



Addendum to Test report TA129_01

File Nr. TA141_01.DOC

EUT: Matrix needle printer
Tested type: T2280C
Production level: UCL No. 0
S/N:

Manufacturer: Tally GmbH
Glockeraustr. 4
89275 Elchingen
Germany

Measurement procedure: EMC review of the EUT according customer request:
DIN EN 55022 (VDE 0878 Teil 22) /05.1999

Applicant: Tally GmbH
Glockeraustr. 4
89275 Elchingen
Germany

Contact person: Mr. Winterhalder

Arrival of EUT: 07/19/2001

ID of EUT: PR129_06

Date(s) of test of EUT: 07/24/2001

Remarks:

The test results effects only to the relate items tested. The test report shall not be reproduced except in full without the written approval of the testing laboratory



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DAR-Registration Nr: TTI-P-G164/98

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 EMCE GmbH Ingenieurbüro für EMV-Prüfungen
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EUT description: Colour matrix needle printer, with parallel and serial I/F.

EUT size: 630x430x280mm (LxWxH)

EUT configuration: Printer with attached parallel I/F.

Used accessories:

Designation	S/N	FCC-ID	Manufacturer
PC SCENIC 5T/90 PCI	S26361-K345-V711	-	Siemens Nixdorf Informationssysteme AG
Monitor MCM 1702	S26361-K373-V318 S/N BU 908484	FCC-ID ARFKDM1788	Siemens Nixdorf Informationssysteme AG
Keyboard MF2 LC	S26381-K252-V120		Siemens Nixdorf Informationssysteme AG
Mouse Serial Mouse 2.0A	0222829	FCC-ID C3KSMP1	Microsoft Corp.

Additional information: The tests represent only parts of the DIN EN 55022 (VDE 0878
 Teil 22) /05.1999 and met not all requirements for a conformity
 approval

List of valid equipment

	Inv-Nr.	Designation	Type	Manufacturer	S/N
☒	001	Test receiver	ESS 5Hz - 1000 MHz	Rohde & Schwarz	833776/008
	002	Probe	ESH2-Z3	Rohde & Schwarz	-
	003	LISN 1	ESH3-Z5	Rohde & Schwarz	835268/007
	004	LISN 2	ESH3-Z5	Rohde & Schwarz	835268/003
	005	LISN 3	NNB 4/32T	Rolf Heine HF-Technik	4/32T-96015
	006	LISN	NNBM 8125	Schwarzbeck	8125371
	007	Absorbing clamp	MDS 21	Schwarzbeck	942436
	008	Antenna 9kHz - 30MHz	HFH2-Z2	Rohde & Schwarz	835776/0002
	009	Antenna 30 - 300MHz	VHBA9123 / BBA9106	Schwarzbeck	435
☒	010	Antenna 250 -1200MHz	UHALP 9108A	Schwarzbeck	108
☒	011	Antenna 30 - 300MHz	VHBA9123 / BBA9106	Schwarzbeck	0408/94
	012	Antenna 250 -1200MHz	UHALP 9108A	Schwarzbeck	166
	013	Antenna 9kHz - 30MHz	Loop antenna 1.5m	EMCE GmbH	-
	014	Open area test site	3m	EMCE GmbH	-
☒	015	Open area test site	10m	EMCE GmbH	-
	019	Burst generator	PEFT / PHV 41.2	Haefely	082948-50
	020	Coupling clamp	IP4A	Haefely	082672-13
	022	ESD-Gun	NSG 435	Schaffner	577
	024	HF-Generator	SMY01	Rohde & Schwarz	844146/046
	025	Current clamp BCI	F-120-2	FCC	47
	026	Coupling device network	CDN 801-M3-25	FCC	92
	027	Surge Generator	Transient 1000	EMC-Partner AG	TRA1000-85
	029	HF Amplifier	10W1000	Amplifier Research	10576
	030	Coupling device network	CDN 801- S1/9pol.DSUB	EMCE GmbH	-
	031	Coupling device network	CDN 801- S1/9pol.DSUB	EMCE GmbH	-



	Inv-Nr.	Designation	Type	Manufacturer	S/N
	032	HF Amplifier	75A250	Amplifier Research	22789
	033	Coupling device network	CDN AF2	EMCE GmbH	
	034	Coupling device network	CDN AF2	EMCE GmbH	
	035	3-Phase Coupling network	CDN-1000	EMC-Partner AG	CDN-1000-45
	036	Coupling device network	CDN 801-M5-25	EMCE GmbH	
	037	Coupling device network	CDN 801-T1	EMCE GmbH	
	038	Helmholtz coil	1x1m	EMCE GmbH	
	039	Helmholtz coil	1x1m	EMCE GmbH	
	040	Current transformer		EMCE GmbH	
	041	HZ-10	Shielded coil	Rohde & Schwarz	849788/020
	042	AC-Source / Analyzer / Normimpedance	EMV D5000/PAS	Spitzenberger + Spies	A274700/0 0501
	xx	Susceptibility test equipment according DIN EN 61000-4-3	Full anechoic chamber 3m test site	Siemens	xx



Scope:

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1 EMC - Test(s)

1.1 *Emission according DIN EN 55022 (VDE 0878 Teil 22) / 05.1999*

1.1.1 Radio disturbances according DIN EN 55022 (VDE 0878 Teil 22) / 05.1999

1.1.1.1 *Test set up*

According DIN EN 55022 (VDE 0878 Teil 22) / 05.1999

Test location:

Precompliance

☐

Shielded room

☐

Laboratory

Full compliance

☐

Anechoic chamber

☐

OATS 3m

☒

OATS 10m

The test equipment was checked and complied to the requirements. ☒

No picture



1.1.1.2 Test

Regulation:

DIN EN 55022 (VDE 0878 Teil 22) / 05.1999

Range: ☒ 30MHz - 1000MHz

Limits: ☒ Class B ☐ Class A

Operation mode:

EUT arrangement: ☒ Tabletop ☐ Floor standing

During the tests, the system was exercised using a Microsoft Word for Windows document which provided for complete system operation. Data were displayed on the monitor and then transferred to the printer on the parallel port (T2280), where it was printed. These tests represented a continuous display-transfer-print program operation which is a worst case mode and provided for a worst case emanated profile. The printed characters were "Quick brown fox...", 80 characters per line, LQ print quality and the printer was configured with its default parameters.

PC: SCENIC 5T90/PCI
Monitor MCM 1702
Printer T2280C
Parallel I/F cable: Shielded cable
Fanfold paper for the T2280C
Supply voltage: 230VAC/50Hz

Environmental conditions:

Temperature: 15 - 35°C
Humidity: 30 - 60%
Air pressure: 860 - 1060mbar

The environmental conditions during the test: ☒ were kept
☐ were not kept



Test results:

Measurements are made with a CISPR receiver. If the emanation is closer than 6dB to the limits or more, the receiver will stop and measure the exact value with quasipeak or average. The frequency, the maximum quasipeak value and the limit will be printed out.

Summary:

Limits for continious disturbances: ☒ kept
☐ not kept

Remarks: The tests represent only parts of the DIN EN 55022 (VDE 0878 Teil 22) /05.1999 and met not all requirements for a conformity approval.

Protocol scope:

- ☒ Readings - Antenna horizontal polarized.
- ☒ Diagram - Antenna horizontal polarized.
- ☒ Readings - Antenna vertical polarized.
- ☒ Diagram - Antenna vertical polarized.
- ☐ Precompliance measuerment(s).

Readings - Antenna horizontal polarized

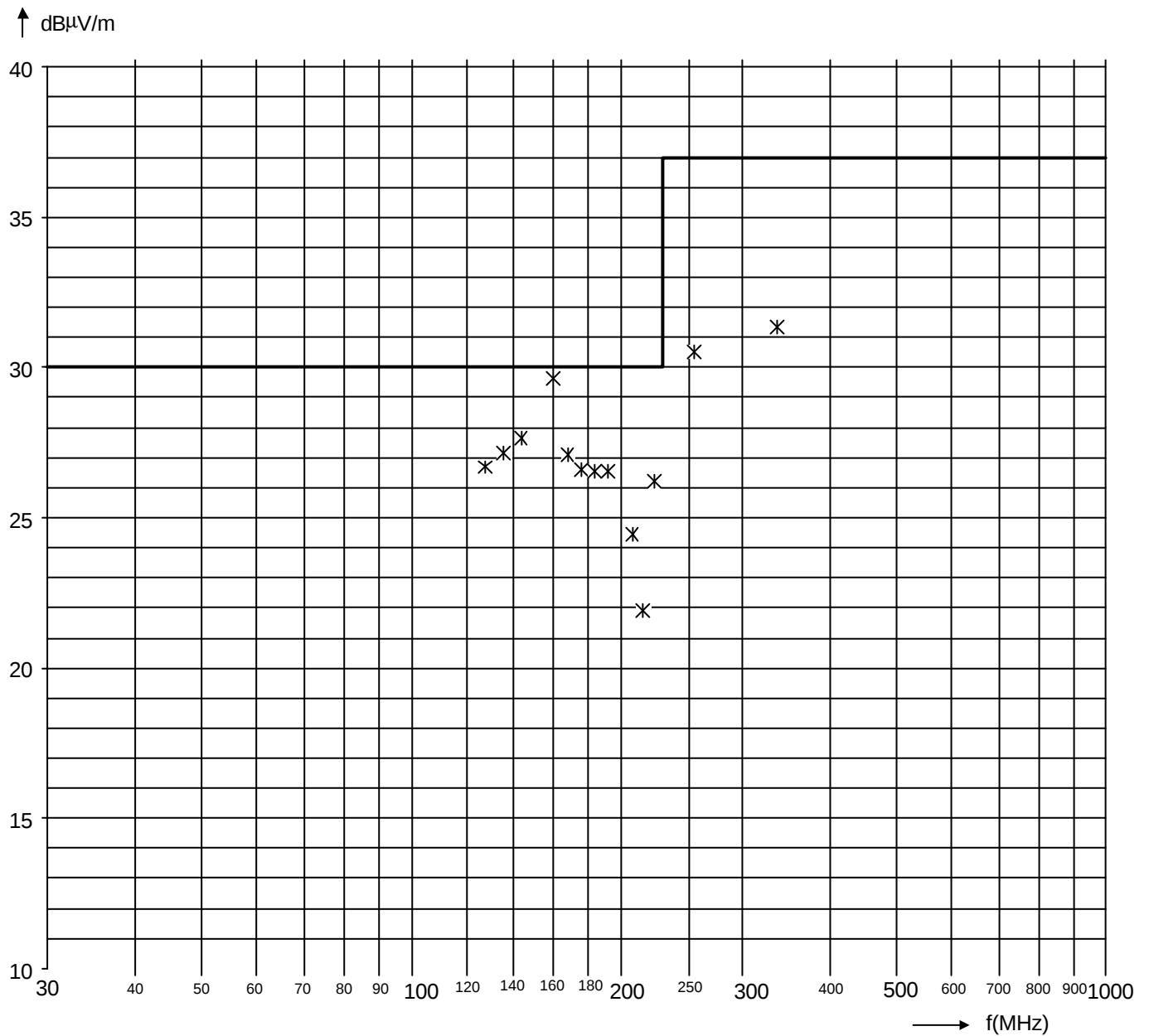
Frequency	Measured	+ AF	+ KF	Emission	Limit	Difference	Ant.-	Ant.-
MHz	value	dB/m	dB		dBµV/m	dBµV	Height	Polar.
	dBµV	Antenna	Cable	dBµV/m			meter	H/V
127,813	13,0	11,3	2,3	26,7	30,0	3,3	4,0	H
135,801	13,0	11,7	2,4	27,2	30,0	2,8	4,0	H
143,789	13,0	12,1	2,5	27,7	30,0	2,3	4,0	H
159,766	14,0	13,0	2,7	29,6	30,0	0,4	4,0	H
167,754	11,0	13,4	2,7	27,1	30,0	2,9	4,0	H
175,742	10,0	13,8	2,8	26,6	30,0	3,4	4,0	H
183,731	9,5	14,2	2,9	26,6	30,0	3,4	4,0	H
191,719	9,0	14,6	2,9	26,5	30,0	3,5	4,0	H
207,696	6,0	15,4	3,1	24,5	30,0	5,5	4,0	H
215,684	3,0	15,8	3,1	21,9	30,0	8,1	4,0	H
223,672	7,0	16,0	3,2	26,2	30,0	3,8	4,0	H
255,625	10,0	17,1	3,4	30,5	37,0	6,5	4,0	H
335,507	13,0	14,5	3,9	31,3	37,0	5,7	1,4	H



Diagram - Antenna horizontal polarized

Limits according DIN EN 55022 (VDE 0878 Teil 22) / 05.1999

☐ Class A
☒ Class B



Readings - Antenna vertical polarized

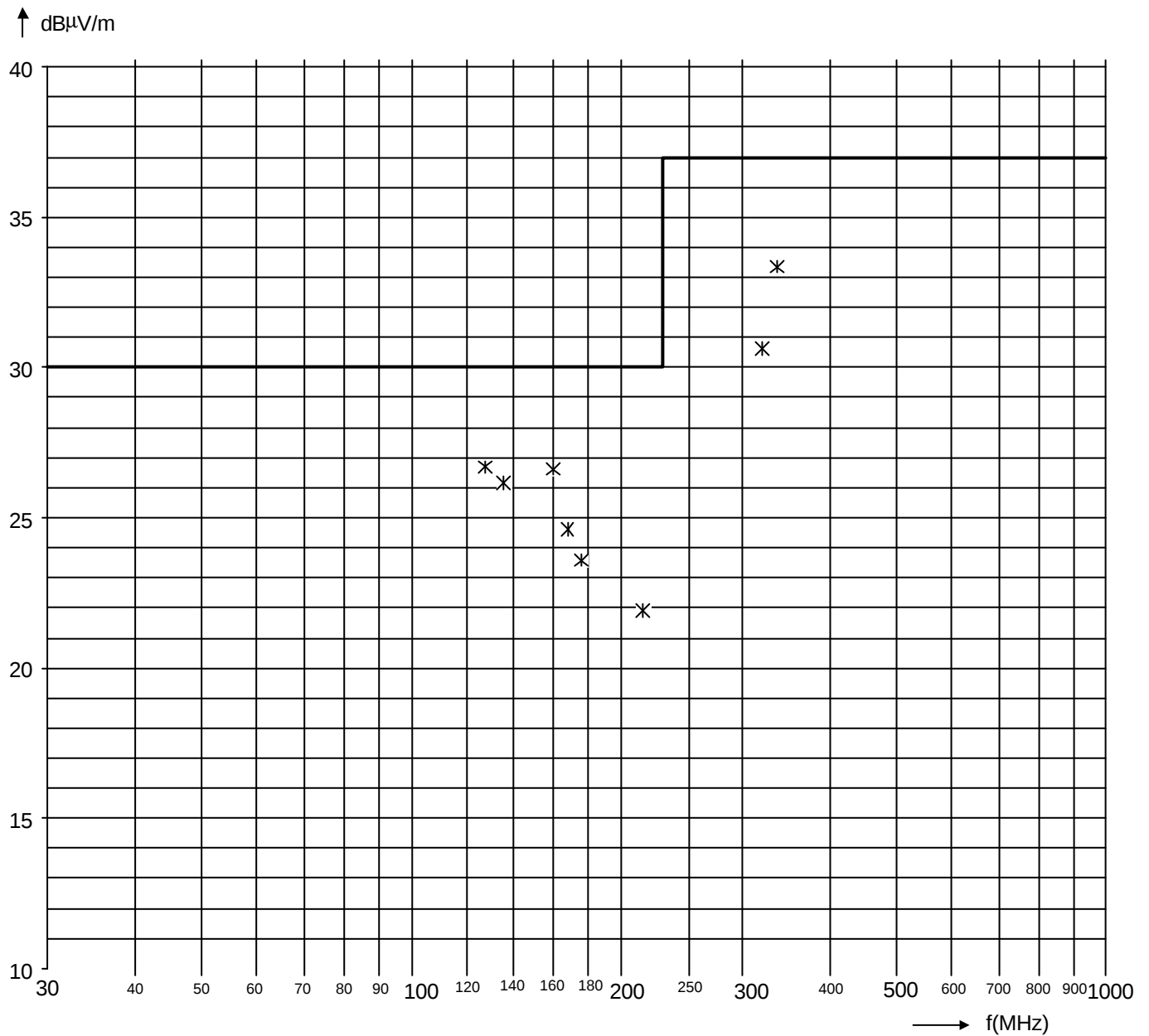
Frequency	Measured	+ AF	+ KF	Emission	Limit	Difference	Ant.-	Ant.-
MHz	value	dB/m	dB		dBµV/m	dBµV	Height	Polar.
	dBµV	Antenna	Cable	dBµV/m			meter	H/V
127,812	13,0	11,3	2,3	26,7	30,0	3,3	1,0	V
135,801	12,0	11,7	2,4	26,2	30,0	3,8	1,0	V
159,765	11,0	13,0	2,7	26,6	30,0	3,4	1,0	V
167,754	8,5	13,4	2,7	24,6	30,0	5,4	1,0	V
175,742	7,0	13,8	2,8	23,6	30,0	6,4	1,0	V
215,684	3,0	15,8	3,1	21,9	30,0	8,1	1,0	V
319,531	13,0	13,8	3,8	30,6	37,0	6,4	1,1	V
335,508	15,0	14,5	3,9	33,3	37,0	3,7	1,1	V



Diagram - Antenna vertical polarized

Limits according DIN EN 55022 (VDE 0878 Teil 22) / 05.1999

☐ Class A
☒ Class B

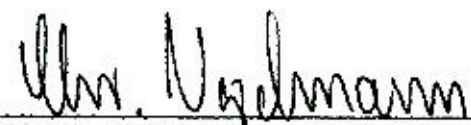




2 Summary

Regulation	Class / Test level	Result	Remark(s)
DIN EN 55022 VDE 0878 Teil 22 /05.1999			
Conducted emission 0.15-30MHz	B	Limits kept	
Radiated emission 30-1000MHz	B	Limits kept	

Burgrieden, 10/10/2001


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