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MACHINERY - COMPONENTS – TECHNOLOGY

EMC Test laboratory accredited by the Swiss Federal Office of Metrology
Laboratoire d'essai de CEM accrédité par l'Office Fédéral de Métrologie (Suisse)
Durch das Eidgenössische Amt für Messwesen (Schweiz) akkreditiertes EMV-Prüflabor

Registration number
Numéro d'accréditation :
Akkreditierungsnummer

STS 024

Schweizerischer Prüfstellendienst
Service suisse d'essai
Servizio di prova in svizzera
Swiss testing service

Report no: Rapport no: Bericht Nr:	***12'596***
Title: Titre: Titel:	***Electromagnetic Compatibility Tests of the RF-Identification system OIS-W for determination of compliance with FCC part 15, subpart C***
Date of test: Date de l'essai: Prüfdatum:	***January 12 and 15, 2001***
Customer: Client: Kunde:	***Baumer Electric AG***
Test place: Lieu de l'essai: Prüfort:	***montena emc sa*** ***CH-1728 Rossens***

Test performed by Essai effectué par : Prüfer	Test report prepared by Rapport d'essai préparé par : Berichterstatter	Test report controled and approved by Rapport d'essai contrôlé et approuvé par : Prüfbescheinigung
Mr. Jacques Ding	Mr. Jacques Ding	Mr. Erich Staub

Rossens, 2000-01-23 (Issue Date / Date d'édition / Ausstelldatum)

Main language / Langue principale / Hauptsprache: *english* / *français* / *Deutsch*

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Contents / Table des matières / Inhaltsverzeichnis

Total number of pages
Nombre total de pages du rapport: 37
Total Anzahl Seiten

1. Summary of test results / Résumé des résultats d'essais / Zusammenfassung der Prüfergebnisse

- ✓ Pass / Réussi / Bestanden
- X Fail / Pas réussi / Nicht bestanden
- ☐ Not applicable to this type of product / pas applicable à ce type de produit / nicht anwendbar für diese Produkteart
- — No test / Pas d'essai / Nicht geprüft

Test Type / Type d'essai / Art der Prüfung	**Result / Résultat / Ergebnis**
Emission / Emission / Störaussendung	FCC, part C
Mains terminal interference voltage § 15.207 Tension perturbatrice aux bornes d'alimentation § 15.207 Störspannung auf den Energieversorgungsleitungen § 15.207	✓
Radiated electromagnetic field § 15.209, 15.249 Champ perturbateur § 15.209, 15.249 Störfeldstärke § 15.209, 15.249	✓

The equipment is conform to all requirements of the standards:
L'appareil répond à toutes les exigences fixées dans les normes :
Das Gerät entspricht sämtlichen Anforderungen der Normen :

FCC part C: § 15.207, 15.209 and 15.249

2. Client / Client / Kunde

Client name and address Nom et adresse du client Name und Adresse des Kunden	*Baumer Electric AG* *Hummelstrasse 17* *CH-8500 Frauenfeld*
Contact Person / Responsable / Kontaktperson	*Mr. Reto Peter*
Telephone / Téléphone / Telefon	*++41 52 728 15 87*
Fax / Télécopieur / Telefax	*++41 52 728 11 44*
Mandate no / Mandat no / Auftrag Nr.	*98-3899*

3. Equipment under test / Equipement à l'essai / Prüfling

Manufacturer name and address Nom et adresse du fabricant Name und Adresse des Herstellers	*Baumer Electric AG* *Hummelstrasse 17* *CH-8500 Frauenfeld*
Contact Person / Responsable / Kontaktperson	*Mr. Reto Peter*
Telephone / Téléphone / Telefon	*++41 52 728 15 87*
Fax / Télécopieur / Telefax	*++41 52 728 11 44*
Product name / Nom du produit / Produktname	*OIS-W* *WR 300/303*
Product description / Description du produit / Produktbeschreibung	*RF-Identification System*
Production country / Pays de fabrication / Ursprungsland	*Switzerland*
Product type / Type du produit / Typ des Produktes	*Rev. 1 Part 128494*
Serial no / No. de série / Seriennummer	*1-9933-0020*
Modifications before the tests Modifications apportées avant les essais Vor den Prüfungen angebrachte Änderungen	*none*
Technical documentation Documentation technique Technische Dokumentation	*s. report 11'982 (HF – Unit)* *and p. 9.1 …. 9.10*

4. Test conditions / Conditions d'essai / Testbedingungen

Temperature / Température / Temperatur:	*20 – 22 °C*
Pression / Pression / Druck:	*1008 – 1020 hPa*
Relative humidity / Humidité relative / Relative Luftfeuchtigkeit:	*40 – 50 %*
Test period / Date des essais / Datum der Prüfungen:	

5. Persons present / Personnes présentes / Anwesende Personen

Test Engineer(s) / Ingénieur(s) d'essai / Prüfingenieur(e) :

Mr. Jacques Ding

Other(s) / Autre(s) / Andere :

Name / Nom / Name	Company /Société / Firma
---	

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Measurement of the conducted disturbances 450 kHz - 30 MHz

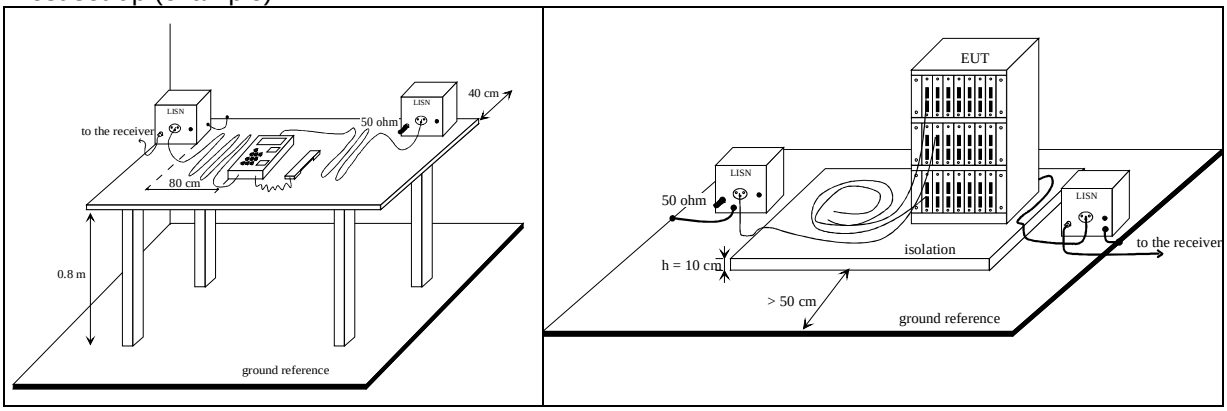
Standard: United States: 47 CFR "Code of Federal Regulations" - Telecommunication
☐ FCC Part 15, Subpart B: Unintentional Radiators: § 15.107 (a) and (b)
☒ FCC Part 15, Subpart C: Intentional Radiators: § 15.207 and …….
☐ class A ☐ class B

Test site:
☐ anechoic chamber (ferrites) ☒ anechoic chamber (foam)
☐ shielded room ☐ laboratory
☐ open test site ☐ .....

Test precision: ± 3.5 dB

Test method: The conducted disturbance on the supply line is measured from 450°kHz to 30°MHz using a spectrum analyser and a line impedance substitution network (LISN). The measurement of the radio frequency voltage between each power line and ground at the power terminals is carried out succesively. Only the maximum of all the values is displayed. The peak values are recorded continuously on the graph. The values that exceed the limits are remeasured manually with the quasi -peak and the average detector of a measuring receiver. These values are indicated at the bottom of the graph.
If the quasi -peak (QP) values exceed the limits in § 15.107 (a) and (b), and the difference of the measured quasi -peak value and the average value is 6 dB or more, that emission is considered to be broadband. In this case the QP level may be reduced by 13 dB for comparison to the limits.
As an additional alternative to § 15.107 (a) and (b) digital devices may be shown to comply with the Standards contained in the CISPR Pub. 22 (1985) and the associated Standards.

Test set-up (example):



☒ Table-top equipment ☐ Floor-standing equipment

Test equipment:

☒ Spectrum analyser	☒ 88-14	☐ 90-26	☐ 94-24	
☐ Receiver	☐ 85-12	☐ 90-11	☐ 94-34	
☐ LISN	☐ 85-13	☐ 90-08	☐ 94-36	☐ 00-43
☒ LISN	☒ 94-40	☐ 95-12	☐	
☒ Printer	☐ 99-33	☒ 92-30	☐	
☒ Protection 10 dB	in LISN			
☐	.....			
☐	.....			

Results: ☒ **complies** ☐ **does not comply** ☐ **not applicable** ☐ **not done**

Measurement Type : Voltage Interference
Wire : Neutral

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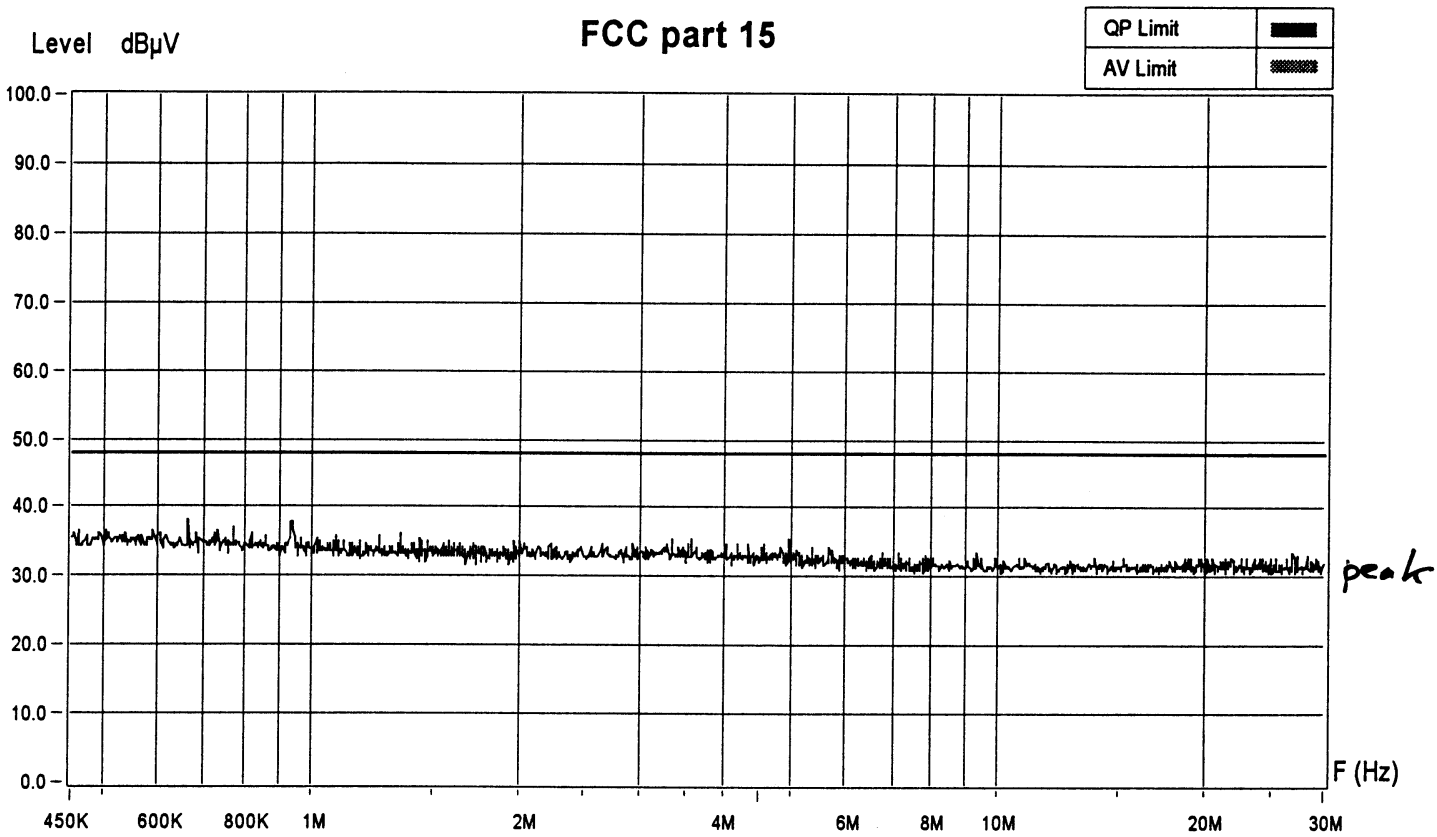
6.2

Equipment Under Test : WR 300/ 303
Set-Up : s. photo
Operating Conditions : sweeping
Remarks : § 15.207



Zone	450 KHz - 2 MHz	2 MHz - 8 MHz	8 MHz - 30 MHz
Video Bandwidth	10 KHz	10 KHz	10 KHz
Resol Bandwidth	9 KHz	9 KHz	9 KHz
Sweep Time	5 s	5 s	5 s

Operator : Ding

15.01.01 08:53

Measurement Type : Voltage Interference
Wire : Line 1

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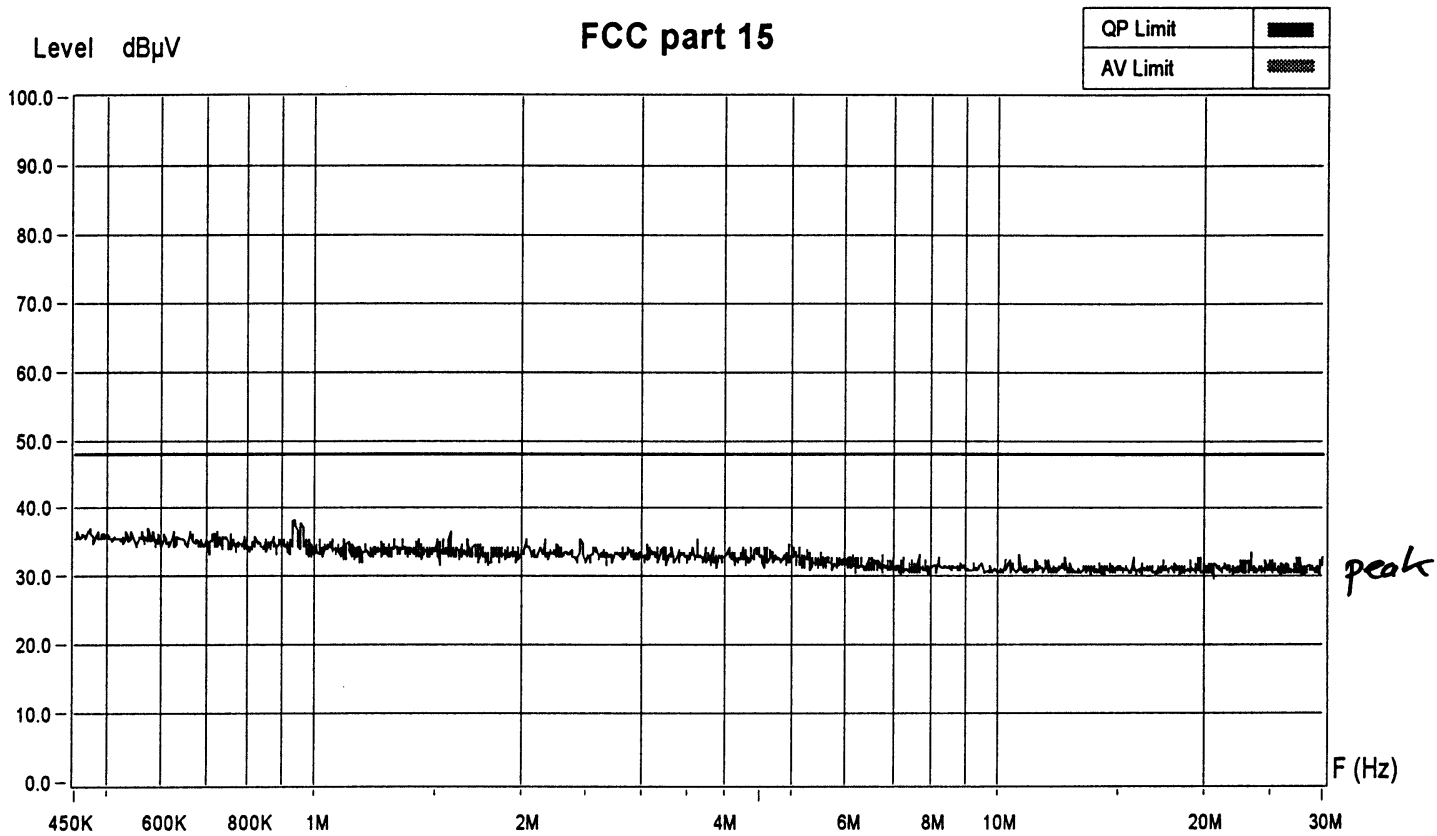
6.3

Equipment Under Test : WR 300/ 303
Set-Up : s. photo
Operating Conditions : sweeping
Remarks : § 15. 207



Zone	450 KHz - 2 MHz	2 MHz - 8 MHz	8 MHz - 30 MHz
Video Bandwidth	10 KHz	10 KHz	10 KHz
Resol Bandwidth	9 KHz	9 KHz	9 KHz
Sweep Time	5 s	5 s	5 s

Operator : Ding

15.01.01 08:32

Radiated electromagnetic field

Standard: United States: 47 CFR "Code of Federal Regulations" - Telecommunication
☐ FCC Part 15, Subpart B: Unintentional Radiators
☒ FCC Part 15, Subpart C: Intentional Radiators
☐ class A ☐ class B §15.33 frequency range of radiated meas.: from ..... MHz to ..... MHz
☐ §15.209 ☐ §15…….

Distance: ☐ 30 m ☒ 10 m ☐ 3 m ☐ .....

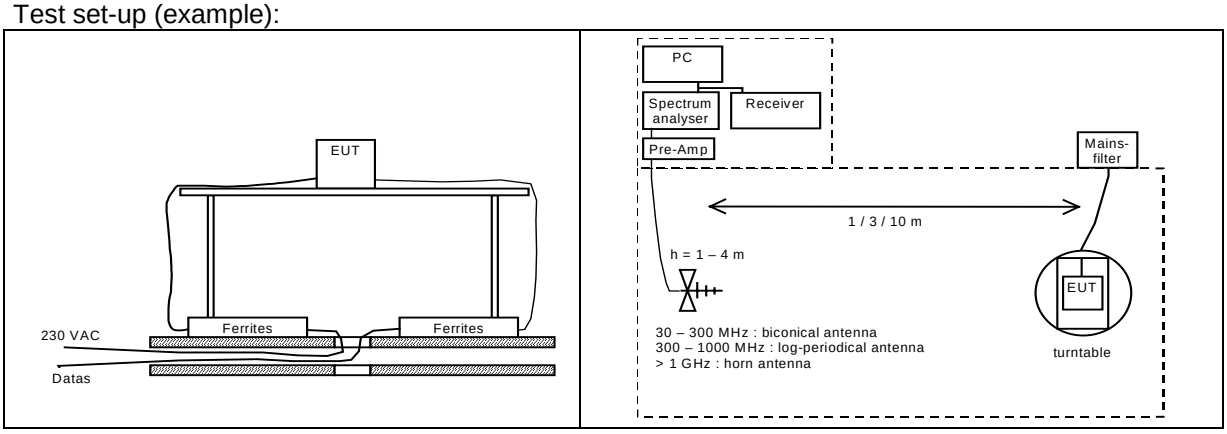
Test site: ☒ anechoic chamber (foam) ☐ open test site
☐ anechoic chamber (ferrite) ☐ .....

Test precision: ± 4.6 dB

Position of EUT: 0.8 m (Height of equipment under test above floor)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and an antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding the limits are remeasured manually giving quasi-peak values and average values using a receiver and these measurements are indicated under the graph. The limit must be respected in quasi-peak values (QP) up to 1 GHz and in average values (AV) above 1 GHz. The 6 dB bandwidth of the spectrum analyser is adjusted to 100 kHz from 30 to 1000 MHz and 1 MHz above 1 GHz.

Test set-up (example):

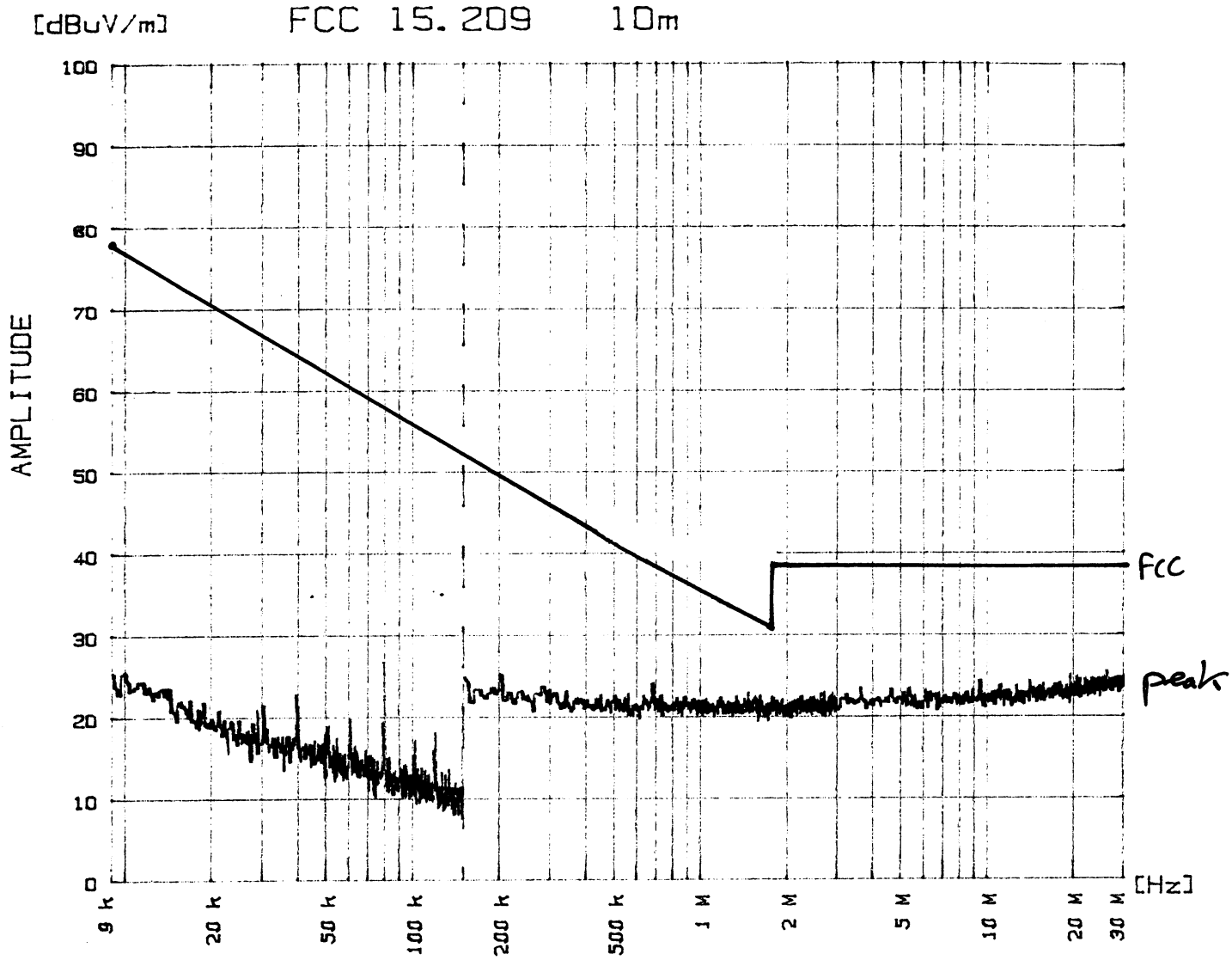


Test equipment:

☒ Spectrum analyser		☒ 88-14	☐ 90-26	☐ 94-24			
☐ Receiver (CISPR 16)		☐ 85-04	☐ 90-43	☐ 94-35			
☐ Preamplifier		☐ 88-05	☐ 90-01	☐ 90-42	☐ 95-86		
☐ Antenna	(biconical)	☐ 82-02	☐ 87-05	☐ 87-16	☐ 91-05	☐ 94-37	
☐ Antenna	(log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☐ 94-64	☐	
☐ Antenna	(bilog)	☐ 94-03	☐				
☐ Antenna	(horn)	☐ 90-24	☐ 90-29	☐ 98-12	☐ 98-13	☐	
☐ Printer		☐ 99-33	☐				
☒ Rod antenna		☒ 91-18					

Results: ☒ **complies** ☐ **does not comply** ☐ **not applicable** ☐ **not done**

7.2



Type of measurement
Mesure effectuée : radiated field

Equipment under test
Appareil mesuré : OES-W 303/300

Set-up
Configuration : photo

Operating conditions
Fonctionnement : sweeping

Remarks
Remarques : .....

Date/*Date* : 2001-1-12
Time/*Heure* : .....
Operator/*Collaborateur* : D. Ding

Radiated electromagnetic field

Standard: United States: 47 CFR "Code of Federal Regulations" - Telecommunication
☐ FCC Part 15, Subpart B: Unintentional Radiators
☒ FCC Part 15, Subpart C: Intentional Radiators
☐ class A ☐ class B §15.33 frequency range of radiated meas.: from ..... MHz to ..... MHz
☒ §15.209 ☐ §15…….

Distance: ☐ 30 m ☒ 10 m ☐ 3 m ☐ .....

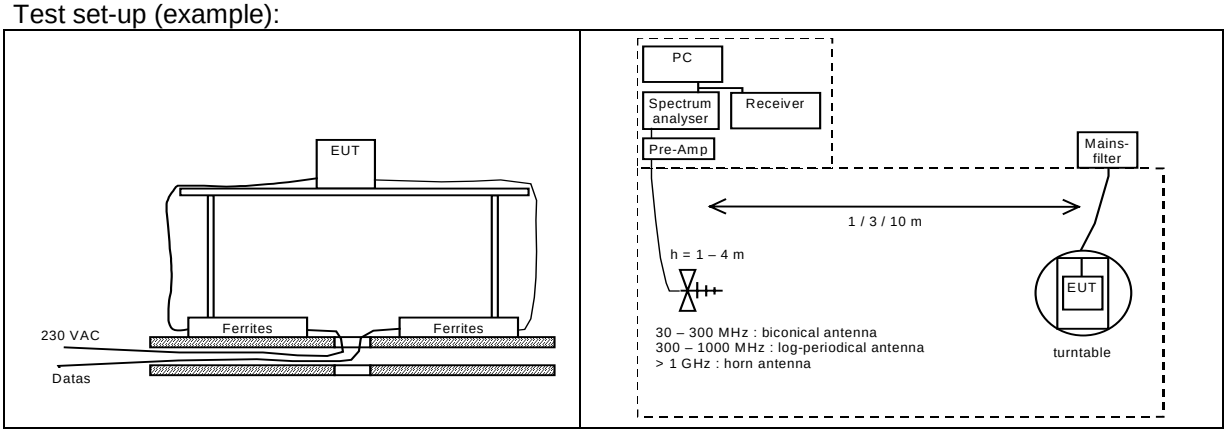
Test site: ☐ anechoic chamber (foam) ☐ open test site
☒ anechoic chamber (ferrite) ☐ .....

Test precision: ± 4.6 dB

Position of EUT: 0.8 m (Height of equipment under test above floor)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and an antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding the limits are remeasured manually giving quasi-peak values and average values using a receiver and these measurements are indicated under the graph. The limit must be respected in quasi-peak values (QP) up to 1 GHz and in average values (AV) above 1 GHz. The 6 dB bandwidth of the spectrum analyser is adjusted to 100 kHz from 30 to 1000 MHz and 1 MHz above 1 GHz.

Test set-up (example):



Test equipment:

☒ Spectrum analyser		☐ 88-14	☒ 90-26	☐ 94-24			
☐ Receiver (CISPR 16)		☐ 85-04	☐ 90-43	☐ 94-35			
☒ Preamplifier		☐ 88-05	☒ 90-01	☐ 90-42	☐ 95-86		
☐ Antenna	(biconical)	☐ 82-02	☐ 87-05	☐ 87-16	☐ 91-05	☐ 94-37	
☐ Antenna	(log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☐ 94-64	☐	
☒ Antenna	(bilog)	☒ 94-03	☐				
☐ Antenna	(horn)	☐ 90-24	☐ 90-29	☐ 98-12	☐ 98-13	☐	
☒ Printer		☒ 99-33	☐				
☐		.....					

Results: ☒ **complies** ☐ **does not comply** ☐ **not applicable** ☐ **not done**

Measurement Type : Radiated Field
Polarisation : Vertical
Table Angle : 0-360°
Antenna Height : 1-4 m

Equipment Under Test : WR 300/303
Set-Up : s. photo
Operating Conditions : sweeping
Remarks :

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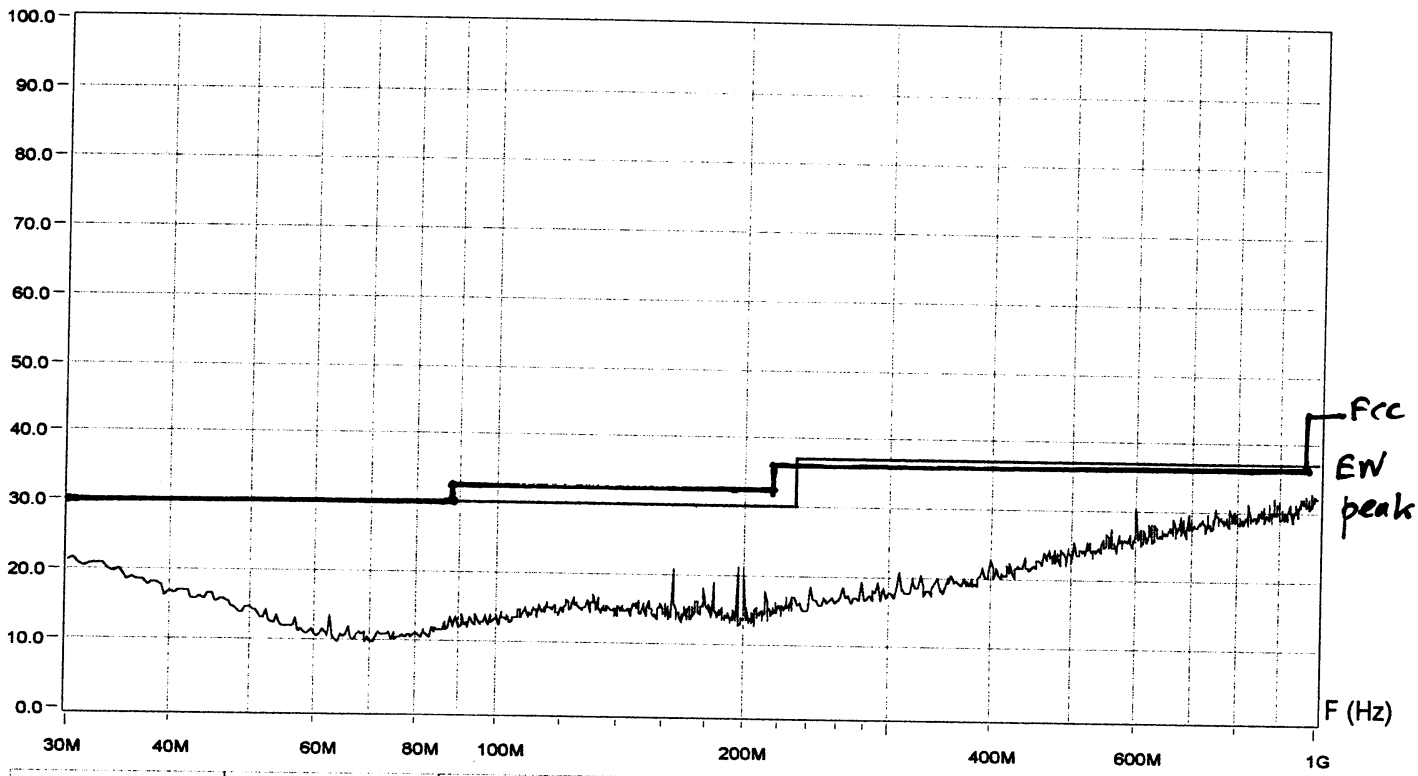
7.4

Level dBµV/m

EN 55022, B

QP Limit



Zone	30 MHz - 230 MHz	230 MHz - 1 GHz
Video Bandwidth	300 KHz	300 KHz
Resol Bandwidth	120 KHz	120 KHz
Sweep Time	42 ms	161 ms

Operator : Ding

12.01.2001 17.28 h

Measurement Type : Radiated Field
Polarisation : Horizontal
Table Angle : 0-360°
Antenna Height : 1-4 m

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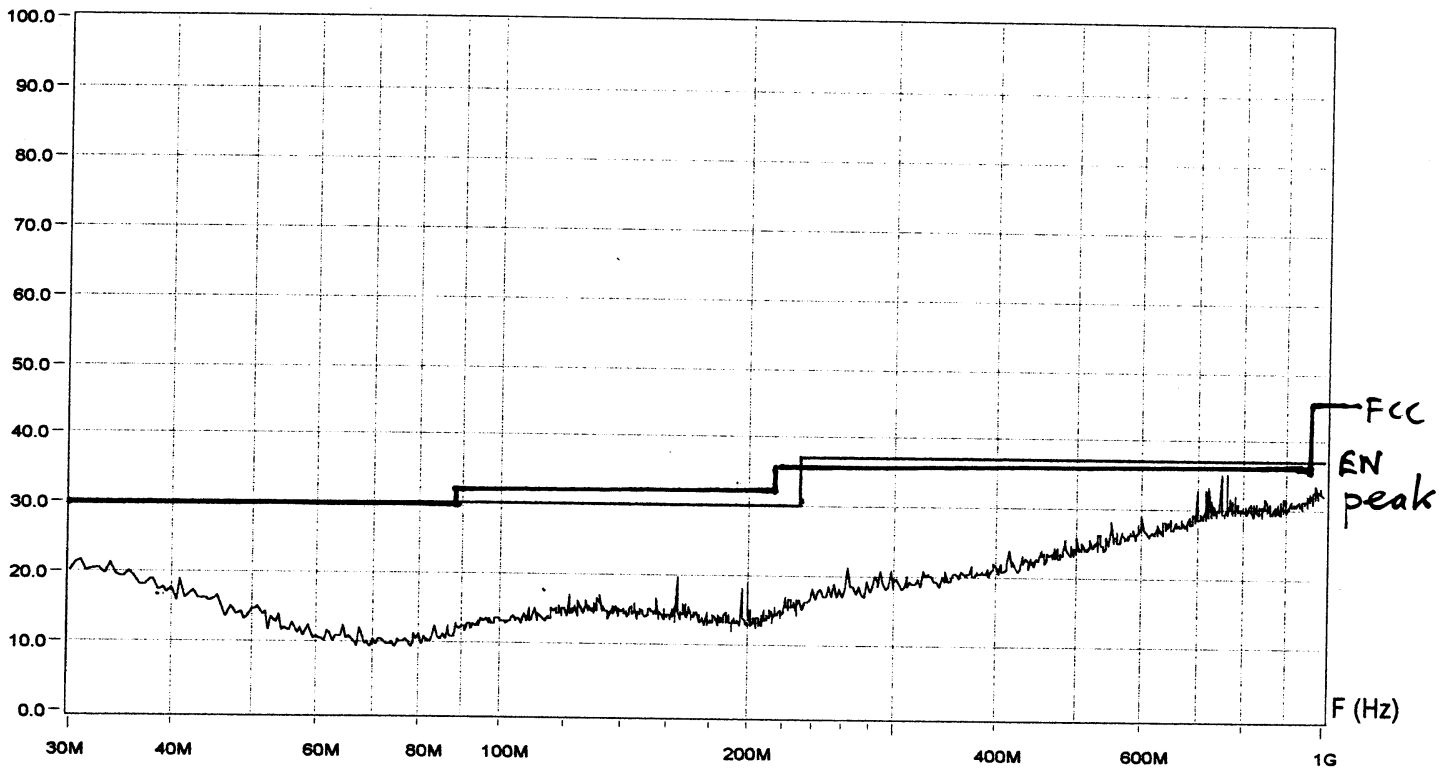
7.5

Equipment Under Test : WR 300/303
Set-Up : s. photo
Operating Conditions : sweeping
Remarks :

Level dBµV/m

EN 55022, B

QP Limit



Zone	30 MHz - 230 MHz	230 MHz - 1 GHz
Video Bandwidth	300 KHz	300 KHz
Resol Bandwidth	120 KHz	120 KHz
Sweep Time	42 ms	161 ms

Operator : Ding

12.01.2001 17.34 h

Radiated electromagnetic field

Standard: United States: 47 CFR "Code of Federal Regulations" - Telecommunication
☐ FCC Part 15, Subpart B: Unintentional Radiators
☒ FCC Part 15, Subpart C: Intentional Radiators
☐ class A ☐ class B §15.33 frequency range of radiated meas.: from ..... MHz to ..... MHz
☒ §15.209 ☒ §15.249

Distance: ☐ 30 m ☐ 10 m ☒ 3 m ☐ .....

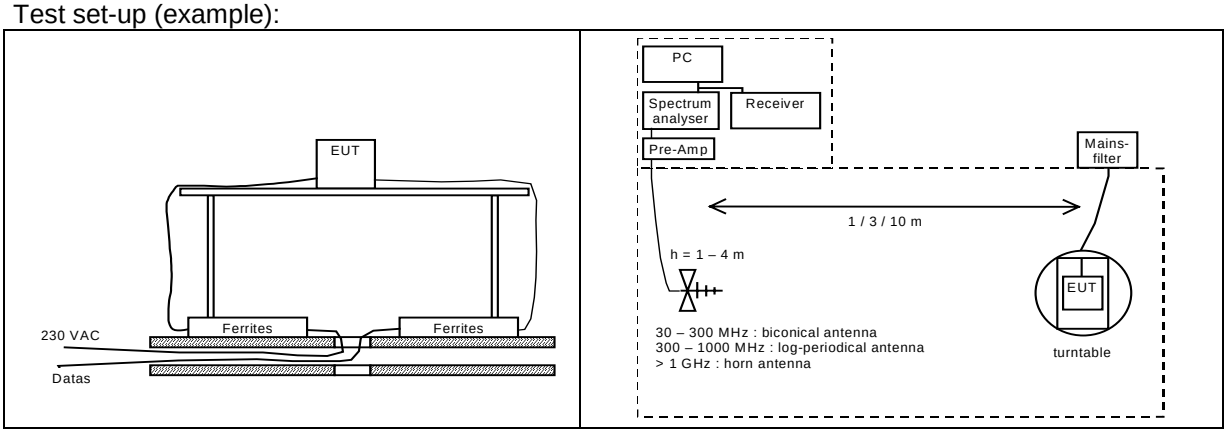
Test site: ☒ anechoic chamber (foam) ☐ open test site
☐ anechoic chamber (ferrite) ☐ .....

Test precision: ± 4.6 dB

Position of EUT: 0.8 m (Height of equipment under test above floor)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and an antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding the limits are remeasured manually giving quasi-peak values and average values using a receiver and these measurements are indicated under the graph. The limit must be respected in quasi-peak values (QP) up to 1 GHz and in average values (AV) above 1 GHz. The 6 dB bandwidth of the spectrum analyser is adjusted to 100 kHz from 30 to 1000 MHz and 1 MHz above 1 GHz.

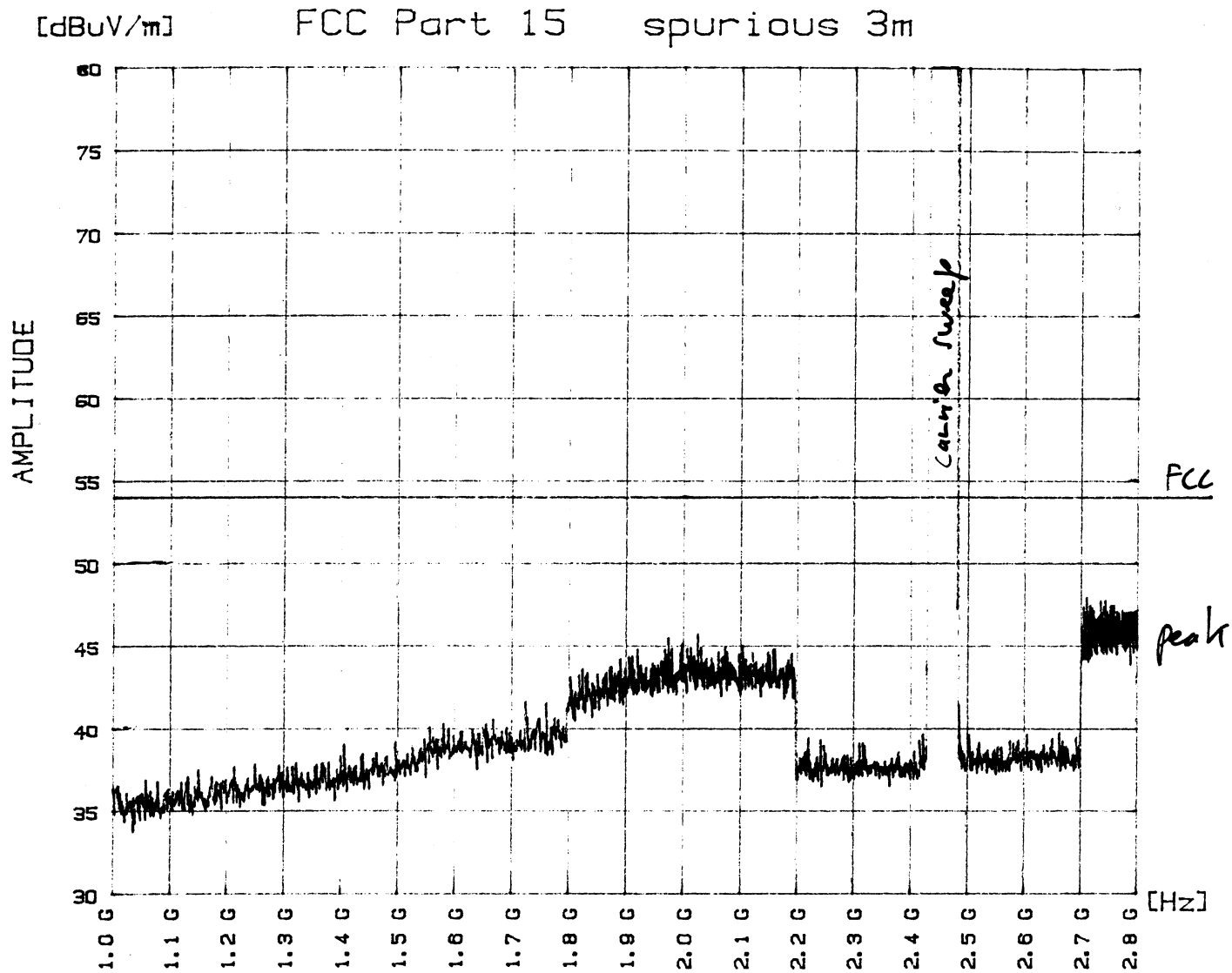
Test set-up (example):



Test equipment:

☒ Spectrum analyser		☒ 88-14	☐ 90-26	☐ 94-24			
☐ Receiver (CISPR 16)		☐ 85-04	☐ 90-43	☐ 94-35			
☒ Preamplifier		☐ 88-05	☐ 90-01	☐ 90-42	☒ 97-08		
☐ Antenna	(biconical)	☐ 82-02	☐ 87-05	☐ 87-16	☐ 91-05	☐ 94-37	
☐ Antenna	(log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☐ 94-64	☐	
☐ Antenna	(bilog)	☐ 94-03	☐				
☒ Antenna	(horn)	☒ 90-24	☐ 90-29	☐ 98-12	☐ 98-13	☐	
☒ Printer		☐ 99-33	☒ 92-30				
☐		.....					

Results: ☒ **complies** ☐ **does not comply** ☐ **not applicable** ☐ **not done**



Type of measurement
Mesure effectuée : radiated field

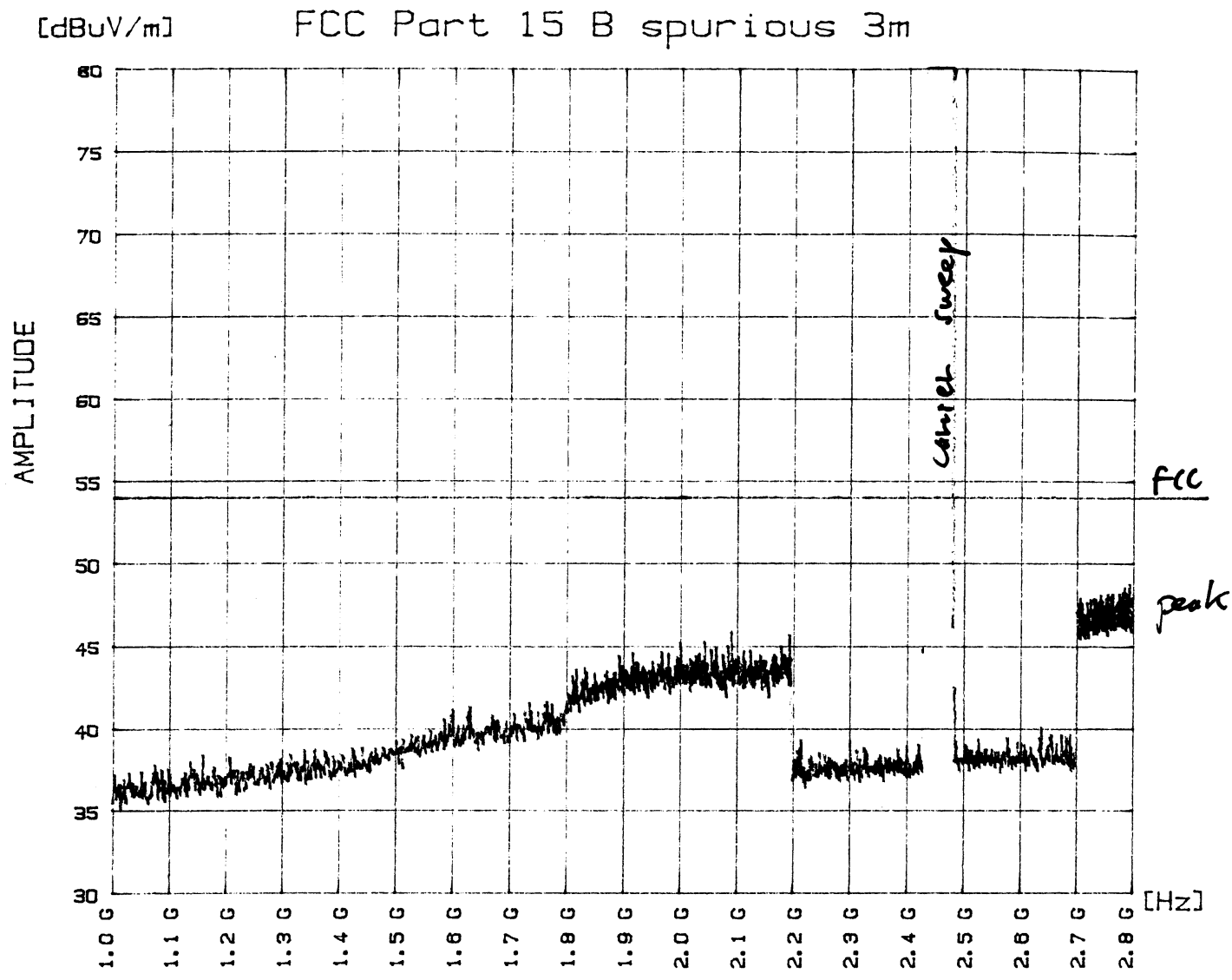
Equipment under test
Appareil mesuré : WR303 / WR300

Set-up
Configuration : 1 photo

Operating conditions
Fonctionnement : sweeping

Remarks
Remarques : vertical pol.

Date/*Date* : 2001-1-15
Time/*Heure* :
Operator/*Collaborateur* : Ding



Type of measurement
Mesure effectuée : radiated field

Equipment under test
Appareil mesuré : WR303/300

Set-up
Configuration : 5. photo

Operating conditions
Fonctionnement : sweeping

Remarks
Remarques : horizontal pol.

Date/*Date* : 2001-1-15
Time/*Heure* : D. Rin
Operator/*Collaborateur* :

Radiated electromagnetic field

Standard: United States: 47 CFR "Code of Federal Regulations" - Telecommunication
☐ FCC Part 15, Subpart B: Unintentional Radiators
☒ FCC Part 15, Subpart C: Intentional Radiators
☐ class A ☐ class B §15.33 frequency range of radiated meas.: from ..... MHz to ..... MHz
☒ §15.209 ☐ §15.249

Distance: ☐ 30 m ☐ 10 m ☒ 3 m ☐ .....

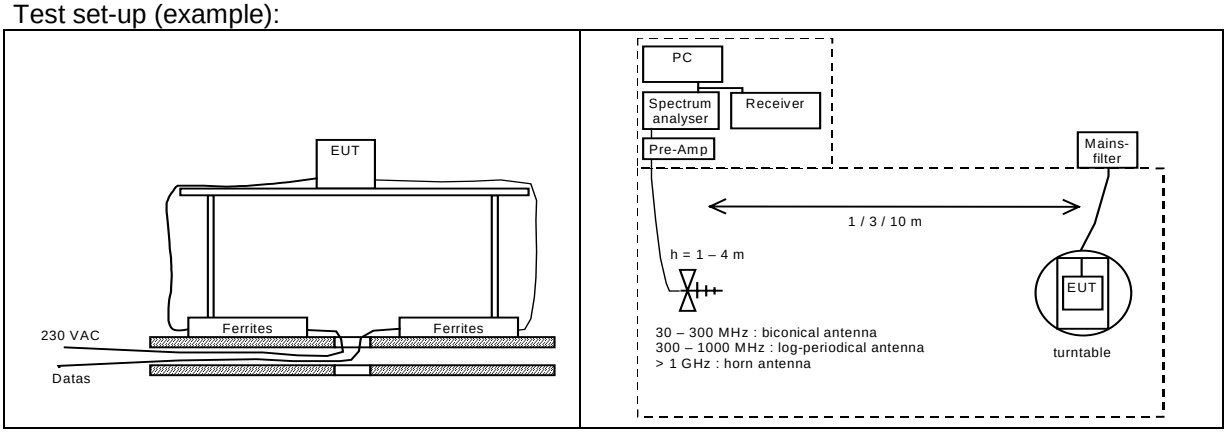
Test site: ☒ anechoic chamber (foam) ☐ open test site
☐ anechoic chamber (ferrite) ☐ .....

Test precision: ± 4.6 dB

Position of EUT: 0.8 m (Height of equipment under test above floor)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and an antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbance appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding the limits are remeasured manually giving quasi-peak values and average values using a receiver and these measurements are indicated under the graph. The limit must be respected in quasi-peak values (QP) up to 1 GHz and in average values (AV) above 1 GHz. The 6 dB bandwidth of the spectrum analyser is adjusted to 100 kHz from 30 to 1000 MHz and 1 MHz above 1 GHz.

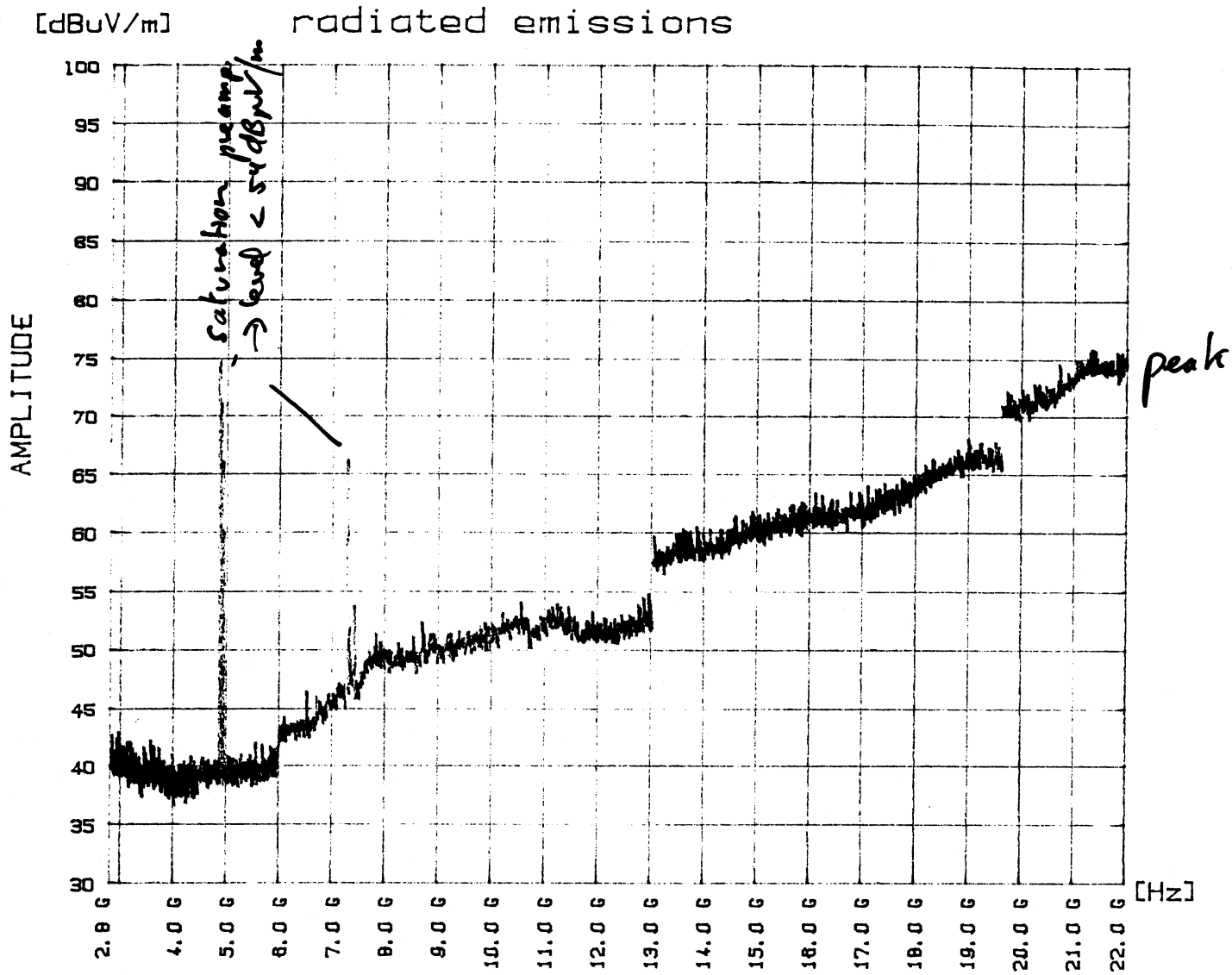
Test set-up (example):



Test equipment:

☒ Spectrum analyser		☒ 88-14	☐ 90-26	☐ 94-24			
☐ Receiver (CISPR 16)		☐ 85-04	☐ 90-43	☐ 94-35			
☒ Preamplifier		☐ 88-05	☐ 90-01	☐ 90-42	☐ 92-39		
☐ Antenna	(biconical)	☐ 82-02	☐ 87-05	☐ 87-16	☐ 91-05	☐ 94-37	
☐ Antenna	(log-per)	☐ 88-20	☐ 90-30	☐ 91-35	☐ 94-64	☐	
☐ Antenna	(bilog)	☐ 94-03	☐				
☒ Antenna	(horn)	☒ 90-24	☐ 90-29	☐ 98-12	☐ 98-13	☐	
☒ Printer		☐ 99-33	☐ 92-30				
☐		.....					

Results: ☒ **complies** ☐ **does not comply** ☐ **not applicable** ☐ **not done**



Type of measurement *Mesure effectuée* : radiated field

Equipment under test *Appareil mesuré* : OIS-W

Set-up *Configuration* :

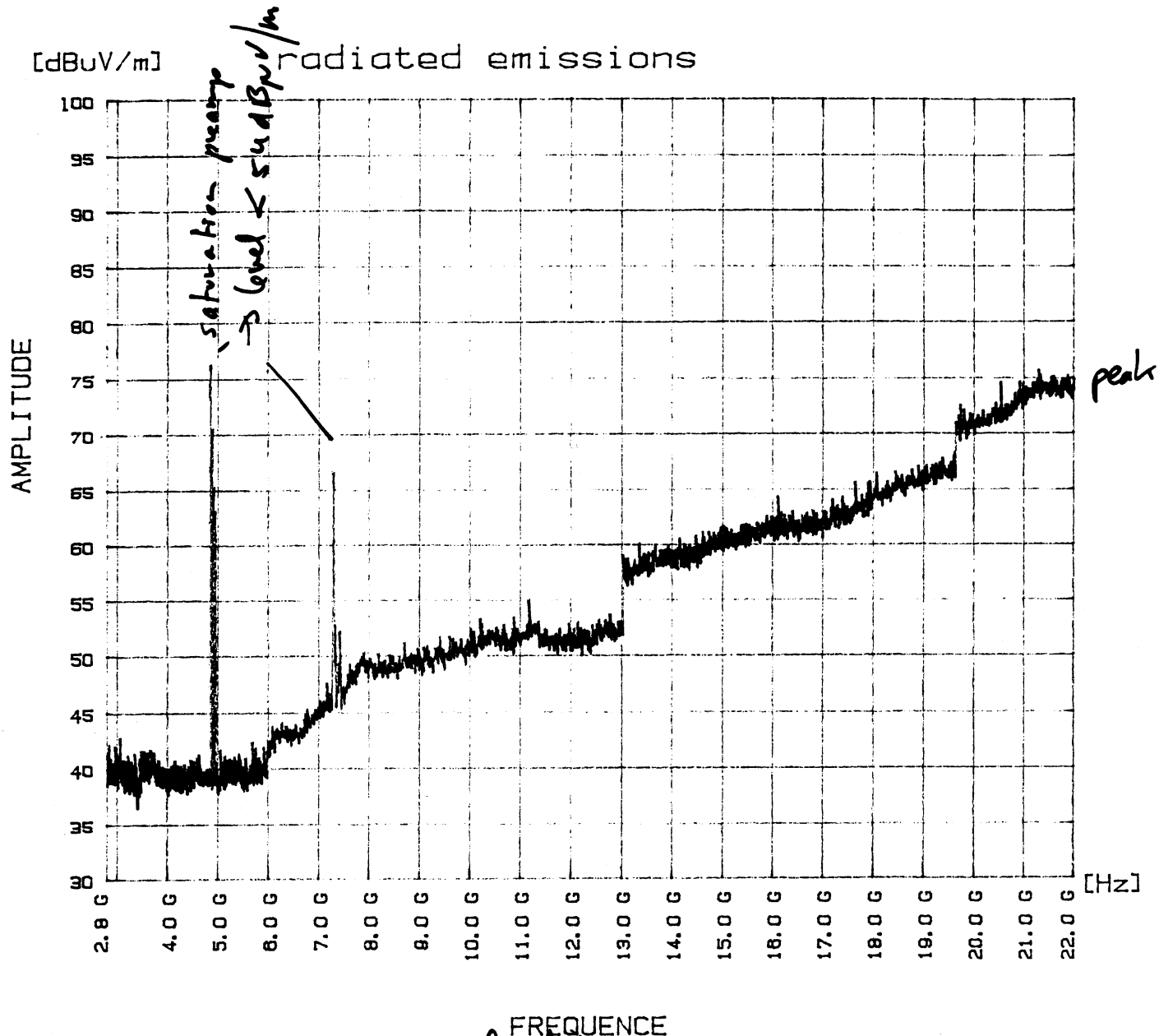
Operating conditions *Fonctionnement* : sweeping

Remarks *Remarques* : 3m Vertical with preamp.

Date/*Date* : 2001-1-12

Time/*Heure* :

Operator/*Collaborateur* : D. Ring



Type of measurement
Mesure effectuée : radiated field

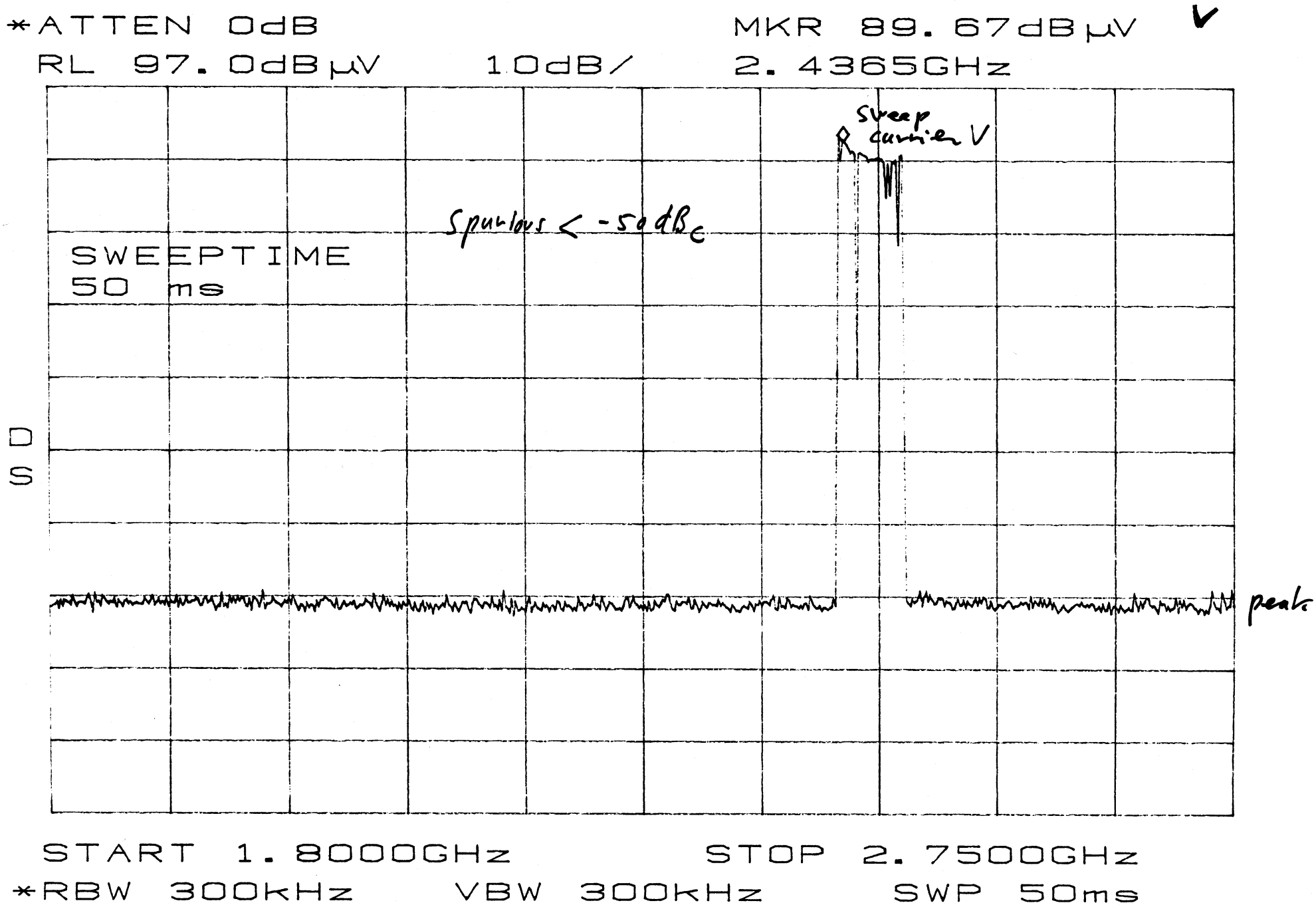
Equipment under test
Appareil mesuré : OIS-W 300/303

Set-up
Configuration : see photo

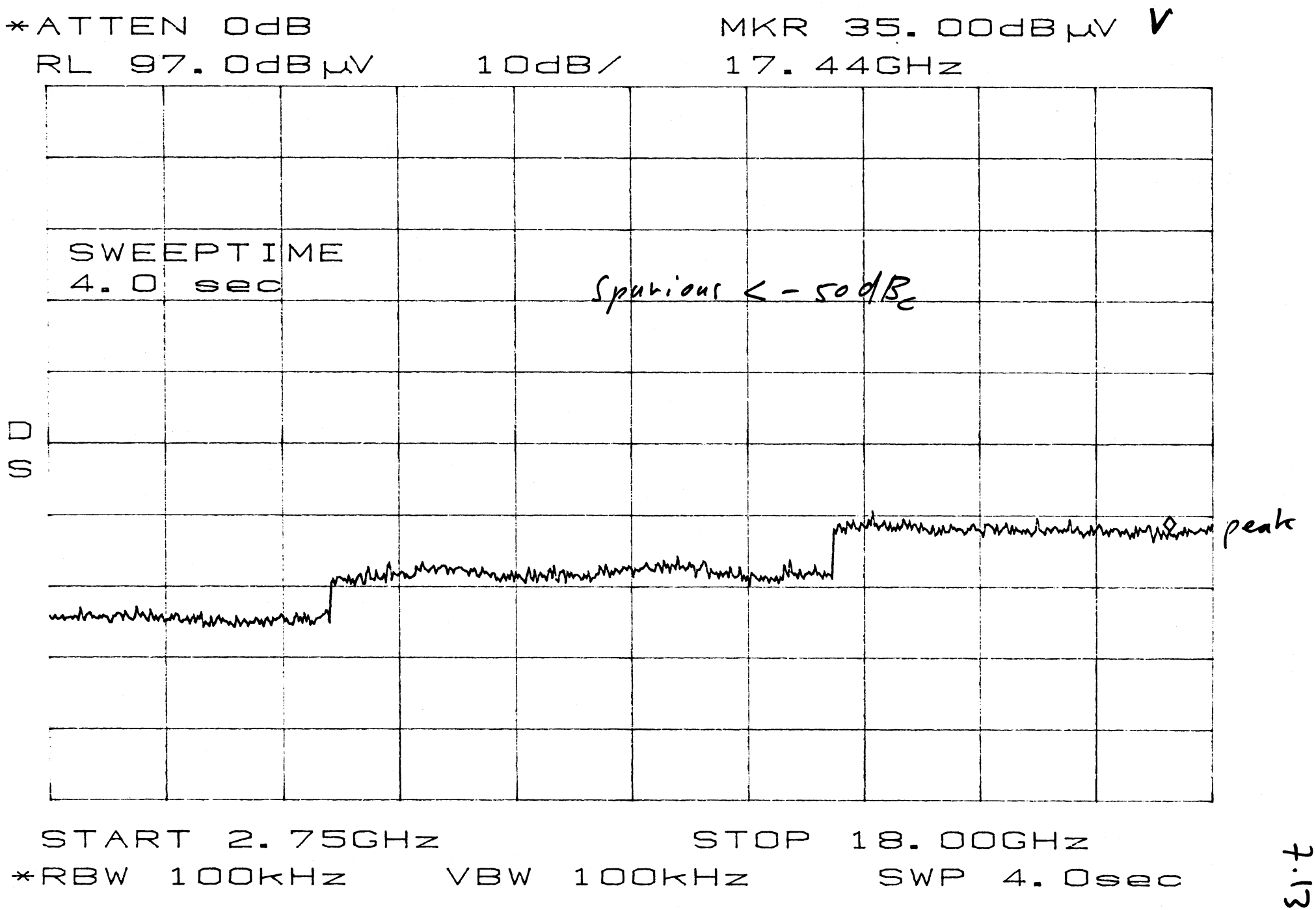
Operating conditions
Fonctionnement : sweeping

Remarks
Remarques : 3 m. horizontal with preamp.

Date/*Date* : 2001-1-12
Time/*Heure* : 9:
Operator/*Collaborateur* : Ry

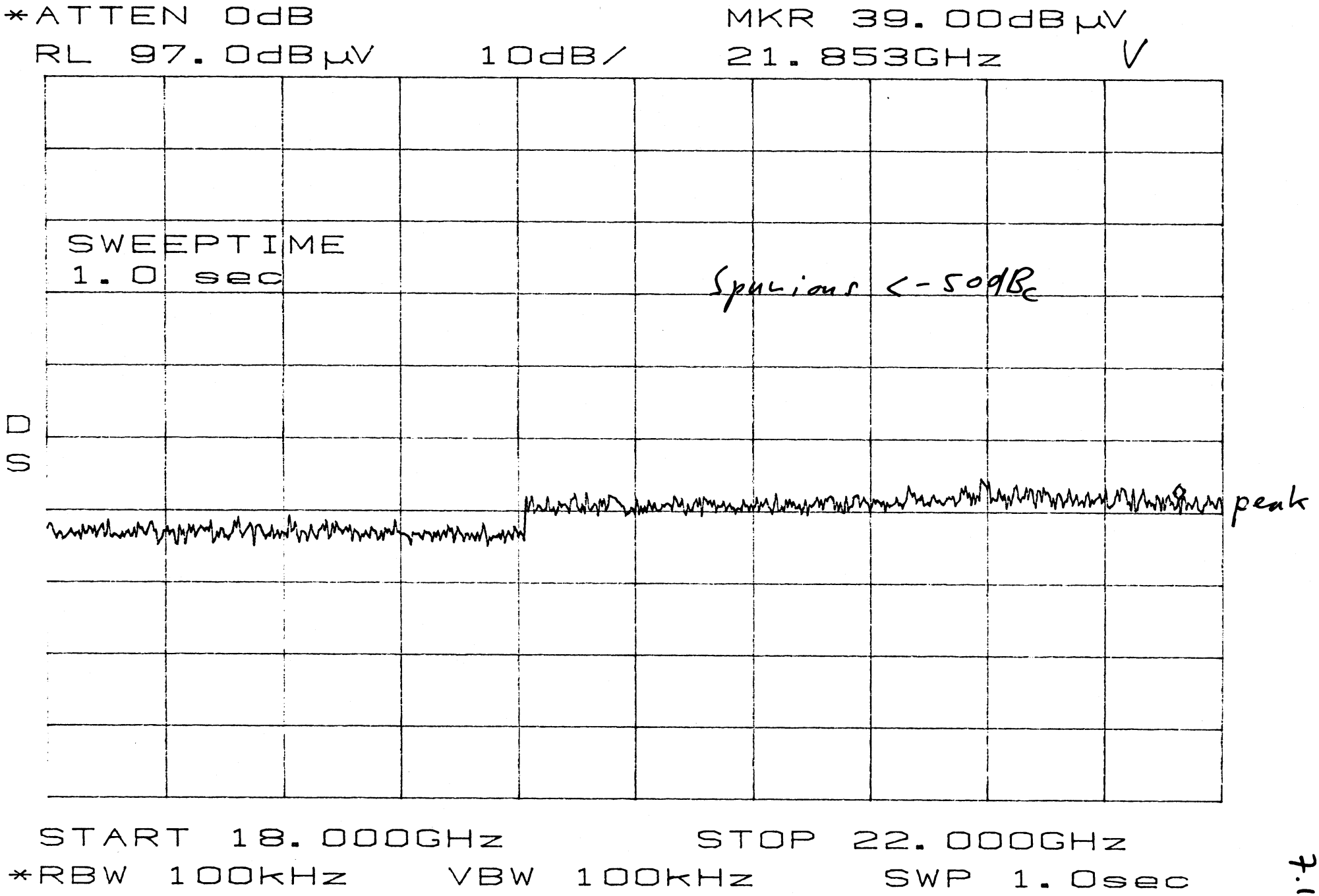

*ATTEN 0dB
MKR 89.67dBµV
RL 97.0dBµV
10dB/
2.4365GHz
Sweep carrier V
Spurious < -50dBc
SWEEPTIME
50 ms
D
S
peak
START 1.8000GHz
STOP 2.7500GHz
*RBW 300kHz
VBW 300kHz
SWP 50ms

7.12

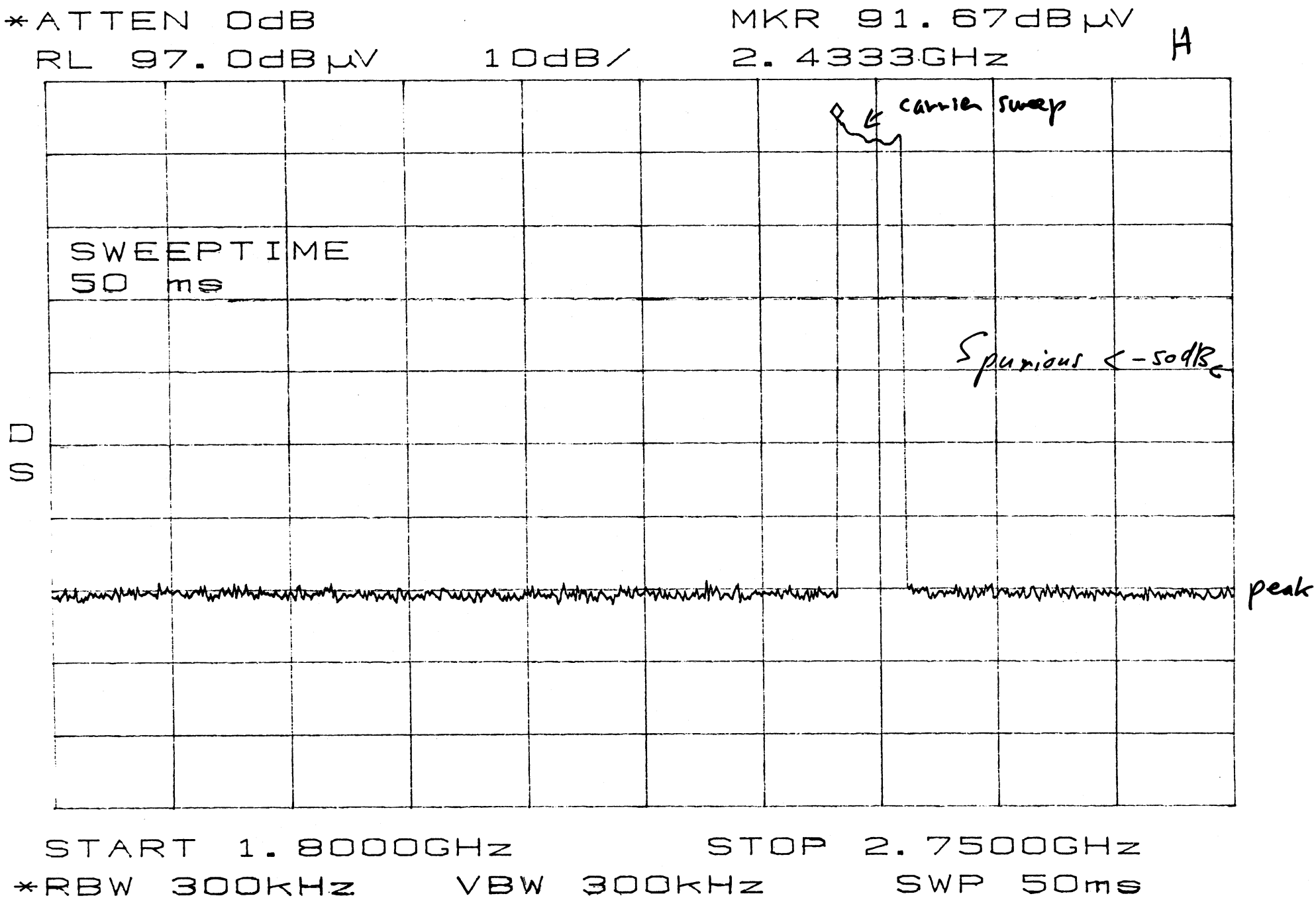

*ATTEN 0dB
MKR 35.00dBµV
RL 97.0dBµV
10dB/
17.44GHz
SWEEPTIME
4.0 sec
Spurious < -50dBc
D
S
peak
START 2.75GHz
STOP 18.00GHz
*RBW 100kHz
VBW 100kHz
SWP 4.0sec

V

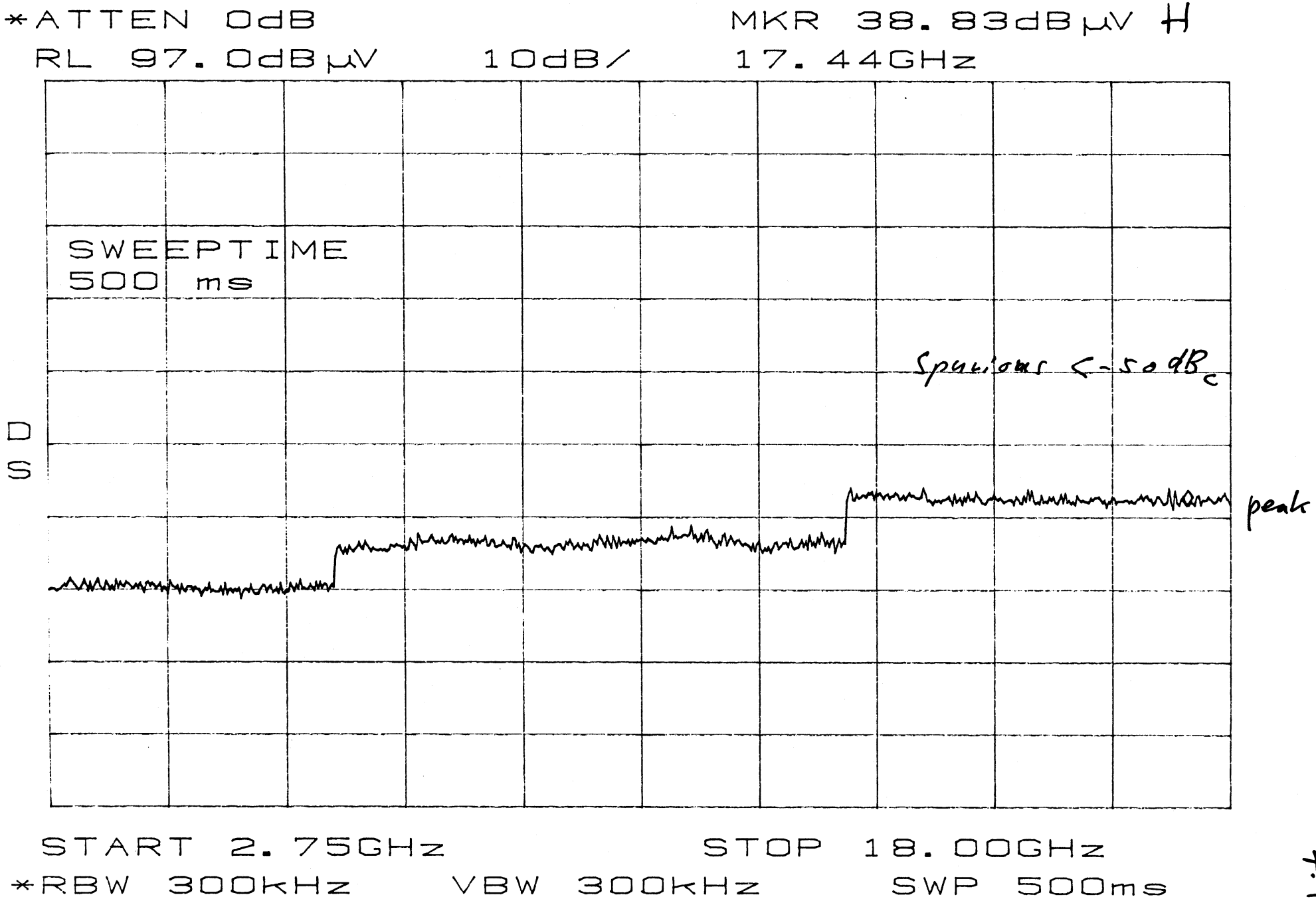
7.13


*ATTEN 0dB
MKR 39.00dBµV
RL 97.0dBµV
10dB/
21.853GHz
V
SWEEPTIME
1.0 sec
Spurious <-50dBc
D
S
peak
START 18.000GHz
STOP 22.000GHz
*RBW 100kHz
VBW 100kHz
SWP 1.0sec

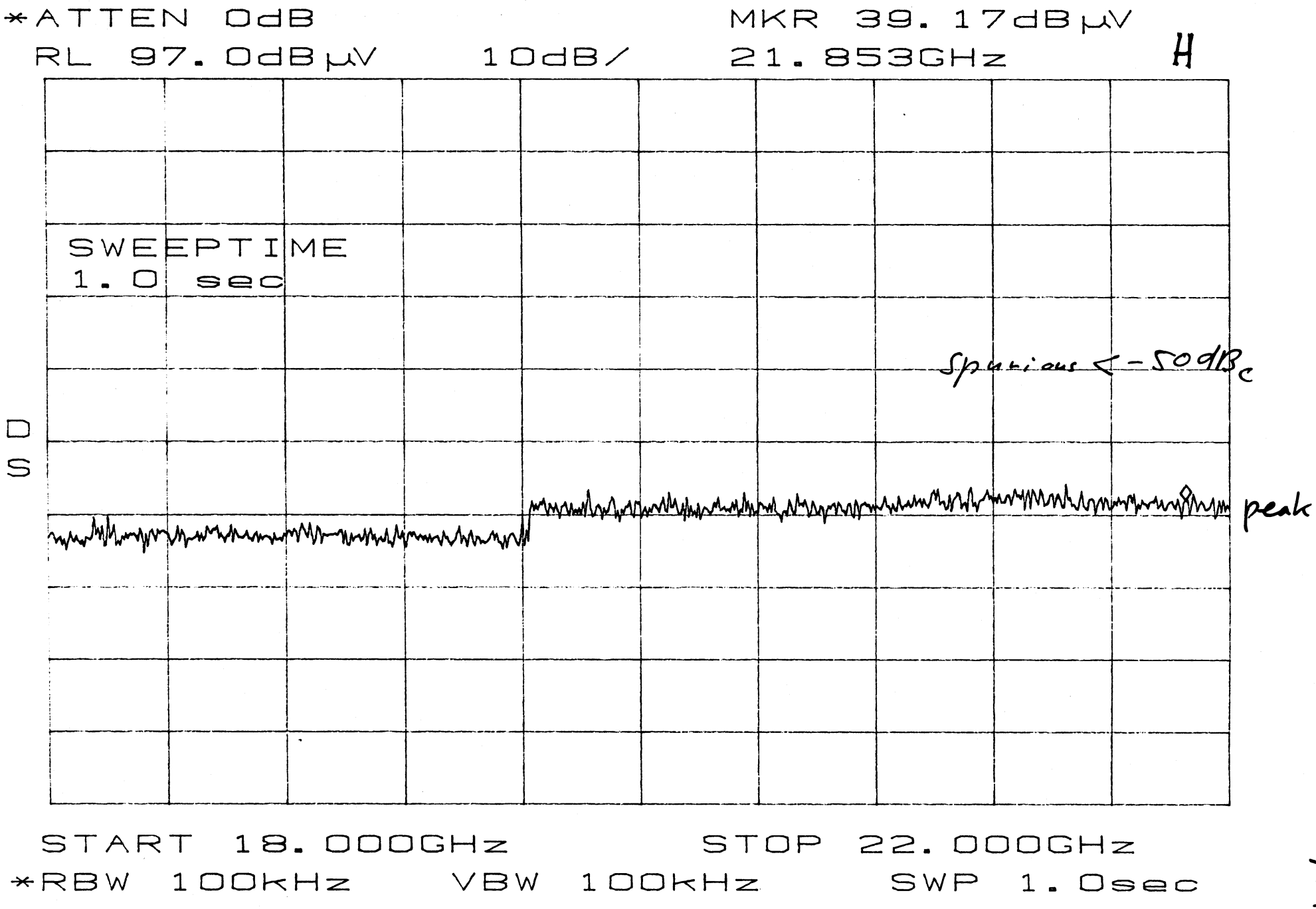
7.14


*ATTEN 0dB
MKR 91.67dBμV
RL 97.0dBμV
10dB/
2.4333GHz
A
carrier sweep
SWEEPTIME
50 ms
Spurious < -50dBc
D
S
peak
START 1.8000GHz
STOP 2.7500GHz
*RBW 300kHz
VBW 300kHz
SWP 50ms

7-15


*ATTEN 0dB
MKR 38.83dBµV H
RL 97.0dBµV
10dB/
17.44GHz
SWEEPTIME
500 ms
Spurious < -50 dBc
D
S
peak
START 2.75GHz
STOP 18.00GHz
*RBW 300kHz
VBW 300kHz
SWP 500ms

7.16


*ATTEN 0dB
MKR 39.17dBµV
RL 97.0dBµV
10dB/
21.853GHz
H
SWEEPTIME
1.0 sec
Spurious < -50dBc
peak
START 18.000GHz
STOP 22.000GHz
*RBW 100kHz
VBW 100kHz
SWP 1.0sec

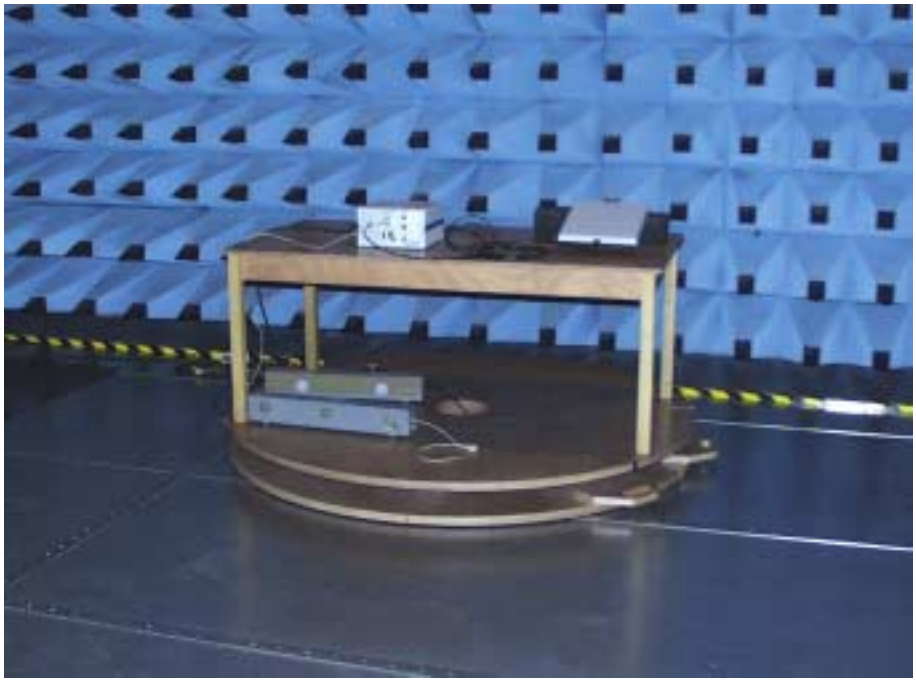


Photo 1

Measurement of radiated field
(9 kHz…30 MHz)

Photo 2

Measurement of radiate field
(f> 2.5 GHz)

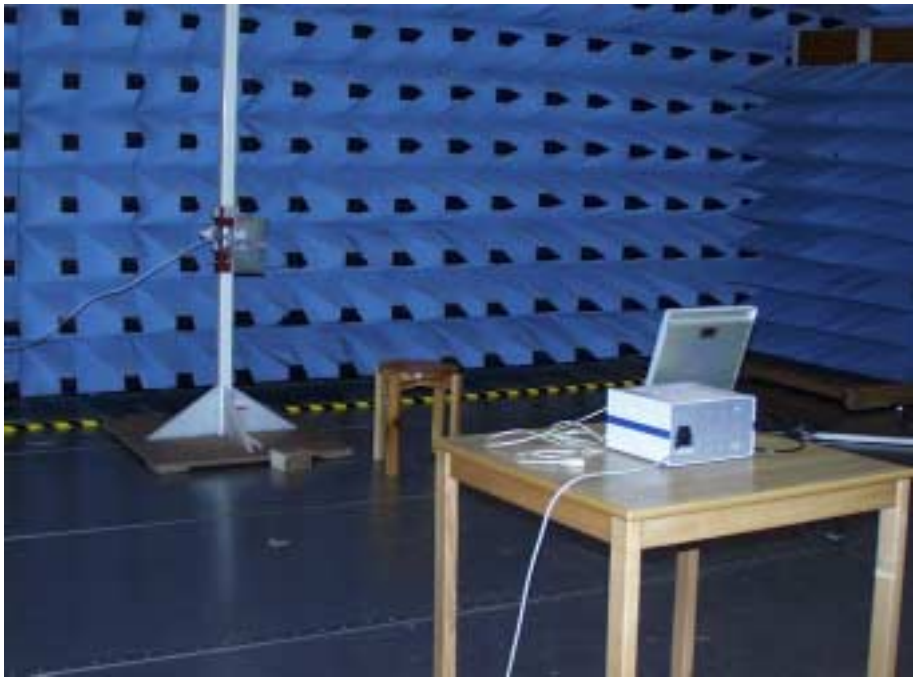


Photo 3

Measurement of radiated field
(1 GHz < f < 2.5 GHz)

Photo 4

Measurement of radiate field
(30 MHz < f < 1 GHz)

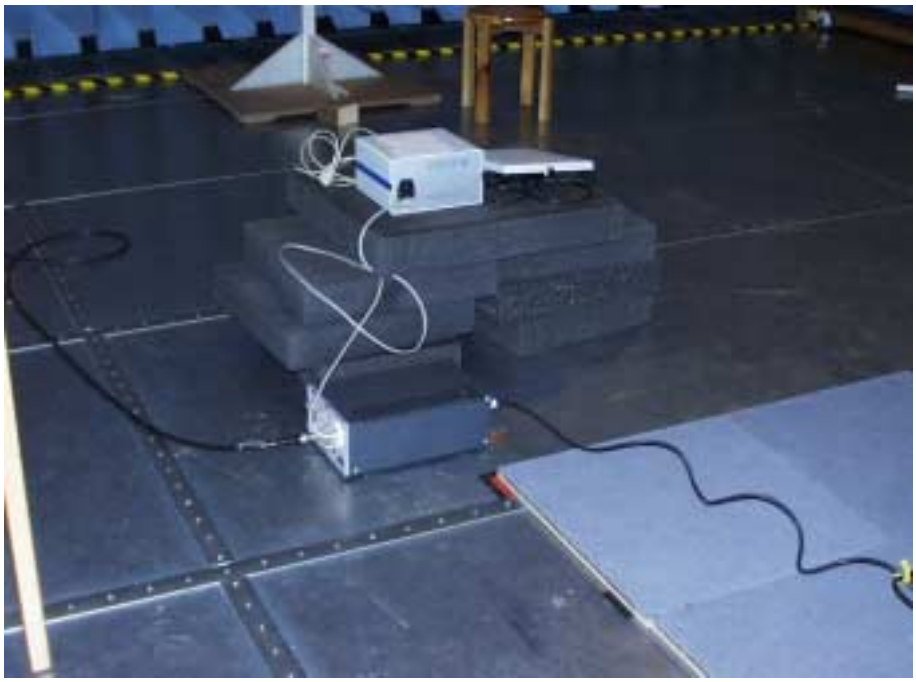


Photo 5

Measurement of conducted emissions

9.1

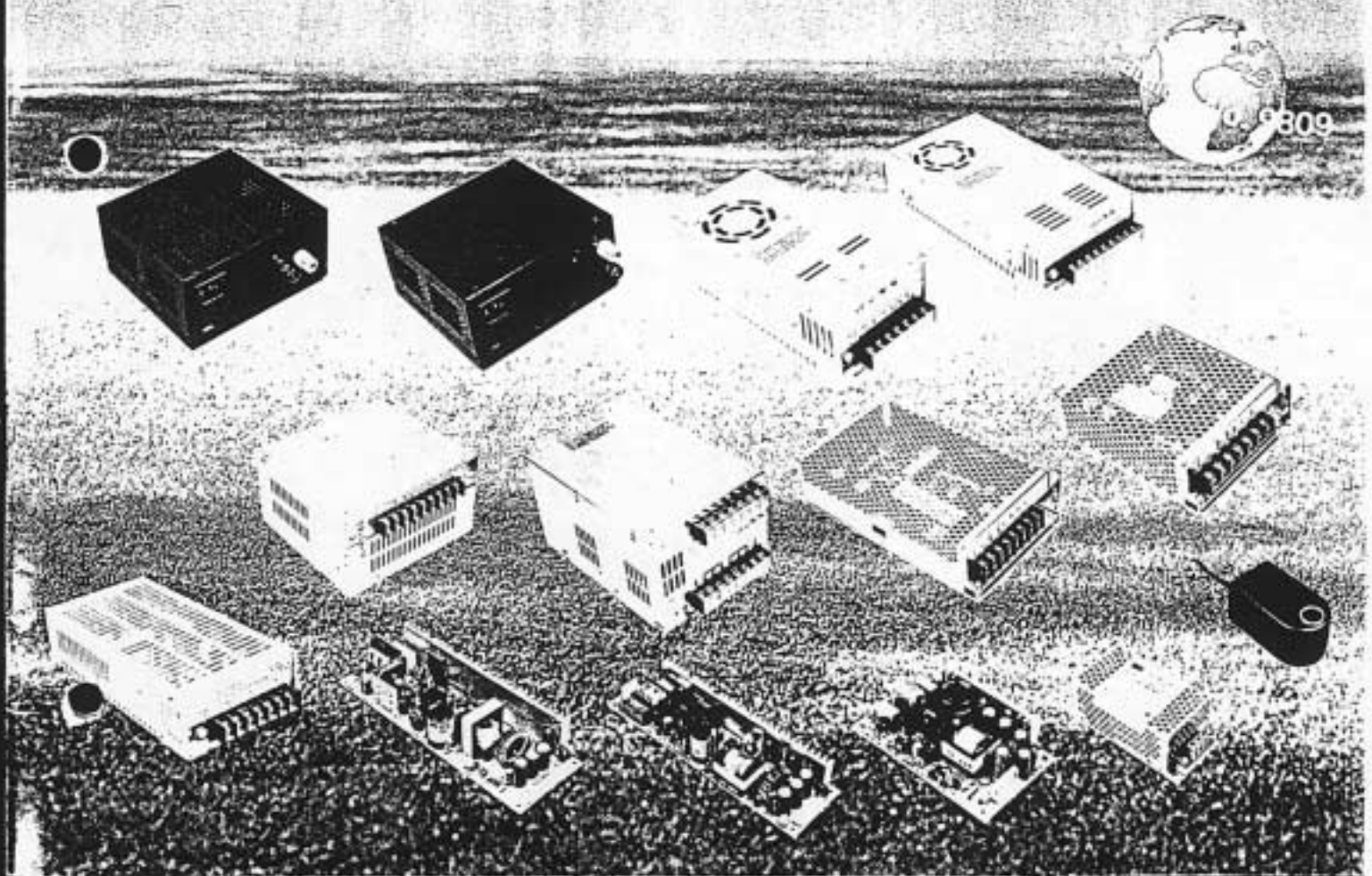
TÜV CERT DIN ISO 9001

MEAN WELL ®

23 Nov. 1998

Mean Well Means Quality Switching Power Supplies

善意的標誌．品質的執著

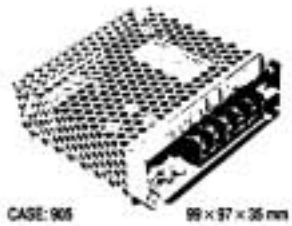


MEAN WELL

Enclosed Switching Power Supply—Single Output 1

15W Single Output Switching Power Supply

- Low cost, high reliability
- High efficiency, low working temp.
- Built in EMI filter, low ripple noise
- Compact size, light weight
- 100% full load burn-in test
- ISO-9001 certified manufacturer
- Short circuit/ over load protected
- International AC input selected
- 1 year warranty

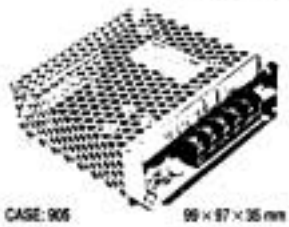


Input voltage.....85~132VAC/ 170~264VAC selected by sw.
Input frequency.....47-63Hz
Inrush current.....cold start, 15A/ 115V, 30A/ 230V
Output voltage.....refer to below table (±10% ADJ.)
Overload protection.....105%~150% output foldback limiting
Setup, rise, hold up time.....200ms, 100ms, 30ms
Withstand voltage.....I/P-O/P:1.5KV, I/P-FG:1.5KV, 1min.
Working temp.....0-50℃@100%, -10℃@80%, 60℃@60%
Safety standards.....design refer to UL 1012 requirement
EMC standards.....design refer to FCC part 15 J
Connection.....5P/ 9.5mm pitch terminal block
Weight.....0.3kgs
Packing.....60PCS/ 1.2CUFT

Stock No	Type No	Output	Tol.	R&N	Effi.	P.P.
10001	S-15-5	5V, 3A	±2%	50mV	65%	31
10002	S-15-12	12V, 1.3A	±1%	50mV	68%	31
10003	S-15-24	24V, 0.7A	±1%	50mV	73%	31

25W Single Output Switching Power Supply

- Low cost, high reliability
- High efficiency, low working temp.
- Built in EMI filter, low ripple noise
- Compact size, light weight
- 100% full load burn-in test
- ISO-9001 certified manufacturer
- Short circuit/ over load/ over voltage protected
- Universal AC input/ full range
- Approvals: UL/ TUV/ CE
- 2 years warranty

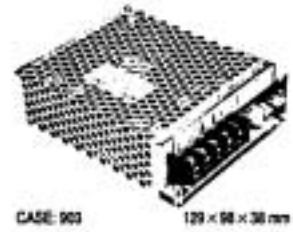


Input voltage.....85~264VAC universal input
Input frequency.....47-63Hz
Inrush current.....cold start, 15A/ 115V, 30A/ 230V
Output voltage.....refer to below table (±10% ADJ.)
Overload protection.....105%~150% output pulsing mode
Over voltage protection.....115%~135% of output voltage
Setup, rise, hold up time.....800ms, 50ms, 10ms/ 115VAC
300ms, 50ms, 80ms/ 230VAC
Withstand voltage.....I/P-O/P:3KV, I/P-FG:1.5KV, 1min.
Working temp.....0-50℃@100%, -10℃@80%, 60℃@60%
Safety standards.....UL 1012, TUV EN60950
EMC standards.....(EN55022), IEC801-2,3,4, IEC555-2
Connection.....5P/ 9.5mm pitch terminal block
Weight.....0.37kgs
Packing.....60PCS/ 1.2CUFT

Stock No	Type No	Output	Tol.	R&N	Effi.	P.P.
10011	S-25-5	5V, 5A	±2%	50mV	73%	50
10012	S-25-12	12V, 2.1A	±1%	100mV	79%	50
10013	S-25-15	15V, 1.7A	±1%	100mV	80%	50
X 10014	S-25-24	24V, 1.1A	±1%	100mV	83%	50

35W Single Output Switching Power Supply

- Low cost, high reliability
- High efficiency, low working temp.
- Built in EMI filter, low ripple noise
- Compact size, light weight
- 100% full load burn-in test
- ISO-9001 certified manufacturer
- Short circuit/ over load protected
- International AC input selected
- 1 year warranty

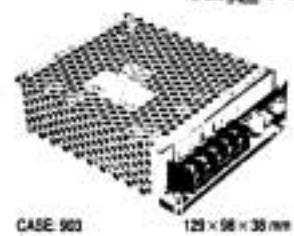


Input voltage.....85~132VAC/ 170~264VAC selected by sw.
Input frequency.....47-63Hz
Inrush current.....cold start, 15A/ 115V, 30A/ 230V
Output voltage.....refer to below table (±10% ADJ.)
Overload protection.....105%~150% output foldback limiting
Setup, rise, hold up time.....200ms, 100ms, 30ms
Withstand voltage.....I/P-O/P:1.5KV, I/P-FG:1.5KV, 1min.
Working temp.....0-50℃@100%, -10℃@80%, 60℃@60%
Safety standards.....design refer to UL 1012 requirement
EMC standards.....design refer to FCC part 15 J
Connection.....5P/ 9.5mm pitch terminal block
Weight.....0.4kgs
Packing.....45PCS/ 1.2CUFT

Stock No	Type No	Output	Tol.	R&N	Effi.	P.P.
10021	S-35-5	5V, 7A	±2%	75mV	70%	39
10022	S-35-12	12V, 3A	±1%	100mV	76%	39
10023	S-35-15	15V, 2.4A	±1%	100mV	78%	39
10024	S-35-24	24V, 1.5A	±1%	100mV	78%	39

40W Single Output Switching Power Supply

- Low cost, high reliability
- High efficiency, low working temp.
- Built in EMI filter, low ripple noise
- Compact size, light weight
- 100% full load burn-in test
- ISO-9001 certified manufacturer
- Short circuit/over load/ over voltage protected
- Universal AC input/ full range
- Approvals: UL/ TUV/ CE
- 2 years warranty

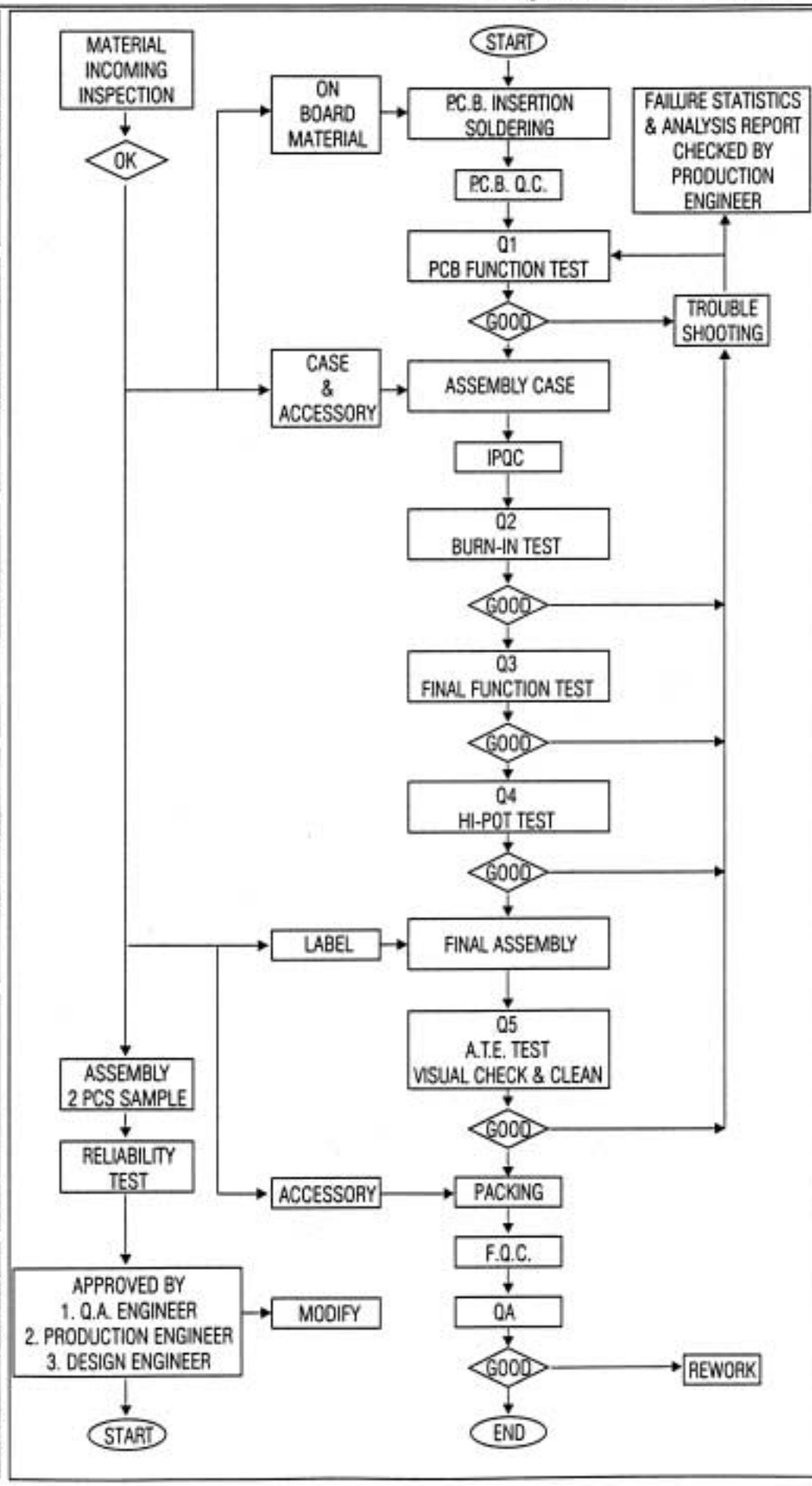


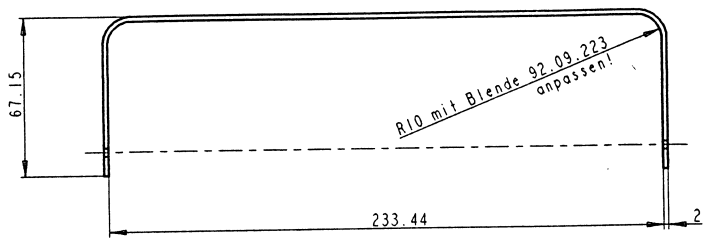
Input voltage.....85~264VAC universal input
Input frequency.....47-63Hz
Inrush current.....cold start, 25A/ 115V, 50A/ 230V
Output voltage.....refer to below table (±10% ADJ.)
Overload protection.....105%~150% output pulsing mode
Over voltage protection.....115%~135% of output voltage
Setup, rise, hold up time.....800ms, 50ms, 15ms/ 115VAC
300ms, 50ms, 80ms/ 230VAC
Withstand voltage.....I/P-O/P:3KV, I/P-FG:1.5KV, 1min.
Working temp.....0-50℃@100%, -10℃@80%, 60℃@60%
Safety standards.....UL 1012, TUV EN60950
EMC standards.....(EN55022), IEC801-2,3,4, IEC555-2
Connection.....5P/ 9.5mm pitch terminal block
Weight.....0.45kgs
Packing.....45PCS/ 1.2CUFT

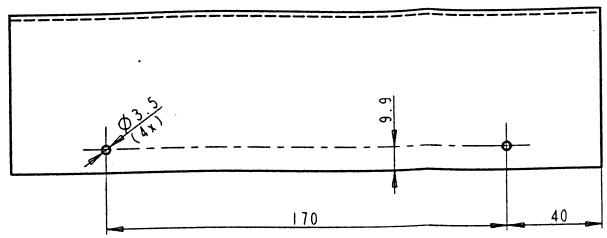
Stock No	Type No	Output	Tol.	R&N	Effi.	P.P.
10031	S-40-5	5V, 8A	±2%	75mV	72%	57
10032	S-40-12	12V, 3.5A	±1%	100mV	77%	57
10033	S-40-15	15V, 2.8A	±1%	100mV	77%	57
X 10034	S-40-24	24V, 1.8A	±1%	100mV	79%	57

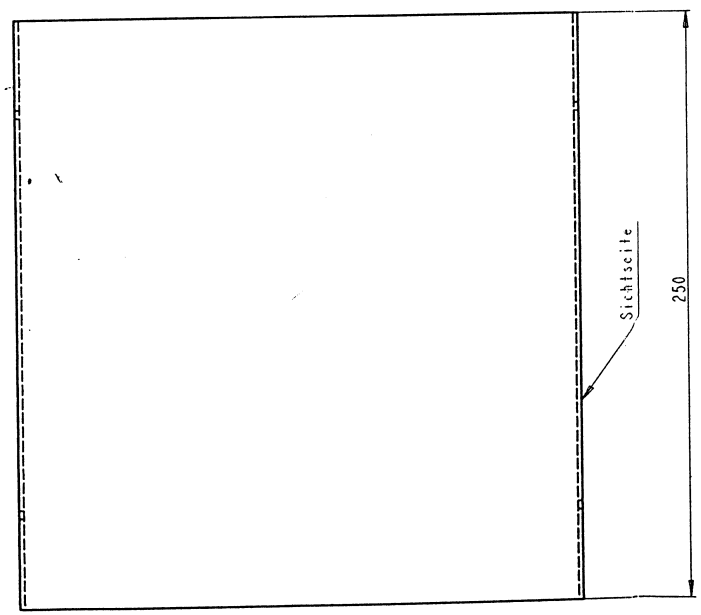
MEAN WELL

Quality Control Procedure







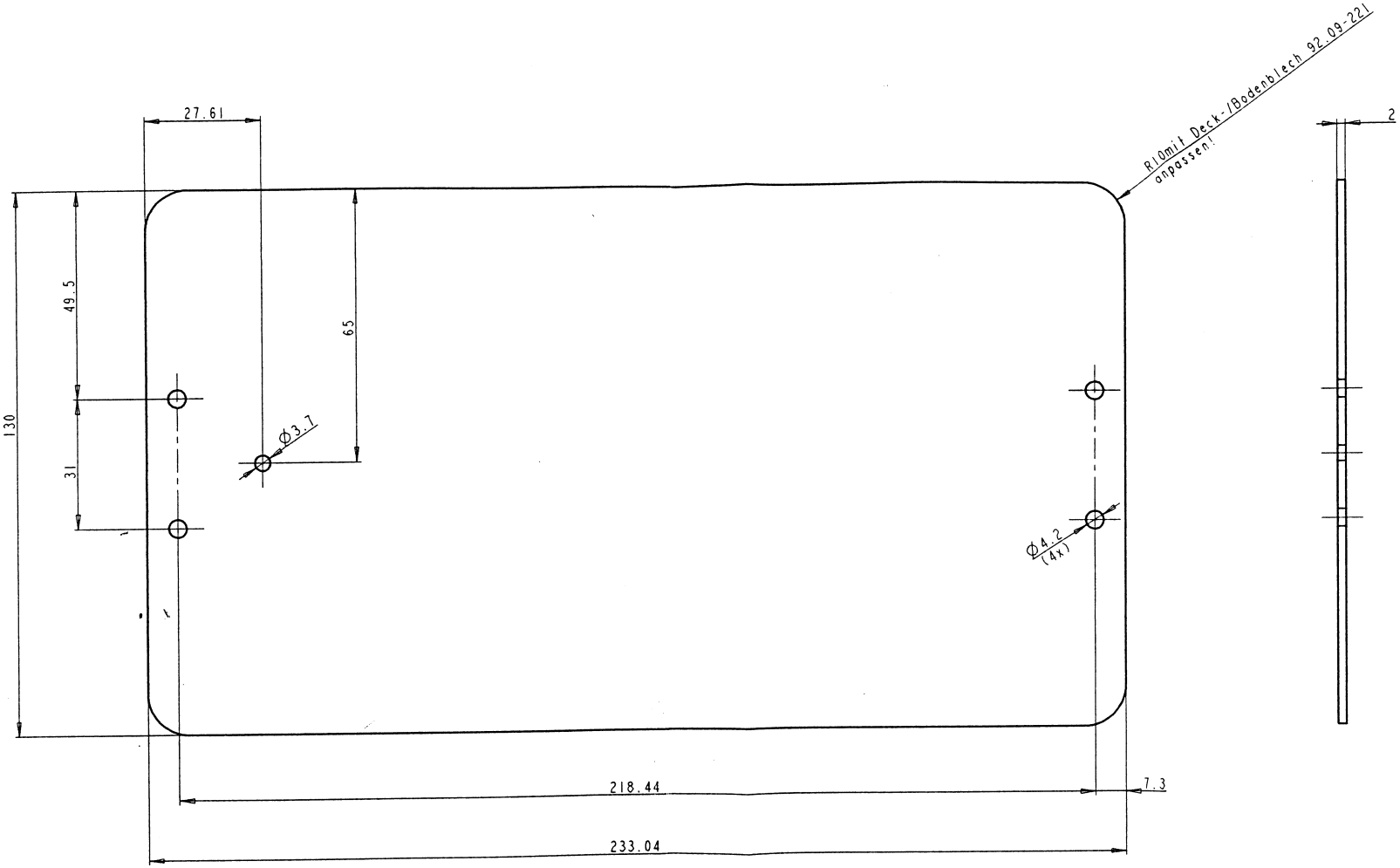


150 mm

Pulverbeschichtet SFS RAL 7035
Innenseite darf Farbnebel haben

Mat.: Alu roh m.F. 2,0mm MB-081	Oberfl.: Pulverbeschichtet SFS RAL 7035	Maßstab 1:2	Freimaßtoleranz		
Nichttolerierte Masse: ±0,2			Ähnl. Zeichnung:		
Änder. Datum			Gezeichnet:	13.1.2000 Fad.	
Änder. Index			Geprueft:		
Änder. Visum			Gesehen:		
TRENEW	Boden-/Deckschale				
alte Zeichnungs-Nr.:	Index	neue Zeichnungs-Nr.: 92.09.220		Index a	

PRO R00023

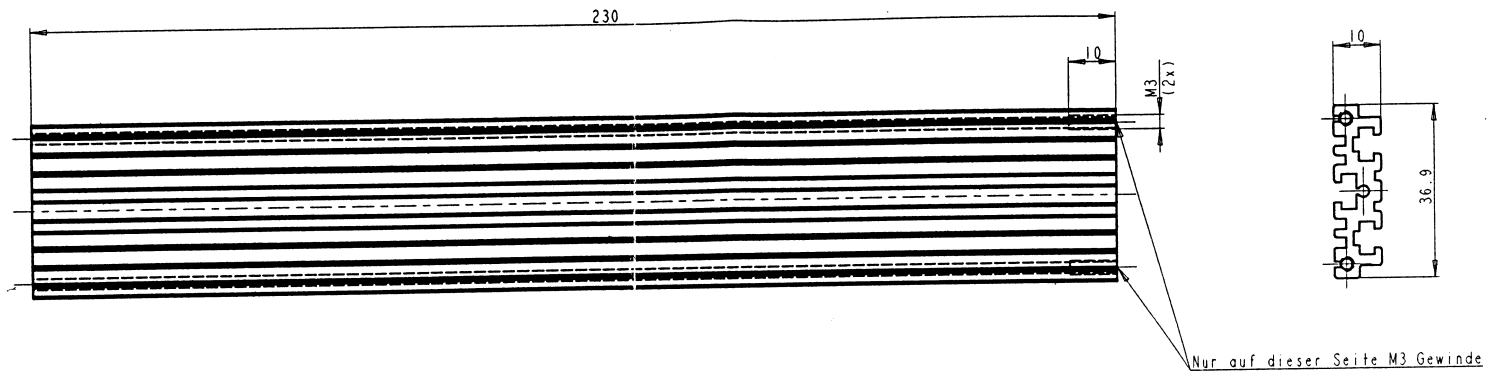


Mat.: Alu elox. m.F. 2,0mm MB-005	Oberfl.: (Material ist farbl. elox.)	Maßstab 1:1	Freimaßtoleranz		
Nichttolerierte Masse: ±0,2			Ähnl. Zeichnung:		
Änder. Datum			Gezeichnet:	13.1.2000 Fad.	
Änder. Index			Geprueft:		
Änder. Visum			Gesehen:		
TRENEW			Rückplatte 12 233,04x130		
alte Zeichnungs-Nr.:	Index	neue Zeichnungs-Nr.:	92.09.221	Index a	

PRO R00023

150 mm

A3



150 mm

Mat.: MR-712	Oberfl.: roh	Maßstab 1:1	Freimaßtoleranz
Nichttolerierte Masse: ±0,2			Ähnl. Zeichnung:
Änder.: Datum			Gezeichnet: 14.1.2000 Fad.
Änder.: Index			Geprueft:
Änder.: Visum			Gesehen:

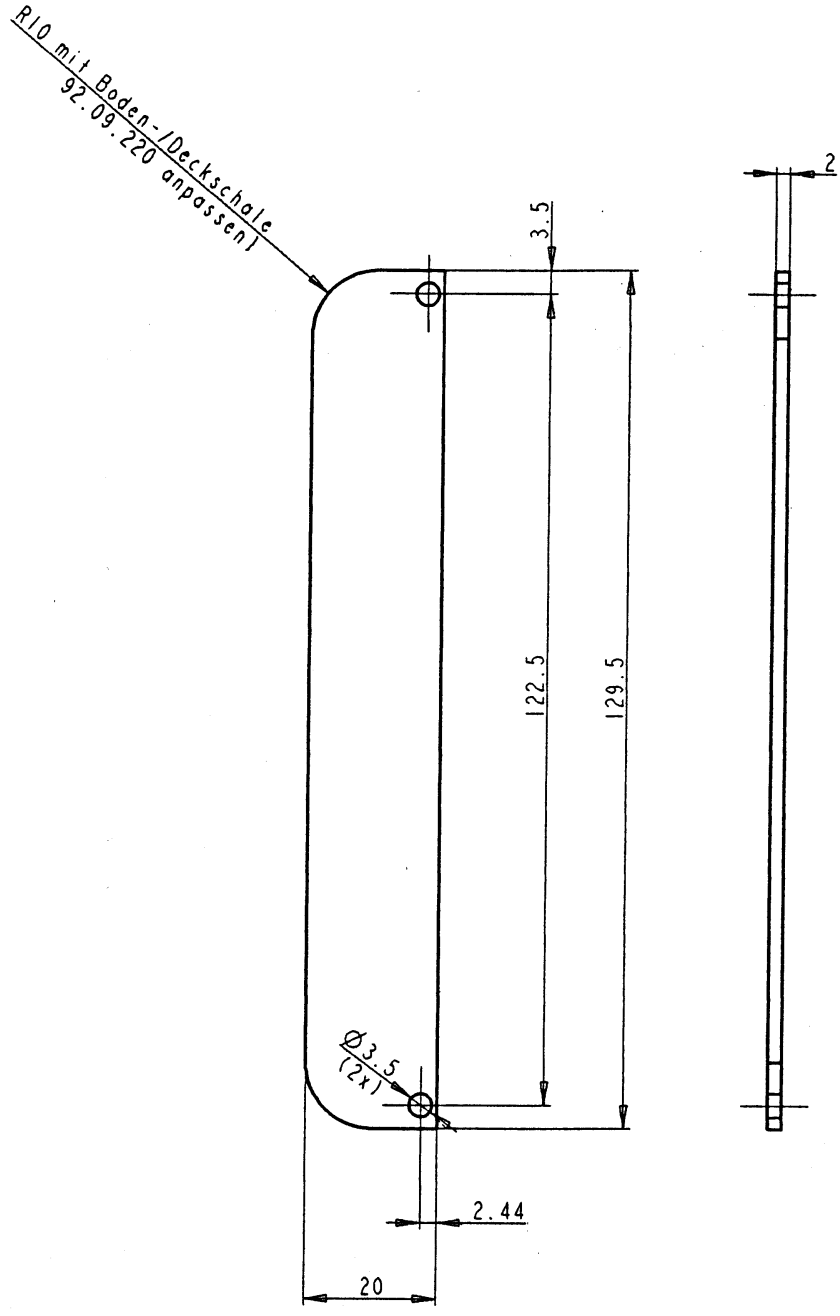
TreNew

Tiefenprofil L=230mm MR-712

alte Zeichnungs-Nr.:	Index	neue Zeichnungs-Nr.: 92.09.222	Index a

A3

PRO R00023



Pulverbeschichtet RAL 7035

Mat.: Alu roh m.F. 2,0mm MB-081	Oberfl.: Pulverbesch. SFS RAL 7035	Maßstab 1:1	Freimaßtoleranz	
Nichttolerierte Masse: ±0,2			Ähnl. Zeichnung:	
Änder. Datum / Index / Visum			Gezeichnet:	17.1.2000 Fad.
			Geprueft:	
			Gesehen:	

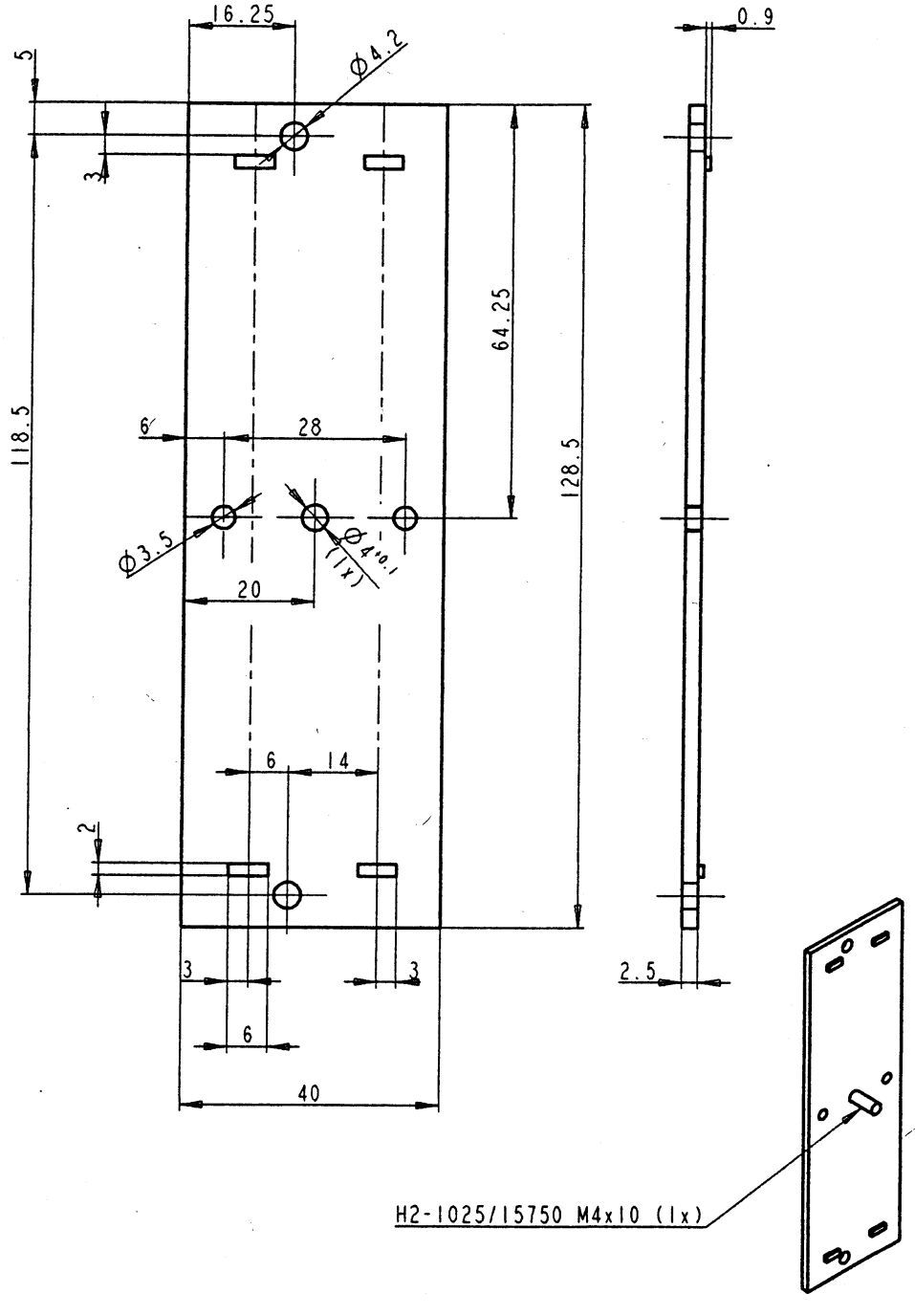
TRENEW

Blende

alte Zeichnungs-Nr.:	Index	neue Zeichnungs-Nr.:	Index
		92.09.223	a

PRO A4

A4



Mat.: Alu roh m.F. 2.0mm MB-08	Oberfl.: roh	Maßstab 1:1	Freimaßtoleranz	
Nichttolerierte Masse: ±0.2			Ähnl. Zeichnung:	
Änder. Datum			Gezeichnet:	17.1.2000 Fad.
Änder. Index			Gepruefft:	
Änder. Visum			Gesehen:	

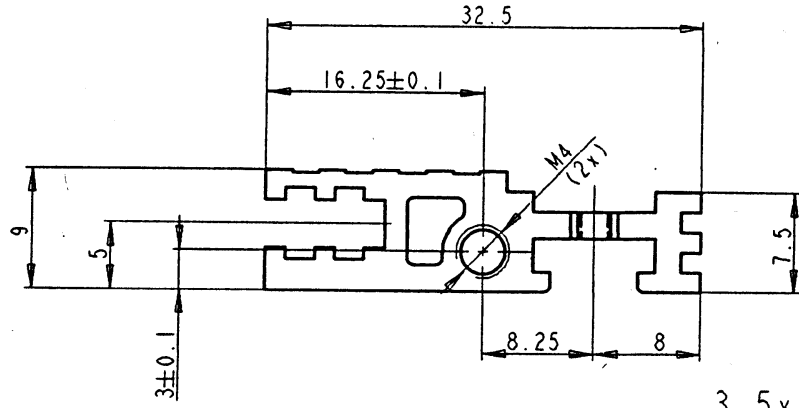
TRENEW

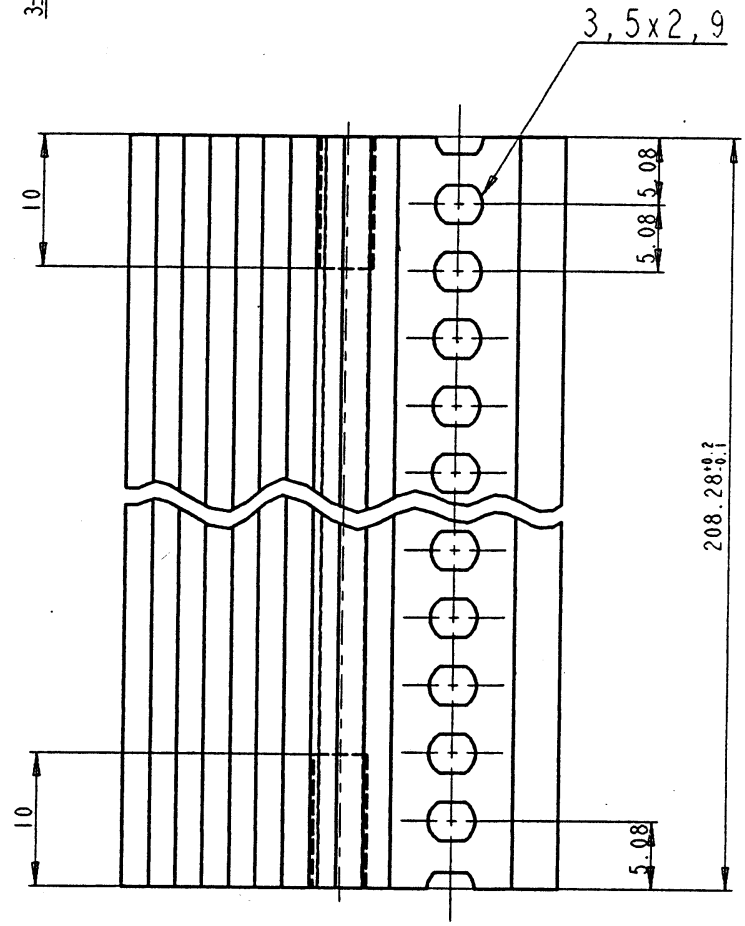
Befestigungsblech

alte Zeichnungs-Nr.:	Index	neue Zeichnungs-Nr.:	Index
		92.09.225	a

PRO A4

A4





Mat.: 31-753R	Oberfl.: roh	Maßstab 2:1	Freimaßtoleranz	
Nichttolerierte Masse: ±0,2			Ähnl. Zeichnung:	
Änder. Datum / Index / Visum			Gezeichnet: 17.1.2000 Fad.	
			Geprueft:	
			Gesehen:	

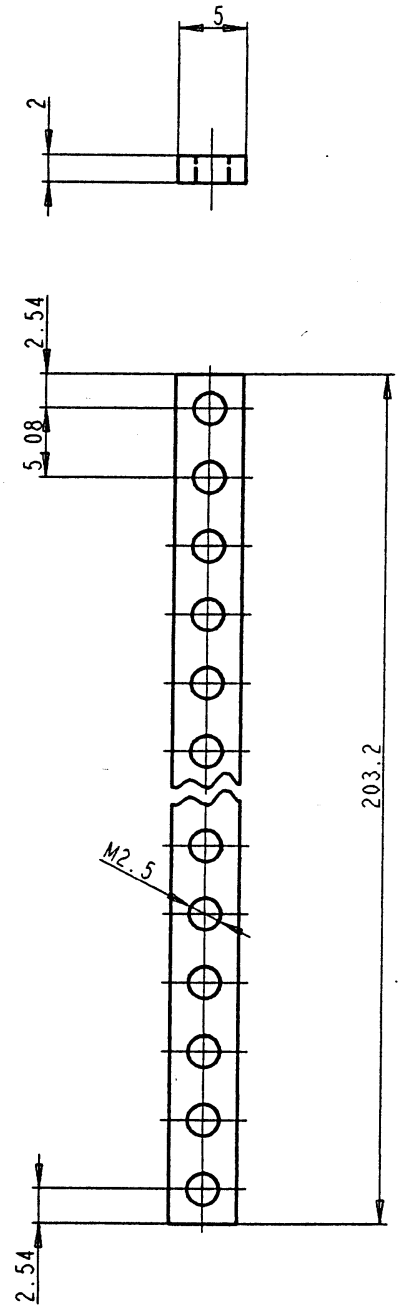
TreNew

Innenlängsprofil 41TE

alte Zeichnungs-Nr.:	Index	neue Zeichnungs-Nr.:	Index
		92.09.226	a

PRO A4

A4



Mat.: Stahl	Oberfl.: blau verzinkt	Maßstab 2:1	Freimaßtoleranz	
Nichttolerierte Masse: ±0,2			Ähnl. Zeichnung:	
Änder. Datum			Gezeichnet:	18.1.2000 Fad.
Änder. Index			Geprueft:	
Änder. Visum			Gesehen:	

TreNew

Gewindestreifen M2,5 40TE

alte Zeichnungs-Nr.:	Index	neue Zeichnungs-Nr.:	Index
		92.09.227	a

PRO A4