

MEASUREMENT / TECHNICAL REPORT

Fujitsu Siemens Computers

Model: Personal Computer Scenic MT8

FCC ID: HSSSCENIC8651

May 17, 2000

This report concerns: Original grant Class II change
Equipment type: Personal Computer

Request issue of grant: Immediately upon completion of review
 Defer grant per 47 CFR 0.457(d)(1)(ii) until _____ date _____. Company Name agrees to notify the Commission by _____ date _____ of the intended date of announcement of the product so that the grant can be issued on that date.

Measurement procedure used: ANSI C63.4-1992
 FCC/OET MP-4(1987)
 other _____

Limits on compliance with: CISPR 22 resp. FCC class B

Application for Certification prepared by:
Alexander Peschka
Fujitsu Siemens Computers GmbH
Buergermeister-Ulrich-Str. 100
86199 Augsburg
Germany
Tel.: +49 821 804-2502
Fax: +49 821 804 2675

Applicant for this device:

Fujitsu Siemens Computers GmbH
Buergermeister-Ulrich-Str. 100
86199 Augsburg
Germany
Tel.: +49 821 804-0



Engineer: _____
Martin Heuser
Fujitsu Siemens Computers
Personal Computer Scenic MT8

FCC Identifier:
HSSSCENIC8651

Date: **May 17, 2000**

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1 GENERAL INFORMATION

1.1 Product Description

The Siemens Computer MT8 (Scenic xL-1127) is a tower personal computer. The system board integrates the Pentium Processor, memory, and I/O-technologies. The system now can now be assembled with Processors Intel Pentium III up to 933 MHz.

Description of the power supplies:

- Power supplies:

ASTEC, model	AA20660 S26113-E427-V30
Minebea, model	SPW1562-1 S26113-E427-V20

Features Overview:

CPU – Intel Pentium II/III

- Up to 500 MHz Pentium II/III with 100 MHz Front Side Bus
- Up to 933 MHz Pentium III with 133 MHz Front Side Bus
- Onboard voltage regulator VRM 8.2 and VRM 8.4

Chips on board

- Intel 820 AGP Chip Set
- Analog Devices AD 1881 Audio Codec
- Intel 82559 LAN Controller
- National PC87363 Super I/O

AC'97

- Host based Audio with AC'97
- Mono Micro In, Stereo Line In, Stereo CD IN, Stereo Aux In, Game/MIDI Port
- Stereo Line Out (max. 2x0,5 W / 8 Ω)
- Sound via internal system speaker

Main memory

- Two 2,5 V RIMM sockets for 16 MByte up to 1 GByte (266/300/356/400 MHz), Support only for 1-32 RDRAM Chips

Communication

- 2 USB ports with 12 MBits/s
- 2 External PS2 ports support Keyboard and Mouse connectors exchange
- 1 External parallel port
- 1 External serial (COM1) port

LAN – Ethernet Controller

- Intel 82559 on board with 10/100 MBit/s

Storage Devices

- 2 IDE ports for up to 4 IDE devices Support enhanced busmaster ATA66
- One internal Floppy port for two Floppy and one Floppy-Tape drive Support up to 2,88 MByte Floppy

Form factor, slots compatible list

- ATX
- 1 4x AGP slot, 5 PCI slots and 1 shared AC'97 / ISA-Bus slot
- Compatible to ACPI, APM, AGP, BBS, DMI, IAPC, OnNow, PC99, PCI, WfM

The personal computer is assembled by Fujitsu Siemens Computers GmbH Bürger-,
meister-Ulrich-Str. 100, 86199 Augsburg.

1.2 Related Submittal Grant

N/A

1.3 Tested System Details

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

Pos	Model Number (Serial Number)	FCC ID	Description	Cable Description (length in [cm])
1	Fujitsu Siemens Computers, MT8 (Scenic xL-1127) S26361-K516	HSSSCENIC8651	PC EUT	unshielded power cord [292]
2	Fujitsu Siemens Computers MCM 17P1 YEDA220350	A3LCSE783	Monitor	unshielded power cord [175] shielded video cable [168]
3	Fujitsu Siemens Computers S26381-K240-V120 YBKB990330300550	HSS01TASTK240	Keyboard	shielded keyboard cable [143]
4	Microsoft MS 2.1A 0056712-5	C3KKMP1	Mouse	shielded mouse cable [183]

Pos	Model Number (Serial Number)	FCC ID	Description	Cable Description (length in [cm])
5	Logitech M-UB48 LZA83300023	DLZ211137	USB mouse	shielded mouse cable [174]
6	Logitech M-UB48 LZA83300044	DLZ211137	USB mouse	shielded mouse cable [174]
7	Hewlett Packard HP 2225C+ (3012S70819)	DSI6XU2225	Printer, parallel I/F	unshielded AC ca- ble [180], shielded centronics cable [190]
8	Hewlett Packard HP 2225D+ (2952S61229)	DSI6XU2225	Printer, serial I/F	unshielded power cord [185], shiel- ded serial cable [190]
9	Media Vision	N/A	Microphone	shielded cable [142]
10	Boeder LT-100	N/A	Headphone	shielded cable [166 + 124]
11	Microsoft Side Winder 3D Pro 02100777	C3KMJ1	Joystick	shielded cable
12	Bay Networks HUB 100BaseT	N/A	HUB	shielded cable
13			Line IN	shielded cable, terminated [192]

Pos	Model Number (Serial Number)	FCC ID	Description	Cable Description (length in [cm])
	Pos 1 contains:			
a ₁	ASTECC (UK), A20660 FSC: S26113-E427-V30	N/A	Power supply	
a ₂	Minebea, SPW1562-1 FSC: S26113-E427-V20	N/A	Power supply	
b	Fujitsu Siemens Computers S26361-D1127-A22	N/A	System board	
c	Samsung 800-45 100	N/A	RAM	
d	Intel Pentium III 80526/PZ933256	N/A	Processor module	
e	Matrox G200 AGP G2+/MILA/8B/20	DOC	Graphic controller board	
f	Western Digital AC313000-07RTT0	N/A	Hard disk drive	
g	Mitsumi CRMC-FX4010M-LB S26361-H442-V500	N/A	CD-ROM drive	
h	Teac FD-235HF-8376 S26361-H202-V500	N/A	Floppy disk drive	

Remark: position 1a₁ / 1a₂ optional

1.4 Test Methodology

Both, conducted and radiated tests were performed according to the procedures in ANSI C63.4-1992. Radiated testing below 1 GHz was performed at an antenna to EUT distance of 10 meters above 1 GHz at an antenna to EUT distance of 3 meters. All radiated emission measurements were done in an anechoic chamber. Limits for radiated and conducted emission are in compliance with CISPR 22 resp FCC class B.

1.5 Test Facility

The test site is located at Fujitsu Siemens Computers GmbH, Bürgermeister-Ulrich-Str. 100, 86199 Augsburg, Germany. This site consist of a 10 m semi anechoic chamber for radiated emission testing and of two shielded cabinets for conducted emission testing. The 10 m semi anechoic chamber is conform with the NSA-limits described in CISPR22, CISPR16 and ANSI C63.4.1992. The site is registered by the German accreditation body DAR-Registration No. TTI-P-G114 and by the Federal Communications Commission on April 07, 2000, Registration Number 90935.

1.6 Referenced Rules Sections

N/A

2 PRODUCT LABELING

2.1 FCC ID Label: see attached file

2.2 Location of Label on EUT: see attached file

3 SYSTEM TEST CONFIGURATION

3.1 Justification

The system was configured for testing in a maximum fashion (as a customer can use it). Each type of external ports was connected with a peripheral unit (e.g. serial port connected to a serial printer, external keyboard port connected to a keyboard and so on). During radiated emission the monitor was powered via system unit, during conducted emission also the external monitor supply was tested.

The system clock is 133 MHz, the clock frequency was tested with the corresponding worst case processor:

133 MHz clock: Intel Pentium III 933 MHz

The system is provided with two kinds of power supplies:

- ASTEC, AA20660 FSC: S26113-E427-V30
- Minebea, SPW1562-1 FSC: S26113-E427-V20

According both worst case results concerning the test report of the original grant (dated: Nov. 12, 1999), the following configuration has been tested:

Referring to radiated emission the following (worst case) results are applicable:

ASTECS PSU, model AA20660:

Frequency range 30 MHz - 1 GHz:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz

Frequency range 1 GHz - 5 GHz:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz

Minebea PSU, model SPW1562-1:

Frequency range 30 MHz - 1 GHz:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz

Frequency range 1 GHz - 5 GHz:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz

Referring to conducted emission the following (worst case) results are applicable:

ASTECS PSU, model AA20660:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz
monitor power via EUT

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz
monitor power from peripheral device LISN

Minebea PSU, model SPW1562-1:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz
monitor power via EUT

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz
monitor power from peripheral device LISN

3.2 Video mode Justification

The system was tested in video graphic mode 1024 x 768 / 100 Hz. The worst case combination according the test results of the original grant (dated: Nov. 12, 1999), has been tested:

The following data are applicable:

radiated emission:

ASTECS PSU, model AA20660:

Frequency range 30 MHz - 1 GHz:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz

Frequency range 1 GHz - 5 GHz:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz

Minebea PSU, model SPW1562-1:

Frequency range 30 MHz - 1 GHz:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz

Frequency range 1 GHz - 5 GHz:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz

conducted emission:

ASTECS PSU, model AA20660:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz
monitor power via EUT

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz
monitor power from peripheral device LISN

Minebea PSU, model SPW1562-1:

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz
monitor power via EUT

133 MHz clock/Pentium III 933 MHz, video resolution 1024 x 768/100 Hz
monitor power from peripheral device LISN

3.3 EUT Exercise Software

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

The used sequence is:

- scrolling "H" with applicable video mode (see 3.2)
- internal Floppy drive writes to the HD and reads back
- internal CD-ROM writes to the HD
- "H`s" are sent to the printer ports
- data is sent to USB ports
- LAN data communication

3.4 Special Accessories

As shown in Figure 3.1, all interface cables used for compliance testing are shielded like normally supplied by the manufacturer. All cable connectors feature integral metal hoods for shielding.

3.5 Equipment Modifications

To achieve compliance to Class B levels, the following modifications were made during compliance testing:

no modifications

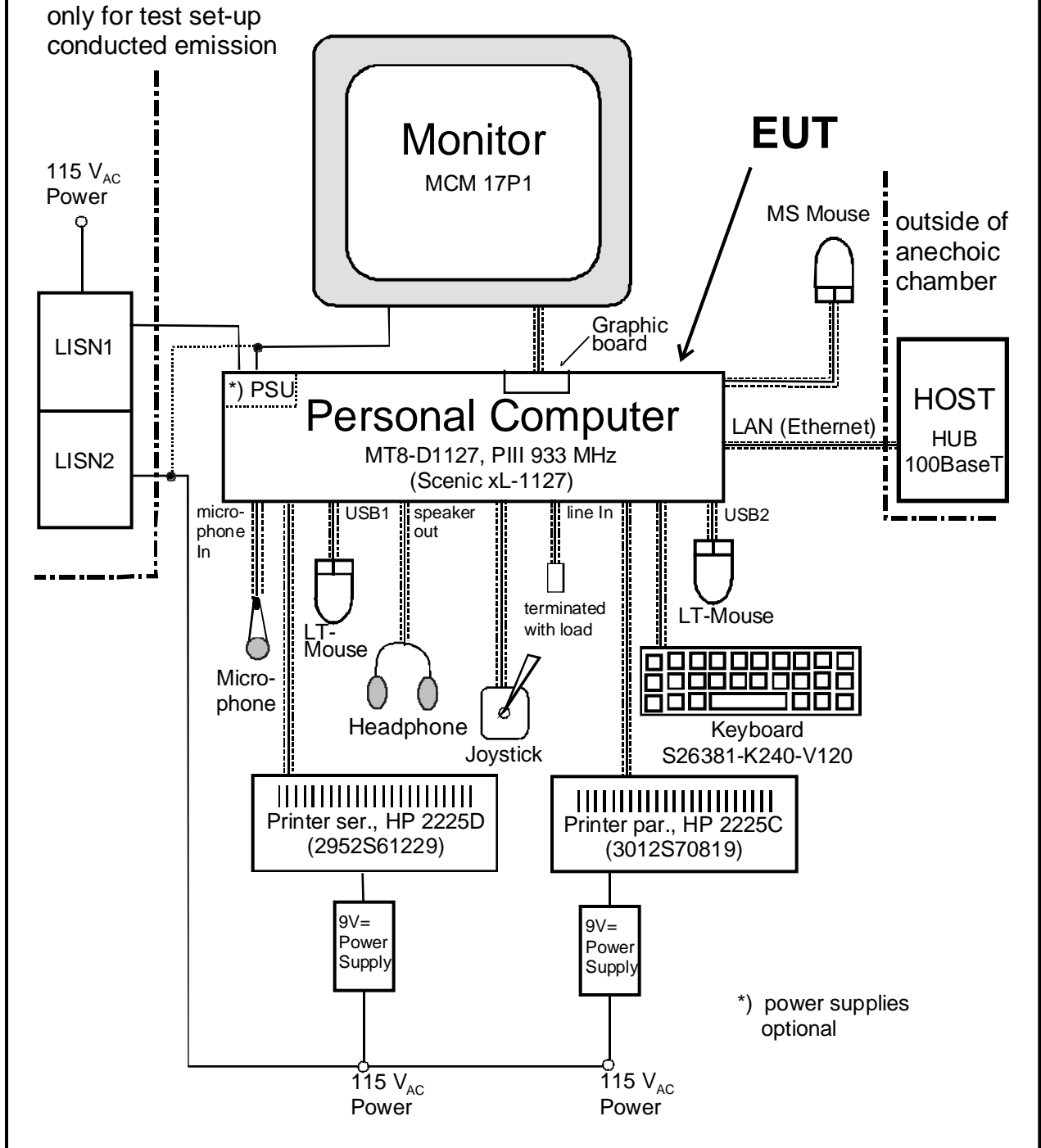
Applicant Signature _____ Date _____

Typed/Printed Name _____ Position _____

3.6 Configuration of Tested System

All necessary tests were carried out like figure 3.1. The system was used according to paragraph 1.1. During test for conducted emission the EUT was connected to a LISN. All peripherals were supplied by a second LISN. The equipment was configured according to ANSI C63.4-1992 Fig 11.

Figure 3.1 Configuration of Tested System



4 BLOCK DIAGRAM OF EUT

see fig 4.1 page 20

4.1 Block Diagram Description (see fig. 4.1)

The major parts of the system are (fig 4.1).

- System board
- Power supply
- Floppy disk drive
- Hard disk drive
- CD-ROM drive
- Peripheral connector area (keyboard, mouse, ser. 1, parallel port, LAN, USB and audio)

The detailed diagram of the system board is shown in fig 4.1

The personal computer works exactly like a traditional P.C..

4.2 Clockfrequencies of EUT

AGP bus	66 MHz
Clock synthesizer	14.318 MHz
Front side bus	133 MHz
Memory	267/300/356/400 MHz
PCI-bus	33.3 MHz
PIIX4 to IDE and USB	33.3 MHz
I/O controller	48 MHz
USB	48 MHz
Audio controller	24.576 MHz
LAN	25 MHz

4.3 Theory of Operation

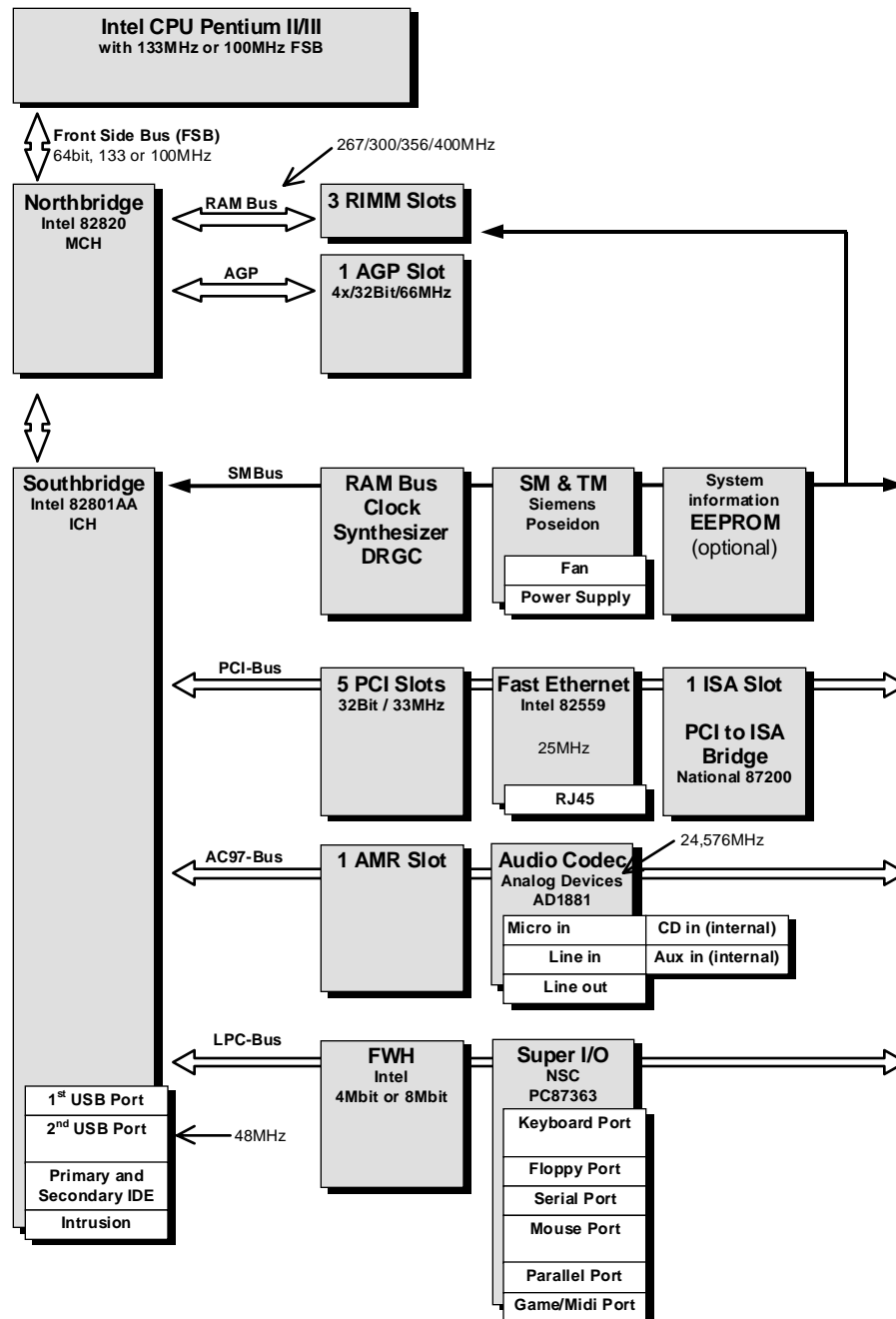
The tower PC works exactly as a traditional PC.

The processors run internally between 400 and 933 MHz, the system clock is 100 MHz or 133 MHz and is multiplied by the processors internally by 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5 or 8.0.

The highest possible frequencies and the corresponding processors are:

System clock	Processor	factor
100 MHz	400 MHz	4.0
100 MHz	450 MHz	4.5
100 MHz	500 MHz	5.0
100 MHz	550 MHz	5.5
100 MHz	600 MHz	6.0
133 MHz	666 MHz	5.0
133 MHz	733 MHz	5.5
100 MHz	750 MHz	7.5
100 MHz	800 MHz	8.0
133 MHz	866 MHz	6.5
133 MHz	933 MHz	7.0

Figure 4.1 Block Diagram of the EUT



5 CONDUCTED EMISSION DATA

5.1 Test Procedure

The initial step in collecting conducted emission data is a Rohde & Schwarz Test Receiver (ESH3). During first scan all data in peak mode is measured, then all significant peaks are explored either in quasi-peak mode or in average mode. In case of low noise (no peak value reaches the quasi peak limit), only average checks are done.

5.2 Measured Data

The conducted emission was measured the following way:

1. Peak noise on L
2. Peak noise on N

During the emission measurement the printers are supplied with power via a second LISN, the monitor was powered both, via the system unit or separately.

The worst case results of the measurement is given next:

ASTEC PSU:

- a) video resolution 1024 x 768/100 Hz, monitor power via EUT
- b) video resolution 1024 x 768/100 Hz, monitor power from peripheral device LISN

Judgement: Passed by

	Frequency [MHz]	Measured [dB(μV)]	Kind of value	Limit [dB(μV)]	Configuration
neutral	0.186	52.00	QP	64.2	a

Judgement: Passed by

	Frequency [MHz]	Measured [dB(μV)]	Kind of value	Limit [dB(μV)]	Configuration
neutral	0.246	51.20	QP	61.8	a
phase	0.306	44.00	QP	60,0	a
neutral	0.186	49.10	AV	54.2	a
neutral	0.246	47.30	AV	51.8	a
neutral	0,312	44.80	AV	49.9	a
neutral	0.186	53.20	QP	64.2	b
neutral	0.246	52.50	QP	61.8	b
phase	0.306	44.80	QP	60.0	b
neutral	0.186	50.00	AV	54.2	b
neutral	0.246	48.50	AV	51.8	b
neutral	0.312	45.60	AV	49.9	b

AV: average

QP: quasi peak

Minebea PSU:

- a) video resolution 1024 x 768/100 Hz, monitor power via EUT
- b) video resolution 1024 x 768/100 Hz, monitor power from peripheral device LISN

Judgement: Passed by

	Frequency [MHz]	Measured [dB(μV)]	Kind of value	Limit [dB(μV)]	Configuration
phase	4.692	40.90	QP	56.0	a
phase	4.794	41.30	QP	56.0	a

	Frequency [MHz]	Measured [dB(μV)]	Kind of value	Limit [dB(μV)]	Configuration
phase	4.902	41.10	QP	56.0	a
phase	4.692	40.20	AV	46.0	a
phase	4.794	40.30	AV	46.0	a
phase	4.902	40.20	AV	46.0	a
phase	4.692	40.90	QP	56.0	b
phase	4.794	41.00	QP	56.0	b
phase	4.902	41.80	QP	56.0	b
phase	4.692	40.00	AV	46.0	b
phase	4.794	40.10	AV	46.0	b
phase	4.902	41.10	AV	46.0	b

AV: average
QP: quasi peak

Test Personnel:

Tester Signature: _____ Date: _____

Printed Name: M. Rothtauscher



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Measurement Protocols: see attached file

ASTEC PSU:

133 MHz clock/Intel Pentium III 933 MHz
video resolution 1024 x 768/100 Hz
monitor power via EUT

133 MHz clock/Intel Pentium III 933 MHz
video resolution 1024 x 768/100 Hz
monitor power from peripheral device LISN

Minebea PSU:

133 MHz clock/Intel Pentium III 933 MHz
video resolution 1024 x 768/100 Hz
monitor power via EUT

133 MHz clock/Intel Pentium III 933 MHz
video resolution 1024 x 768/100 Hz
monitor power from peripheral device LISN

5.3 Referenced Rules Sections

N/A

5.4 Test Instrumentation Used, Conducted Measurement

Type	Manufacturer/ Model No.	Serial No.	Last Cal.	Cal. Interval
Receiver	ESHS10 Rohde&Schwarz	842884/011	May 99	12 months
LISN	ESH2-Z5 Rohde&Schwarz	871884/004	May 99	12 months
LISN	ESH3-Z5 Rohde&Schwarz	883650/027	May 99	12 months
Pulse limiter	ESH3-Z2 Rohde&Schwarz	---	May 99	12 months

6 RADIATED EMISSION DATA

6.1 Test Procedure

The radiated emission was measured in two parts:

1. in the frequency range from 30 MHz to 1000 MHz. The bandwidth of the EMI-receiver was set to 120 kHz and the detector was set to peak. During prescan all data in peak mode are accumulated automatically. At final measurement the detector was set to CISPR quasi peak and values above the acceptance line were verified automatically.
2. in the frequency range from 1000 MHz to 5000 MHz. The bandwidth of the EMI-receiver was set to 1 MHz and the detector was set to peak. During prescan all data in peak mode are accumulated automatically. At final measurement the detector was set to average and values above the acceptance line were verified automatically.

Both tests were performed in a semi anechoic chamber, measurements below 1000 MHz in a distance of 10 meters between antenna and EUT, above 1 GHz with a distance of 3 meters between antenna and EUT. During tests the EUT was turned 360° and the actual used receiving antenna was moved from 1 to 4 meters and the antenna polarisation was changed from horizontal to vertical for finding the maximum levels of emission.

For each range one antenna for the whole span was used

1. 30 MHz to 1000 MHz: log.-per antenna
2. 1000 MHz to 5000 MHz: rigid tensor antenna

After automatic tests during manual verification the cables and the equipment were placed and moved within the range of position in order to find the maximum of emission.

6.2 Measured Data

The EUT was measured with the Processor Pentium III 933 MHz in video mode 1024 x 768 / 100 Hz. The test results below reflect the worst case with:

ASTEC PSU:

a) 133 MHz clock/Intel Pentium III 933 MHz,
video resolution 1024 x 768/100 Hz

Part 1: frequency range 30 MHz - 1000 MHz:

Judgement: Passed by

Frequency [MHz]	Level* [dB(μV/m)]	10 Meter Limit [dB(μV/m)]	Exceeding [dB]	Ant Pol	Height in [m]	Angle in deg
99.27000	24.70	30.000	-5.3	ver	1.60	270.000
398.64000	34.40	37.000	-2.6	hor	2.80	150.000
531.48000	31.70	37.000	-5.3	hor	1.60	150.000
665.07000	32.80	37.000	-4.2	hor	1.00	270.000
776.16000	31.20	37.000	-5.8	ver	1.60	59.000
932.73000	31.50	37.000	-5.5	ver	1.60	150.000

all levels are quasi-peak levels

*The correction factor is considered automatically by the test receiver. A table of correction factors is listed in paragraph 7.4.

Part 2: frequency range 1 GHz - 5 GHz:

Judgement: Passed by

Frequency [MHz]	Level* [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Exceed Mark	Height [cm]	Azimuth [deg]	Ant Pol
1068.70000	30.00	53.9	23.9		240.00	180.00	hor
1129.60000	32.90	53.9	21.0		100.00	59.00	ver

Frequency [MHz]	Level* [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Exceed Mark	Height [cm]	Azimuth [deg]	Ant Pol
1195.90000	32.40	53.9	21.5		120.00	300.00	hor
1859.80000	34.80	53.9	19.1		120.00	0.00	hor
3720.10000	34.50	53.9	19.4		160.00	59.00	ver
4804.00000	34.00	53.9	19.9		120.00	0.00	hor

all levels are average levels

*The correction factor is considered automatically by the test receiver. A table of correction factors is listed in paragraph 7.4.

Minebea PSU

b) 133 MHz clock/Intel Pentium III 933 MHz
video resolution 1024 x 768/100 Hz

Part 1: frequency range 30 MHz - 1000 MHz:

Judgement: Passed by

Frequency [MHz]	Level* [dB(μV/m)]	10 Meter Limit [dB(μV/m)]	Exceeding [dB]	Ant Pol	Height in [m]	Angle in deg
166.47000	23.50	30.000	-6.5	ver	1.00	119.000
531.87000	31.60	37.000	-5.4	hor	1.60	90.000
618.72000	33.90	37.000	-3.1	hor	1.60	300.000
641.40000	32.80	37.000	-4.2	hor	1.60	300.000
652.35000	32.50	37.000	-4.5	hor	1.00	300.000
663.84000	33.80	37.000	-3.2	hor	1.60	300.000

all levels are quasi-peak levels

*The correction factor is considered automatically by the test receiver. A table of correction factors is listed in paragraph 7.4.

Part 2: frequency range 1 GHz - 5 GHz:

Judgement: Passed by

Frequency [MHz]	Level* [dB(µV/m)]	Limit [dB(µV/m)]	Margin [dB]	Exceed Mark	Height [cm]	Azimuth [deg]	Ant Pol
1012.30000	34.20	53.9	19.7		120.00	0.00	hor
1039.30000	39.00	53.9	14.9		120.00	0.00	hor
1594.30000	36.10	53.9	17.8		100.00	29.00	hor
1859.80000	37.40	53.9	16.5		160.00	29.00	hor
3719.80000	34.70	53.9	19.2		280.00	59.00	ver
4966.60000	34.40	53.9	19.5		120.00	59.00	hor

all levels are average levels

*The correction factor is considered automatically by the test receiver. A table of correction factors is listed in paragraph 7.4.

Test Personnel:

Tester Signature: _____ Date: _____

Printed Name: M. Heuser

Test Personnel:

Tester Signature: _____ Date: _____

Printed Name: A. Luck



Fujitsu Siemens Computers
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FCC Identifier:
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Measurement Protocols: see attached files

ASTEC PSU:

Frequency range 30 MHz - 1 GHz:

133 MHz clock/Intel Pentium III 933 MHz

video resolution 1024 x 768/100 Hz

Frequency range 1 GHz - 5 GHz:

133 MHz clock/Intel Pentium III 933 MHz

video resolution 1024 x 768/100 Hz

Minebea PSU:

Frequency range 30 MHz - 1 GHz:

133 MHz clock/Intel Pentium III 933 MHz

video resolution 1024 x 768/100 Hz

Frequency range 1 GHz - 5 GHz:

133 MHz clock/Intel Pentium III 933 MHz

video resolution 1024 x 768/100 Hz

6.3 Referenced Rules Sections

N/A

6.4 Test Instrumentation Used, Radiated Measurement

Type	Manufacturer/ Model No.	Serial No.	Last Cal.	Cal. Interval
Receiver	ESMI Rohde&Schwarz	840607/006	May 99	15 months
Antenna	CBL 6111 Chase	1345	May 99	12 months
Antenna	CBL 6112 Chase	2041	Aug 99	15 months
Active Ridged antenna	Tensor 4105 Rohde&Schwarz	2063	Dec 99	15 months

6.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor automatically to the measured value. The display of the Receiver shows the corrected value. The complete table of correction factors is given on next page. The basic equation with a sample calculation is as follows:

$$\mathbf{FS = RA + AF + CF}$$

where FS = Field Strength

AF = Antenna Factor (incl. Preamplifier factor)

CF = Cable Attenuation Factor

Assume a receiver reading of 28,5 dB μ V is obtained. The Antenna Factor of 10,5 and a Cable Factor of 1,3 is added, giving a field strength of 40,3 dB μ V/m.

$$FS = 28,5 + 10,5 + 1,3 = 40,3 \text{ dB}\mu\text{V/m}$$

The 40,3 dB μ V/m value can be mathematically converted to its corresponding level in μ V/m.

Level in μ V/m =
Common Antilogarithm [(40,3 dB μ V/m)/20] =

103,5 μ V/m

6.6 Table of Correction Factors

Frequency range: 30 MHz to 1000 MHz (Antenna CBL6112)

Frequency [MHz]	Correction Bilog Antenna [dB]	Correction Cable [dB]	Correction Antenna + Cable [dB]
30.0	17.80	0.65	18.45
35.0	15.10	0.67	15.77
40.0	12.40	0.68	13.08
45.0	9.80	0.73	10.53
50.0	7.70	0.74	8.44
55.0	6.20	0.82	7.02
60.0	5.10	0.84	5.94
70.0	5.00	0.90	5.90
80.0	6.60	0.95	7.55
90.0	8.50	0.99	9.49
100.0	10.30	1.10	11.40
120.0	11.40	1.14	12.54
140.0	10.40	1.27	11.67
160.0	9.40	1.35	10.75
180.0	8.50	1.45	9.95
200.0	9.10	1.51	10.61
250.0	11.80	1.71	13.51
300.0	13.00	1.84	14.84
350.0	14.10	2.00	16.10
400.0	16.00	2.18	18.18
450.0	16.30	2.35	18.65
500.0	17.10	2.43	19.53

Frequency [MHz]	Correction Bilog Antenna [dB]	Correction Cable [dB]	Correction Antenna + Cable [dB]
550.0	18.80	2.62	21.41
600.0	18.60	2.73	21.33
650.0	19.00	2.88	21.88
700.0	19.10	2.91	22.01
750.0	19.80	3.01	22.81
800.0	19.80	3.21	23.01
850.0	20.40	3.32	23.72
900.0	20.50	3.40	23.90
950.0	20.80	3.49	24.29
1000.0	21.10	3.69	24.79

Frequency range: 1 GHz to 5 GHz

Frequency [GHz]	Correction Tensor Antenna with Pre-amplifier [dB]	Correction Cable [dB]	Correction Antenna + Cable [dB]
1.0	5.70	1.62	7.32
1.1	4.80	1.68	6.48
1.2	5.10	1.75	6.85
1.3	5.00	1.80	6.80
1.4	5.10	1.96	7.06
1.5	5.90	2.00	7.90
1.6	5.60	2.15	7.75
1.7	6.70	2.30	9.00
1.8	6.60	2.32	8.92
1.9	5.90	2.35	8.25
2.0	7.20	2.44	9.64
2.1	7.30	2.62	9.92
2.2	7.40	2.75	10.15
2.3	8.40	2.70	11.10
2.4	8.00	2.69	10.69
2.5	9.30	2.65	11.95
2.6	8.70	2.75	11.45
2.7	8.70	2.92	11.62
2.8	9.00	2.98	11.98
2.9	8.60	3.10	11.70
3.0	9.50	3.12	12.62
3.1	9.20	2.37	11.57
3.2	8.60	2.40	11.00

Frequency [GHz]	Correction Tensor Antenna with Pre-amplifier [dB]	Correction Cable [dB]	Correction Antenna + Cable [dB]
3.3	8.70	2.42	11.12
3.4	9.70	2.43	12.13
3.5	9.70	2.46	12.16
3.6	10.40	2.43	12.83
3.7	10.80	2.45	13.25
3.8	11.50	2.47	13.97
3.9	11.90	2.49	14.39
4.0	10.90	2.46	13.36
4.1	10.10	2.48	12.58
4.2	8.80	2.49	11.29
4.3	8.70	2.51	11.21
4.4	8.50	2.53	11.03
4.5	8.70	2.54	11.24
4.6	9.50	2.57	12.07
4.7	10.10	2.57	12.67
4.8	11.10	2.59	13.69
4.9	11.50	2.60	14.10
5.0	11.60	2.62	14.22

7 Conducted And Radiated Emission Measurement Photos: see attached files

7.1 Test set-up, conducted emission, front side view

7.2 Test set-up, conducted emission, rear side view

7.3 Test set-up, radiated emission, front side view

7.4 Test set-up, radiated emission, rear side view

8 External Photos of EUT

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9 Internal Photos of EUT: see attached files

9.1 Inside view of EUT

9.2 Processor module, front side view

9.3 Processor module, rear side view

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10 User Manual: see attached file

For FCC statement please refer to user manual page 5.