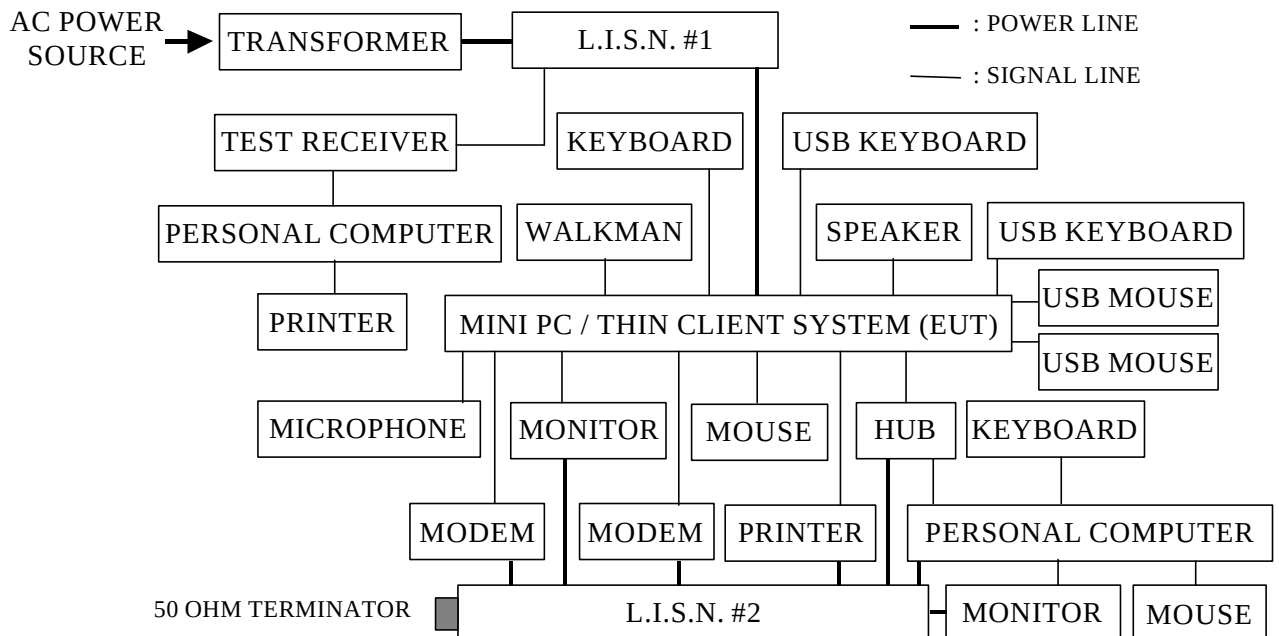
2. POWERLINE CONDUCTED TEST

2.1. Test Equipment

The following test equipment were used during the power line conducted tests :

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	R&S	ESCS 30	825442/020	Aug. 01, 02'	1 Year
2.	L.I.S.N. #1	Kyoritsu	KNW-407	8-1370-10	May 29, 02'	1 Year
3.	L.I.S.N. #2	Kyoritsu	KNW-407	8-1370-9	May 29, 02'	1 Year

2.2. Block Diagram of Test Setup



2.3. Powerline Conducted Emission Limit (CISPR 22, Class B)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150KHz ~ 500KHz	66 ~ 56 dB	56 ~ 46 dB
500KHz ~ 5MHz	56 dB	46 dB
5MHz ~ 30MHz	60 dB	50 dB

Remark: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2.4. EUT' s Configuration during Compliance Measurement

The following equipment were installed on RF LINE VOLTAGE measurement to meet the Commission requirement and operating in a manner which tended to maximize its emission characteristics in a normal application.

2.4.1. Mini PC / Thin Client System(EUT)

Model Number	:	(1) TC300-G5BD1L-800 (2) TC300-G5BD1P-800
Serial Number	:	N/A
Manufacturer	:	Bright Networking Inc.
CPU & External Speed	:	C3/Ezra 800 MHz/ 133MHz
Hard Disk Drive	:	Fujitsu, M/N MHK2050AT S/N 01063448
RAM	:	256MB
VGA Card	:	On Board
Power Supply #1 (25W)	:	Touch, M/N SP9919A
Power Supply #2 (60W)	:	Touch, M/N SP20112A
Power Cord	:	Detachable, Non-Shielded, 1.8m
2.4.2.Supporting System	:	As in section 1.2

2.5. Operating Condition of EUT

- 2.5.1. Setup the EUT and simulator as shown on 2.2.
- 2.5.2. Turn on the power of all equipment.
- 2.5.3. The Mini PC / Thin Client System(EUT) read data from disk.
- 2.5.4. The Mini PC / Thin Client System(EUT) sent "H" characters to the partner personal computer through the HUB, and then the "H" patterns were displayed on the monitors at the same time.
- 2.5.5. The Mini PC / Thin Client System(EUT) sent data into the modem.
- 2.5.6. The Mini PC / Thin Client System(EUT) sent "H" characters to the printer, the printer printed "H" patterns on paper.
- 2.5.7. The Mini PC / Thin Client System(EUT) read data from the HDD and then wrote data into the HDD.
- 2.5.8. The other peripheral devices were driven and operated in turn during all testing.

2.6. Test Procedure

The EUT was put on table which was above the ground by 80cm and its power cord connected to the AC mains through the line impedance stabilization network (L.I.S.N.# 1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N. # 2). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to FCC ANSI C63.4-1992 requirement.

The bandwidth of the R&S Test Receiver ESCS 30 was set at 9KHz.

The frequency range from 150KHz to 30MHz was checked.

2.7. Line Conducted RF Voltage Measurement Results

PASSED. The following test modes were done on conducted test and all the test results are listed in next pages.

(Test Date : Oct. 09, 2001, Temperature : 24°C, Humidity : 42%)

	Test Mode			Reference Data #
	Model No.	Power Supply	Frequency Resolution	
1.	TC300-G5BD1L-800	M/N	640*480/85Hz, 43kHz	# 25 (26, 27) ; 28 (29, 30)
2.		SP9919A, (25W)	1280*1024/75Hz, 80kHz	# 37 (38, 39) ; 40 (41, 42)
3.			1600*1200/60Hz, 75kHz	# 46 (47, 48) ; 43 (44, 45)
4.	TC300-G5BD1P-800	M/N	640*480/85Hz, 43kHz	# 70 (71, 72) ; 67 (68, 69)
5.		SP20112A, (60W)	1280*1024/75Hz, 80kHz	# 58 (59, 60) ; 55 (56, 57)
6.			1600*1200/60Hz, 75kHz	# 49 (50, 51) ; 52 (53, 54)

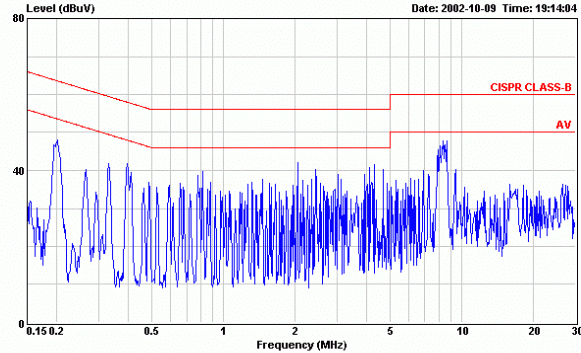


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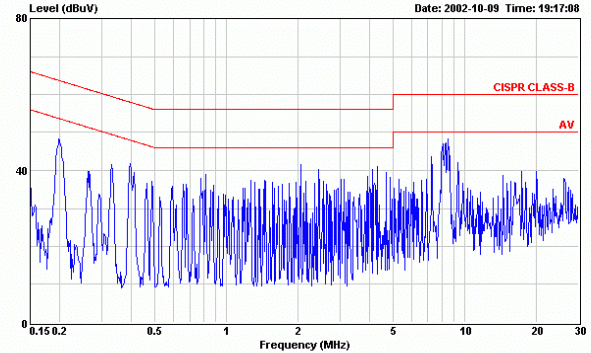
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Data#: 25 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 640*480/85Hz 43KHz (25W)

Data#: 28 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 640*480/85Hz 43KHz (25W)

Data#: 26 File#: D:\晶選-G91713-C.EMI

	Freq	Level	Limit	Line	Read	Probe	Cable	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.198	45.61	-18.09	63.70	45.11	0.30	0.20	QP	
2	0.330	40.51	-18.95	59.46	40.01	0.30	0.20	QP	
3	0.818	38.86	-17.14	56.00	38.36	0.30	0.20	QP	
4	2.045	39.32	-16.68	56.00	38.62	0.30	0.40	QP	
5	4.294	39.68	-16.32	56.00	38.68	0.40	0.60	QP	
6	8.454	45.93	-14.07	60.00	44.93	0.40	0.60	QP	

	Freq	Level	Limit	Line	Read	Probe	Cable	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.198	42.65	-11.05	53.70	42.15	0.30	0.20	Average	
2	0.330	39.49	-9.97	49.46	38.99	0.30	0.20	Average	
3	0.818	38.02	-7.98	46.00	37.52	0.30	0.20	Average	
4	2.045	35.05	-10.95	46.00	34.35	0.30	0.40	Average	
5	4.294	35.52	-10.48	46.00	34.52	0.40	0.60	Average	
6	8.454	36.53	-13.47	50.00	35.53	0.40	0.60	Average	

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	Freq	Level	Limit	Line	Read	Probe	Cable	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.198	45.83	-17.87	63.70	45.33	0.30	0.20	QP	
2	0.330	40.33	-19.13	59.46	39.83	0.30	0.20	QP	
3	0.818	38.29	-17.71	56.00	37.79	0.30	0.20	QP	
4	2.049	39.35	-16.65	56.00	38.65	0.30	0.40	QP	
5	4.291	39.82	-16.18	56.00	38.82	0.40	0.60	QP	
6	8.455	46.31	-13.69	60.00	45.31	0.40	0.60	QP	

	Freq	Level	Limit	Line	Read	Probe	Cable	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.198	42.64	-11.06	53.70	42.14	0.30	0.20	Average	
2	0.330	39.45	-10.01	49.46	38.95	0.30	0.20	Average	
3	0.818	37.93	-8.07	46.00	37.43	0.30	0.20	Average	
4	2.049	35.79	-10.21	46.00	35.09	0.30	0.40	Average	
5	4.291	35.93	-10.07	46.00	34.93	0.40	0.60	Average	
6	8.455	34.86	-15.14	50.00	33.86	0.40	0.60	Average	

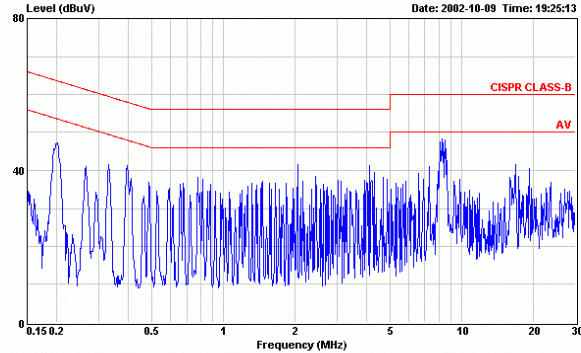


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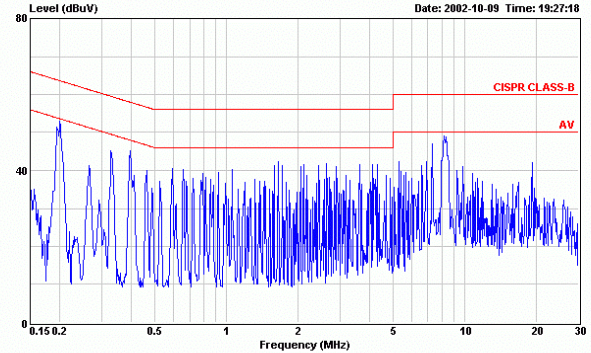
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Data#: 37 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1280*1024/75Hz 80KHz (25W)

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Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1280*1024/75Hz 80KHz (25W)

Data#: 38 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 19:25:55

Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1280*1024/75Hz 80KHz (25W)

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	45.79	-17.89	63.68	45.29	0.30	0.20 QP
2	0.332	38.34	-21.05	59.39	37.84	0.30	0.20 QP
3	0.782	36.48	-19.52	56.00	35.98	0.30	0.20 QP
4	2.045	39.61	-16.39	56.00	38.91	0.30	0.40 QP
5	4.094	38.68	-17.32	56.00	37.68	0.40	0.60 QP
6	8.453	47.13	-12.87	60.00	46.13	0.40	0.60 QP

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		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	42.43	-11.25	53.68	41.93	0.30	0.20 Average
2	0.332	37.36	-12.03	49.39	36.86	0.30	0.20 Average
3	0.782	36.52	-9.48	46.00	36.02	0.30	0.20 Average
4	2.045	35.40	-10.60	46.00	34.70	0.30	0.40 Average
5	4.094	35.21	-10.79	46.00	34.21	0.40	0.60 Average
6	8.453	34.88	-15.12	50.00	33.88	0.40	0.60 Average

Data#: 41 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 19:27:55

Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1280*1024/75Hz 80KHz (25W)

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	51.03	-12.65	63.68	50.53	0.30	0.20 QP
2	0.332	45.26	-14.18	59.44	44.76	0.30	0.20 QP
3	0.791	37.34	-18.66	56.00	36.84	0.30	0.20 QP
4	2.113	39.59	-16.41	56.00	38.89	0.30	0.40 QP
5	4.094	40.29	-15.71	56.00	39.29	0.40	0.60 QP
6	8.448	46.63	-13.37	60.00	45.63	0.40	0.60 QP

Data#: 42 File#: D:\晶選-G91713-C.EMI

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	45.74	-7.94	53.68	45.24	0.30	0.20 Average
2	0.332	42.14	-7.30	49.44	41.64	0.30	0.20 Average
3	0.791	31.29	-14.71	46.00	30.79	0.30	0.20 Average
4	2.113	32.02	-13.98	46.00	31.32	0.30	0.40 Average
5	4.094	34.59	-11.41	46.00	33.59	0.40	0.60 Average
6	8.448	40.71	-9.29	50.00	39.71	0.40	0.60 Average

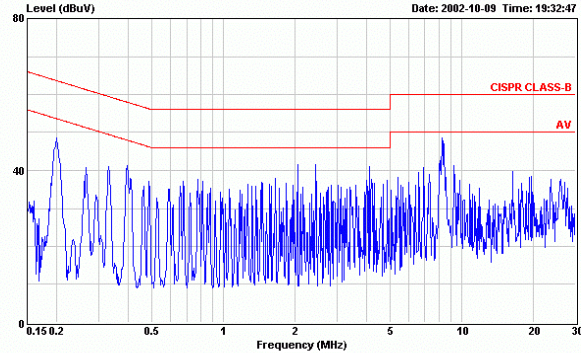


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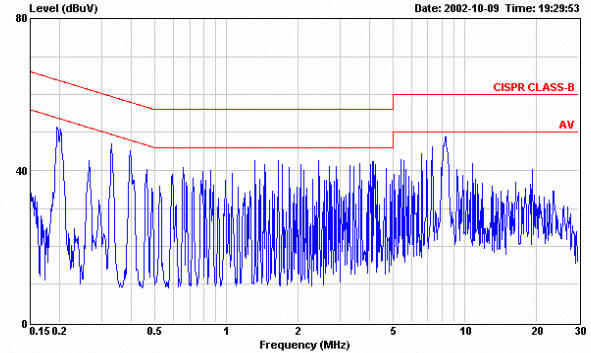
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Data#: 46 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1600*1200/60Hz 75KHz (25W)

Data#: 43 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1600*1200/60Hz 75KHz (25W)

Data#: 47 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 19:33:25

Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1600*1200/60Hz 75KHz (25W)

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.199	46.11	-17.56	63.67	45.61	0.30	0.20 QP
2	0.331	40.11	-19.31	59.42	39.61	0.30	0.20 QP
3	0.782	36.02	-19.98	56.00	35.52	0.30	0.20 QP
4	2.046	39.49	-16.51	56.00	38.79	0.30	0.40 QP
5	4.091	37.85	-18.15	56.00	36.85	0.40	0.60 QP
6	8.380	46.93	-13.07	60.00	45.93	0.40	0.60 QP

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.199	42.42	-11.25	53.67	41.92	0.30	0.20 Average
2	0.331	39.09	-10.33	49.42	38.59	0.30	0.20 Average
3	0.782	36.02	-9.98	46.00	35.52	0.30	0.20 Average
4	2.046	35.80	-10.20	46.00	35.10	0.30	0.40 Average
5	4.091	33.86	-12.14	46.00	32.86	0.40	0.60 Average
6	8.380	36.98	-13.02	50.00	35.98	0.40	0.60 Average

Data#: 44 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 19:30:38

Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1600*1200/60Hz 75KHz (25W)

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	51.11	-12.57	63.68	50.61	0.30	0.20 QP
2	0.330	45.32	-14.13	59.45	44.82	0.30	0.20 QP
3	0.791	37.42	-18.58	56.00	36.92	0.30	0.20 QP
4	1.651	40.15	-15.85	56.00	39.45	0.30	0.40 QP
5	4.092	39.57	-16.43	56.00	38.57	0.40	0.60 QP
6	8.385	46.51	-13.49	60.00	45.51	0.40	0.60 QP

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	45.77	-7.91	53.68	45.27	0.30	0.20 Average
2	0.330	42.05	-7.40	49.45	41.55	0.30	0.20 Average
3	0.791	31.56	-14.44	46.00	31.06	0.30	0.20 Average
4	1.651	31.51	-14.49	46.00	30.81	0.30	0.40 Average
5	4.092	35.14	-10.86	46.00	34.14	0.40	0.60 Average
6	8.385	38.79	-11.21	50.00	37.79	0.40	0.60 Average

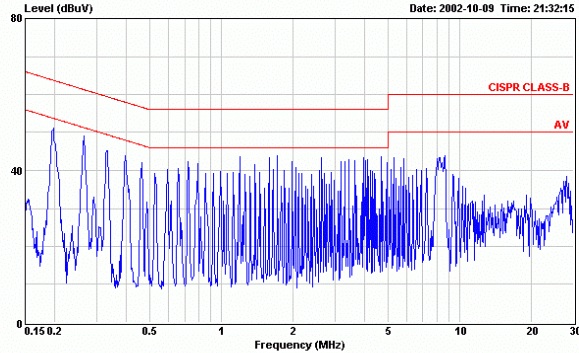


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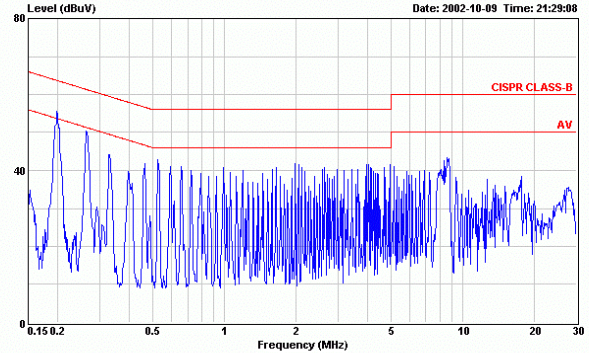
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Email:tttemc@tttemc.com.tw

Data#: 70 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 640*480/85Hz 43KHz (60W)

Data#: 67 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 640*480/85Hz 43KHz (60W)

Data#: 71 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 21:32:51

Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 640*480/85Hz 43KHz (60W)

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	49.90	-13.78	63.68	49.40	0.30	0.20 QP
2	0.265	47.85	-13.44	61.29	47.35	0.30	0.20 QP
3	0.726	41.06	-14.94	56.00	40.56	0.30	0.20 QP
4	1.719	41.76	-14.24	56.00	41.06	0.30	0.40 QP
5	3.967	40.16	-15.84	56.00	39.46	0.30	0.40 QP
6	8.522	40.91	-19.09	60.00	39.91	0.40	0.60 QP

Data#: 72 File#: D:\晶選-G91713-C.EMI

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	44.55	-9.13	53.68	44.05	0.30	0.20 Average
2	0.265	43.90	-7.39	51.29	43.40	0.30	0.20 Average
3	0.726	37.91	-8.09	46.00	37.41	0.30	0.20 Average
4	1.719	35.34	-10.66	46.00	34.64	0.30	0.40 Average
5	3.967	34.61	-11.39	46.00	33.91	0.30	0.40 Average
6	8.522	36.65	-13.35	50.00	35.65	0.40	0.60 Average

Data#: 68 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 21:30:24

Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 640*480/85Hz 43KHz (60W)

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	54.26	-9.42	63.68	53.76	0.30	0.20 QP
2	0.263	49.13	-12.22	61.35	48.63	0.30	0.20 QP
3	0.594	41.14	-14.86	56.00	40.64	0.30	0.20 QP
4	1.984	39.93	-16.07	56.00	39.23	0.30	0.40 QP
5	4.958	40.52	-15.48	56.00	39.52	0.40	0.60 QP
6	17.118	39.49	-20.51	60.00	37.99	0.80	0.70 QP

Data#: 69 File#: D:\晶選-G91713-C.EMI

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	49.67	-4.01	53.68	49.17	0.30	0.20 Average
2	0.263	45.81	-5.54	51.35	45.31	0.30	0.20 Average
3	0.594	39.82	-6.18	46.00	39.32	0.30	0.20 Average
4	1.984	36.86	-9.14	46.00	36.16	0.30	0.40 Average
5	4.958	35.13	-10.87	46.00	34.13	0.40	0.60 Average
6	17.118	26.36	-23.64	50.00	24.86	0.80	0.70 Average



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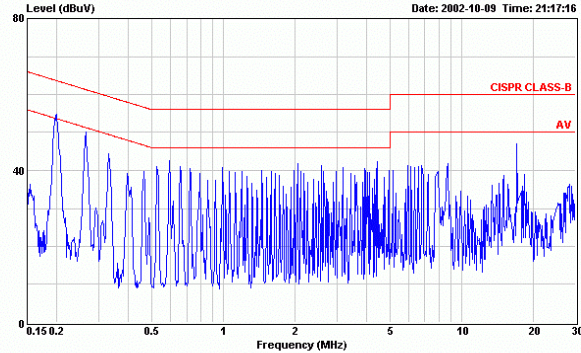
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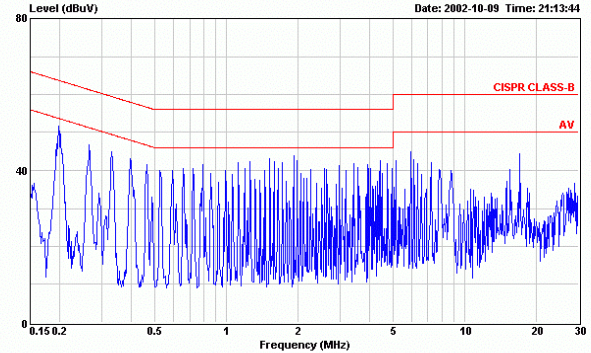
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Data#: 58 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1280*1024/75Hz 80KHz (60W)

Data#: 55 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1280*1024/75Hz 80KHz (60W)

Data#: 59 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 21:17:51

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	53.96	-9.73	63.69	53.46	0.30	0.20 QP
2	0.266	48.29	-12.96	61.25	47.79	0.30	0.20 QP
3	0.596	41.30	-14.70	56.00	40.80	0.30	0.20 QP
4	2.048	40.52	-15.48	56.00	39.82	0.30	0.40 QP
5	6.080	38.95	-21.05	60.00	37.95	0.40	0.60 QP
6	17.141	45.87	-14.13	60.00	44.37	0.80	0.70 QP

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	49.22	-4.47	53.69	48.72	0.30	0.20 Average
2	0.266	45.79	-5.46	51.25	45.29	0.30	0.20 Average
3	0.596	37.66	-8.34	46.00	37.16	0.30	0.20 Average
4	2.048	37.78	-8.22	46.00	37.08	0.30	0.40 Average
5	6.080	34.98	-15.02	50.00	33.98	0.40	0.60 Average
6	17.141	30.05	-19.95	50.00	28.55	0.80	0.70 Average

Data#: 56 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 21:15:25

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.197	48.99	-14.76	63.75	48.49	0.30	0.20 QP
2	0.266	46.93	-14.32	61.25	46.43	0.30	0.20 QP
3	0.662	39.77	-16.23	56.00	39.27	0.30	0.20 QP
4	1.984	41.10	-14.90	56.00	40.40	0.30	0.40 QP
5	6.020	42.17	-17.83	60.00	41.17	0.40	0.60 QP
6	17.145	43.44	-16.56	60.00	41.94	0.80	0.70 QP

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.197	43.36	-10.39	53.75	42.86	0.30	0.20 Average
2	0.266	43.53	-7.72	51.25	43.03	0.30	0.20 Average
3	0.662	37.92	-8.08	46.00	37.42	0.30	0.20 Average
4	1.984	39.28	-6.72	46.00	38.58	0.30	0.40 Average
5	6.020	38.75	-11.25	50.00	37.75	0.40	0.60 Average
6	17.145	29.72	-20.28	50.00	28.22	0.80	0.70 Average

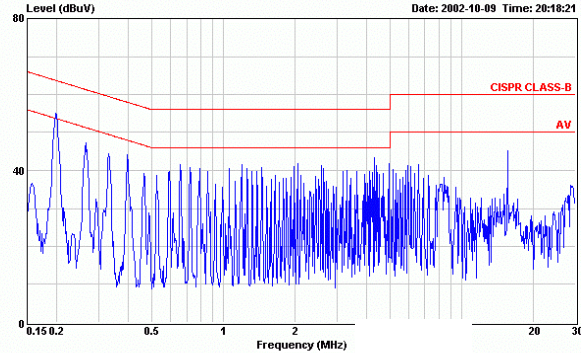


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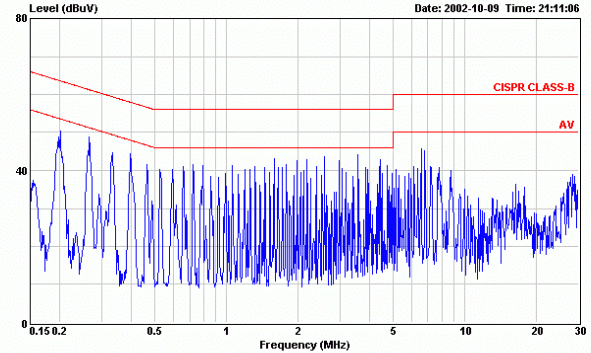
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Data#: 49 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1600*1200/60Hz 75KHz (60W)

Data#: 52 File#: D:\晶選-G91713-C.EMI



Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1600*1200/60Hz 75KHz (60W)

Data#: 50 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 21:08:38

Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 NEUTRAL
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1600*1200/60Hz 75KHz (60W)

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	53.72	-9.97	63.69	53.22	0.30	0.20 QP
2	0.265	48.71	-12.55	61.26	48.21	0.30	0.20 QP
3	0.660	39.88	-16.12	56.00	39.38	0.30	0.20 QP
4	2.050	39.97	-16.03	56.00	39.27	0.30	0.40 QP
5	4.298	40.62	-15.38	56.00	39.62	0.40	0.60 QP
6	15.795	42.97	-17.03	60.00	41.47	0.80	0.70 QP

Data#: 51 File#: D:\晶選-G91713-C.EMI

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.198	49.09	-4.60	53.69	48.59	0.30	0.20 Average
2	0.265	45.53	-5.73	51.26	45.03	0.30	0.20 Average
3	0.660	40.40	-5.60	46.00	39.90	0.30	0.20 Average
4	2.050	39.90	-6.10	46.00	39.20	0.30	0.40 Average
5	4.298	30.63	-15.37	46.00	29.63	0.40	0.60 Average
6	15.795	27.97	-22.03	50.00	26.47	0.80	0.70 Average

Data#: 53 File#: D:\晶選-G91713-C.EMI Date: 2002-10-09 Time: 21:11:35

Site : No.3 Shielded room
Condition : CISPR CLASS-B KNW-407 LINE
EUT : MINI PC M/N:TC300
Power : 120Vac/60Hz (24°C/42%)
Memo : 1600*1200/60Hz 75KHz (60W)

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.199	50.05	-13.62	63.67	49.55	0.30	0.20 QP
2	0.267	45.53	-15.68	61.21	45.03	0.30	0.20 QP
3	0.664	38.82	-17.18	56.00	38.32	0.30	0.20 QP
4	2.182	41.09	-14.91	56.00	40.39	0.30	0.40 QP
5	4.367	41.27	-14.73	56.00	40.27	0.40	0.60 QP
6	16.181	40.38	-19.62	60.00	38.88	0.80	0.70 QP

Data#: 54 File#: D:\晶選-G91713-C.EMI

		Over	Limit	Read	Probe	Cable	
Freq	Level	Limit	Line	Level	Factor	Loss	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.199	44.21	-9.46	53.67	43.71	0.30	0.20 Average
2	0.267	42.55	-8.66	51.21	42.05	0.30	0.20 Average
3	0.664	37.26	-8.74	46.00	36.76	0.30	0.20 Average
4	2.182	35.05	-10.95	46.00	34.35	0.30	0.40 Average
5	4.367	35.21	-10.79	46.00	34.21	0.40	0.60 Average
6	16.181	26.01	-23.99	50.00	24.51	0.80	0.70 Average

3. RADIATED EMISSION TEST

3.1. Test Equipment

The following test equipment were used during the radiated emission tests :

3.1.1. For 30MHz~1000MHz (No. 4 Open Site)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	RF Spectrum Analyzer	HP	8590L	3624A01446	N/A	N/A
2.	Test Receiver	R&S	ESVS10	845165/018	May 14, 02'	1 Year
3.	Amplifier	HP	8447D	2727A05737	N/A	N/A
4.	Biconical Antenna	Chase	VBA6106A	1263	Nov. 07, 01'	1 Year
5.	Log Periodic Antenna	Chase	UPA6109	1020	Nov. 07, 01'	1 Year

3.1.2. For 30MHz~1000MHz (Semi-Anechoic Chamber)

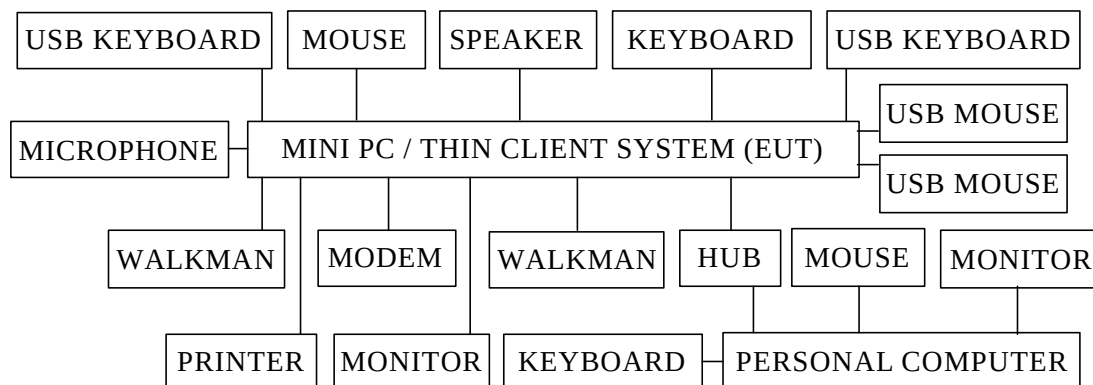
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3826A00248	Sep. 23, 02'	1 Year
2.	Pre-Amplifier	HP	8447D	2944A06305	Mar. 05, 02'	1 Year
3.	Broadband Antenna	Schwarzbeck	BBA 9106	A3L	Feb. 24, 02'	1 Year
4.	Broadband Antenna	Schwarzbeck	UHALP 9108-A	0138	Feb. 24, 02'	1 Year

3.1.3. For 1GHz~5GHz (Semi-Anechoic Chamber)

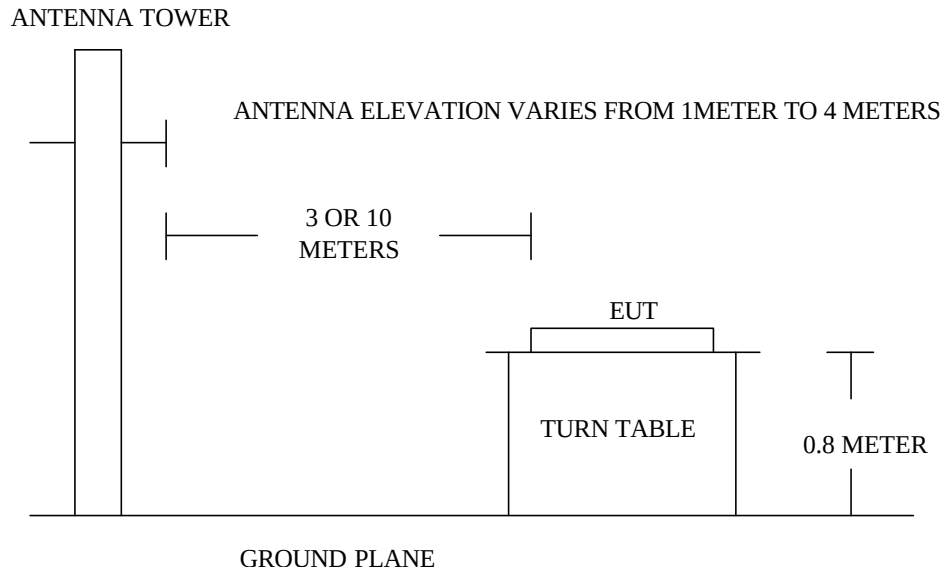
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8593EM	3826A00248	Sep. 23, 02'	1 Year
2.	Amplifier	HP	8449B	3008A00529	Jan. 05, 02'	1 Year
3.	Horn Antenna	EMCO	3115	9112-3775	Apr. 16, 02'	1 Year

3.2. Block Diagram of Test Setup

3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Semi-Anechoic Chamber (3m) and Open Field Test Site (10m) Setup Diagram



3.3. Radiation Limit (CISPR 22 Class B)

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS
MHz	Meters	dBuV/m
30 ~ 230	10	30
230 ~ 1000	10	37
1000 ~ 3000	3	53.5 (Average)
1000 ~ 3000	3	73.5 (Peak)

Remark : (1) The tighter limit shall apply at the edge between two frequency bands.
 (2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4. EUT's Configuration during Compliance Measurement

The configuration of EUT and its simulators were the same as those used in conducted measurement. Please refer to 2.4.

3.5. Operating Condition of EUT

Same as conducted measurement which is listed in 2.5., except the test set up replaced by section 3.2.

3.6. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. For 30MHz to 1000MHz frequency range, EUT was set 3 or 10 meters and for 1GHz to 5GHz frequency range, EUT was set at 3 meters away from the receiving antenna which was mounted on a antenna tower. The antenna moved up and down between 1 to 4 meters for 30MHz to 1000MHz frequency range and for 1GHz to 3GHz frequency range to find out the maximum emission level. Broadband antenna such as calibrated biconical and log- periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-1992 requirement.

The bandwidth of the R&S Test Receiver ESVS10 was set at 120KHz. (For 30MHz~1GHz)

The bandwidth of the HP Spectrum Analyzer 8593EM was set at 120KHz. (For 30MHz~1GHz)

The bandwidth of the HP Spectrum Analyzer 8593EM was set at 1MHz. (For 1~5GHz)

The frequency range from 30MHz to 5GHz was checked.

For 30MHz~1000MHz frequency range, EUT with the following operating conditions were measured within Semi-Anechoic Chamber and all the scanning waveform were attached within Appendix, which include :

	Test Mode		
	Model No.	Power Supply	Frequency Resolution
※	TC300-GBBD1L-800	M/N SP9919A, (25W)	640*480/85Hz, 43kHz
			1280*1024/75Hz, 80kHz
			1600*1200/60Hz, 75kHz
※	TC300-GBBD1P-800	M/N SP20112A, (60W)	640*480/85Hz, 43kHz
			1280*1024/75Hz, 80kHz
			1600*1200/60Hz, 75kHz

Finally, re-measured two worst operating situations [**test mode 3. & 6.**] at No. 4 Open Field Test Site and all the test results are listed in section 3.7.1.

For 1GHz ~ 5GHz frequency range, EUT the worst mode [**Mode 6**] was selected in this test and all the test results are listed in section 3.7.2.

3.7. Radiated Emission Measurement Results

PASSED. All emissions not reported below are too low against the prescribed limits.

3.7.1. 30MHz to 1GHz frequency measurement and 10 meters measurement distance.

Date of Test : Oct. 08, 2002 Temperature : 23°C

EUT : Mini PC / Thin Client System Humidity : 65%

Model No. : TC300-G5BD1L-800 (Resolution- 1600*1200/60Hz, 75kHz)

Frequency MHz	Antenna	Cable	Meter Reading	Emission Level		Margin
	Factor dB/m	Loss dB	Horizontal dBμV	Horizontal dBμV/m	Limits dBμV/m	
50.825	14.76	0.74	7.67	23.17	30.00	6.83
151.765	20.14	1.35	4.58	26.07	30.00	3.93
173.443	20.71	1.38	5.08	27.17	30.00	2.83
180.656	20.87	1.50	3.69	26.06	30.00	3.94
191.235	20.65	1.69	3.90	26.24	30.00	3.76
210.079	20.95	1.51	1.50	23.96	30.00	6.04
216.803	21.38	1.51	4.07	26.96	30.00	3.04
219.573	21.42	1.52	1.70	24.64	30.00	5.36
238.486	22.14	1.61	9.35	33.10	37.00	3.90
281.846	23.29	1.74	8.75	33.78	37.00	3.22
301.000	13.48	1.83	15.94	31.25	37.00	5.75
336.124	14.64	2.04	17.18	33.86	37.00	3.14
372.349	15.28	2.11	14.15	31.54	37.00	5.46
500.081	17.91	2.44	12.92	33.27	37.00	3.73
625.100	19.94	2.83	8.94	31.71	37.00	5.29
750.116	22.31	3.18	7.07	32.56	37.00	4.44

Frequency MHz	Antenna	Cable	Meter Reading	Emission Level		Margin
	Factor dB/m	Loss dB	Vertical dBμV	Vertical dBμV/m	Limits dBμV/m	
43.358	18.15	0.69	7.17	26.01	30.00	3.99
65.091	12.29	0.87	10.20	23.36	30.00	6.64
114.874	16.86	1.10	8.70	26.66	30.00	3.34
133.670	18.03	1.21	5.51	24.75	30.00	5.25
171.428	20.17	1.37	1.21	22.75	30.00	7.25
210.200	21.76	1.51	1.50	24.77	30.00	5.23
216.808	22.56	1.51	2.69	26.76	30.00	3.24
238.487	21.16	1.61	10.99	33.76	37.00	3.24
281.849	24.03	1.74	7.50	33.27	37.00	3.73
301.000	13.85	1.83	13.70	29.38	37.00	7.62
303.530	13.81	1.84	16.77	32.42	37.00	4.58
411.931	16.39	2.23	11.77	30.39	37.00	6.61
455.290	18.16	2.37	6.41	26.94	37.00	10.06
625.096	19.56	2.83	4.10	26.49	37.00	10.51
750.119	22.31	3.18	4.83	30.32	37.00	6.68

Remark : All readings are Quasi-Peak values.

Date of Test : Oct. 08, 2002 Temperature : 23°C

EUT : Mini PC / Thin Client System Humidity : 65%

Model No. : TC300-G5BD1P-800 (Resolution- 1600*1200/60Hz, 75kHz)

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Limits dBμV/m	Margin dB
				Horizontal dBμV	Horizontal dBμV/m		
*	50.828	14.76	0.74	8.62	24.12	30.00	5.88
	114.814	18.20	1.10	4.91	24.21	30.00	5.79
	133.496	19.77	1.21	2.60	23.58	30.00	6.42
	173.408	20.69	1.38	5.57	27.64	30.00	2.36
	181.848	20.74	1.52	4.60	26.86	30.00	3.14
	190.358	20.66	1.67	2.79	25.12	30.00	4.88
	200.677	20.68	1.62	1.09	23.39	30.00	6.61
	210.051	20.95	1.51	4.40	26.86	30.00	3.14
	218.798	21.36	1.52	2.60	25.48	30.00	4.52
	224.013	21.43	1.54	3.11	26.08	30.00	3.92
	301.009	13.48	1.83	16.60	31.91	37.00	5.09
	336.128	14.64	2.04	16.40	33.08	37.00	3.92
	372.356	15.28	2.11	13.22	30.61	37.00	6.39
	500.006	17.91	2.44	12.48	32.83	37.00	4.17
	625.108	19.94	2.83	9.13	31.90	37.00	5.10
	750.151	22.31	3.18	7.47	32.96	37.00	4.04

- Remark :
1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 173.408MHz with corrected signal level of 27.64dBμV/m (limit is 30dBμV/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at 160 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

Date of Test : Oct. 08, 2002 Temperature : 23°C

EUT : Mini PC / Thin Client System Humidity : 65%

Model No. : TC300-G5BD1P-800 (Resolution- 1600*1200/60Hz, 75kHz)

	Antenna Cable		Meter Reading		Emission Level		Margin dB
	Frequency MHz	Factor dB/m	Loss dB	Vertical dBμV	Vertical dBμV/m	Limits dBμV/m	
*	43.418	18.12	0.69	7.53	26.34	30.00	3.66
	105.300	16.84	1.10	7.00	24.94	30.00	5.06
	114.718	16.86	1.10	7.90	25.86	30.00	4.14
	173.404	20.53	1.38	5.67	27.58	30.00	2.42
	180.658	21.19	1.50	3.42	26.11	30.00	3.89
	210.128	21.76	1.51	2.40	25.67	30.00	4.33
	219.301	22.07	1.52	2.70	26.29	30.00	3.71
	238.408	21.16	1.61	10.52	33.29	37.00	3.71
	281.843	24.03	1.74	8.02	33.79	37.00	3.21
	301.019	13.85	1.83	13.63	29.31	37.00	7.69
	303.526	13.81	1.84	15.58	31.23	37.00	5.77
	390.249	16.86	2.15	8.35	27.36	37.00	9.64
	411.926	16.39	2.23	11.81	30.43	37.00	6.57
	455.280	18.16	2.37	7.18	27.71	37.00	9.29
	625.087	19.56	2.83	6.26	28.65	37.00	8.35
	750.109	22.31	3.18	5.64	31.13	37.00	5.87

- Remark :
1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 173.404MHz with corrected signal level of 27.58dBμV/m (limit is 30dBμV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 185 °.
 3. 0 ° as the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

3.7.2.1GHz to 5GHz frequency measurement and 3 meters measurement distance.

Date of Test : Nov. 01, 2002 Temperature : 21°C

EUT : Mini PC / Thin Client System Humidity : 64%

Model No. : TC300-G5BD1P-800 (Resolution- 1600*1200/60Hz, 75kHz)

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Pre-Amp Factor dB	Meter Reading Horizontal dBμV	Emission Level (Peak) Horizontal dBμV/m	Limits dBμV/m	Margin dB
1201.360	25.29	4.59	40.57	46.08	35.39	74.00	38.61
1302.040	25.33	4.85	40.49	44.79	34.48	74.00	39.52
1602.402	25.96	6.16	40.29	41.50	33.33	74.00	40.67
1750.066	26.69	7.15	40.21	41.79	35.42	74.00	38.58
2409.520	28.64	6.36	40.11	39.96	34.85	74.00	39.15
3191.629	31.17	7.35	40.05	40.59	39.06	74.00	34.94
3544.482	31.83	7.83	39.87	39.90	39.69	74.00	34.31
3901.978	32.68	8.38	39.71	41.58	42.93	74.00	31.07
4034.298	32.89	8.53	39.66	38.61	40.37	74.00	33.63
4621.612	33.15	8.92	39.43	39.80	42.44	74.00	31.56
4791.074	33.59	9.18	39.37	38.61	42.01	74.00	31.99
4909.465	33.89	9.14	39.33	39.12	42.82	74.00	31.18

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Pre-Amp Factor dB	Meter Reading Vertical dBμV	Emission Level (Peak) Vertical dBμV/m	Limits dBμV/m	Margin dB
1203.038	25.29	4.59	40.56	46.53	35.85	74.00	38.15
1402.720	25.37	5.14	40.42	43.19	33.28	74.00	40.72
1607.436	25.99	6.20	40.29	42.25	34.15	74.00	39.85
1917.866	27.46	6.27	40.12	41.91	35.52	74.00	38.48
2407.842	28.63	6.36	40.11	40.85	35.73	74.00	38.27
3189.308	31.17	7.35	40.05	39.80	38.27	74.00	35.73
3491.090	31.70	7.75	39.90	40.56	40.11	74.00	33.89
3785.908	32.41	8.23	39.76	40.52	41.40	74.00	32.60
3999.477	32.90	8.50	39.67	38.97	40.70	74.00	33.30
4440.542	32.81	8.66	39.50	39.85	41.82	74.00	32.18
4788.753	33.58	9.18	39.37	39.37	42.76	74.00	31.24
4918.751	33.91	9.13	39.33	38.89	42.60	74.00	31.40

Remark : 1. Measurement at Semi-Anechoic Chamber.
 2. Emission Level = Antenna Factor + Cable Loss + Meter Reading – Pre-Amp Factor.

4. MODIFICATIONS TO EUT

1. Added a ferrite on the power cable.

Panel

1. The interior of the panel was coated and the contact between the panel and case must be closely.
2. Added 33P capacitors on each pin of J1, J2, J3, and which were grounded.
3. Added 33P capacitors on each pin of USB1, USB2, and which were grounded. (Except grounded pin).

Main Board

1. Added fingers on the connector to contact the case closely.
2. KB, PS1:
 - ① Changed the pin 1 of C313, C407 to 82P capacitors, and which were grounded to the case.
 - ② Changed the pin 4 of C402 to ground to the case.
 - ③ Changed the pin 5 of C326, C420 to 82P capacitors, and which were grounded to the case.
 - ④ The pin 3, 6 were grounded to the case directly.
3. D-Sub:
 - ① Changed the beads (L6, L7, L8 of J15) to MLB201209-0070B-N3.
 - ② Changed the capacitors (C66, C76, C101, C61, C71, C85) to 56P.
 - ③ The pins (5, 6, 7, 8, 10) were grounded to the case directly.
 - ④ Added a 120P capacitor on the pin 11, and which was grounded to the case.
 - ⑤ Changed C51, C53 C56, C109 to ground to the case.
4. Printer Port:
 - ① The pins (18, 19, 20, 21, 22, 23, 24, 25 of J20) were grounded to the case directly.
 - ② The pins (4, 8 of J16) were grounded to the case directly.

5. DEVIATION TO TEST SPECIFICATIONS

【NONE】