

TEST REPORT  
of the accredited test laboratory

TÜV Nr.:M/FG-02/104

Geschäftsbereich  
Medizintechnik,  
Nachrichtentechnik  
und EMV

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Nachrichtentechnik  
und EMV

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Applicant: Siemens AG Österreich  
Erdberger Lände 26  
A-1030 Wien

Tested Product: Siemens Bluetooth™ Module SieMo

Type: SieMo-S50037

Manufacturer: Siemens AG Österreich  
A-1030 Wien; Erdberger Lände 26

Output power / field strength: 0 dBm nom. power supply: 3,3 VDC  
4 dBm max.  
according to bluetooth power class 2

Frequency range: 2400 – 2483,5 MHz Channel separation: 1 MHz

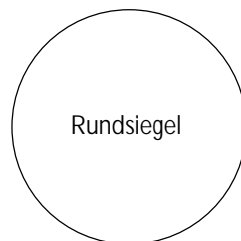
Standard: FCC: 47 CFR 15.247

Akkreditierte Prüf-,  
Überwachungs-,  
Zertifizierungs- und  
Kalibrierstelle

Notified Body 0408

TÜV Österreich  
Test laboratory for EMC

Deputy supervisor of EMC-  
laboratory:



Ing. Wilhelm Seier

12. 3. 2002

checked by:

Ing. Klaus Röttsch

Copy Nbr.: \_\_\_\_\_

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The results of this test report only refer to the provided equipment.

## LIST OF MEASUREMENTS

The complete list of measurements called for in 47 CFR 15.247 is given below.

SUBCLAUSE	PARAMETER TO BE MEASURED	PAGE
	Intentional Radiators	
	Test object data	3
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Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

Relative humidity: 58%

## TEST OBJECT DATA

### General EUT Description

Bluetooth is a short-range radio link intended to be a cable replacement between portable and/or fixed electronic devices.

Bluetooth operates in the unlicensed ISM Band at 2,4 GHz. In the US a band of 83,5 MHz width is available. In this band, 79 RF channels spaced 1 MHz apart are defined. The channel is represented by a pseudo-random hopping sequence through the 79 channels. The channel is divided into time slots, with a nominal slot length of 625µs, where each slot corresponds to different RF hop frequencies. The nominal hop rate is 1600 hops/s. All frequencies are equally used. The average time of occupancy is 0,3797 s within a 30 second period. The symbol rate on the channel is 1 Ms/s.

The most parameters were measured conducted (on a test board), while the radiated emissions were measured with the „blue2net“ Bluetooth LAN Access Point.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

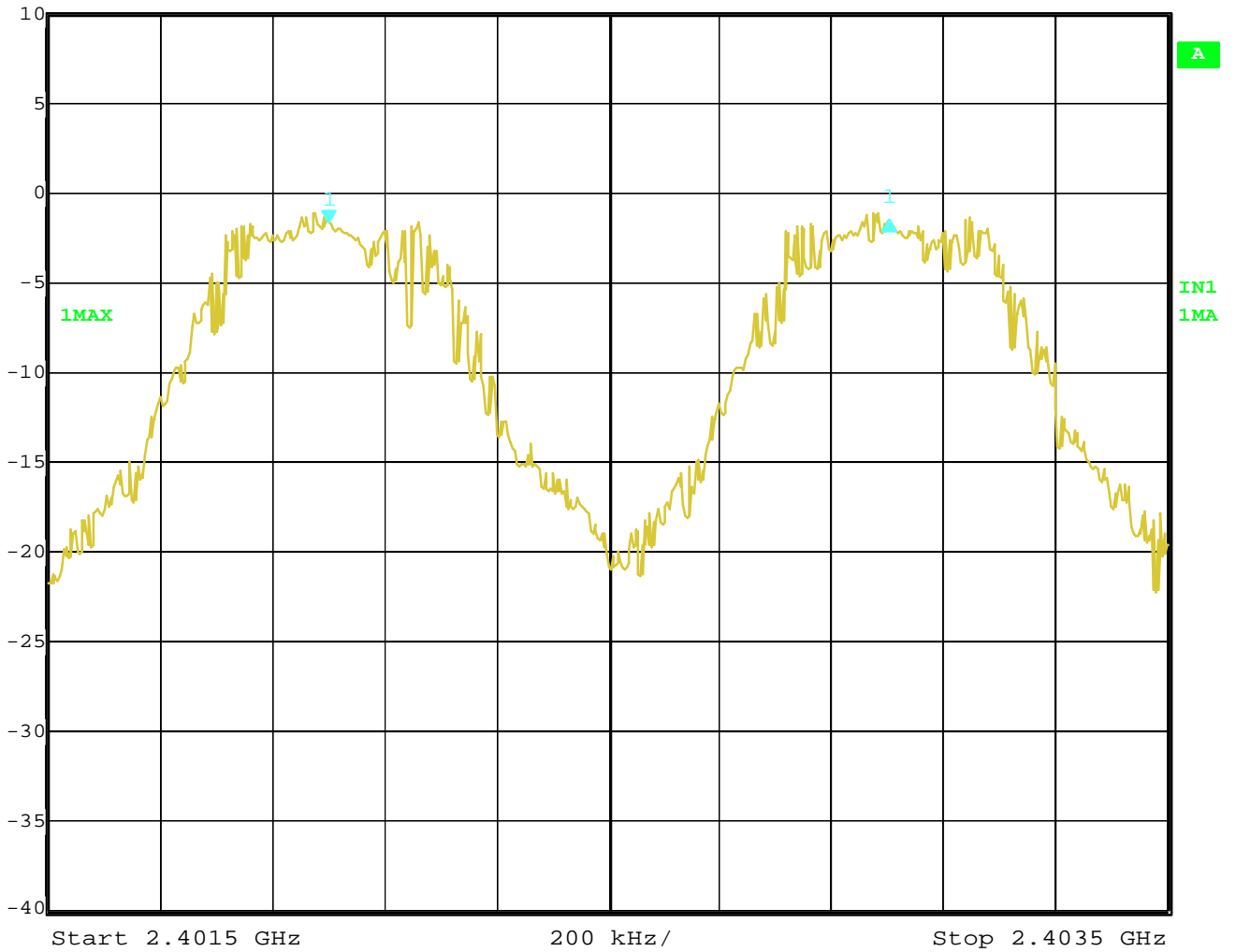
Relative humidity: 58%

### CHANNEL CARRIER FREQUENCY

§ 15.247/a



Ref Lvl	Delta 1 [T1]	RBW	100 kHz	RF Att	40 dB
10 dBm	0.10 dB	VBW	100 kHz		
	1.00200401 MHz	SWT	5 ms	Unit	dBm



Date: 21.JAN.2002 08:50:54

The channel separation is defined as 1 MHz in bluetooth specifications.

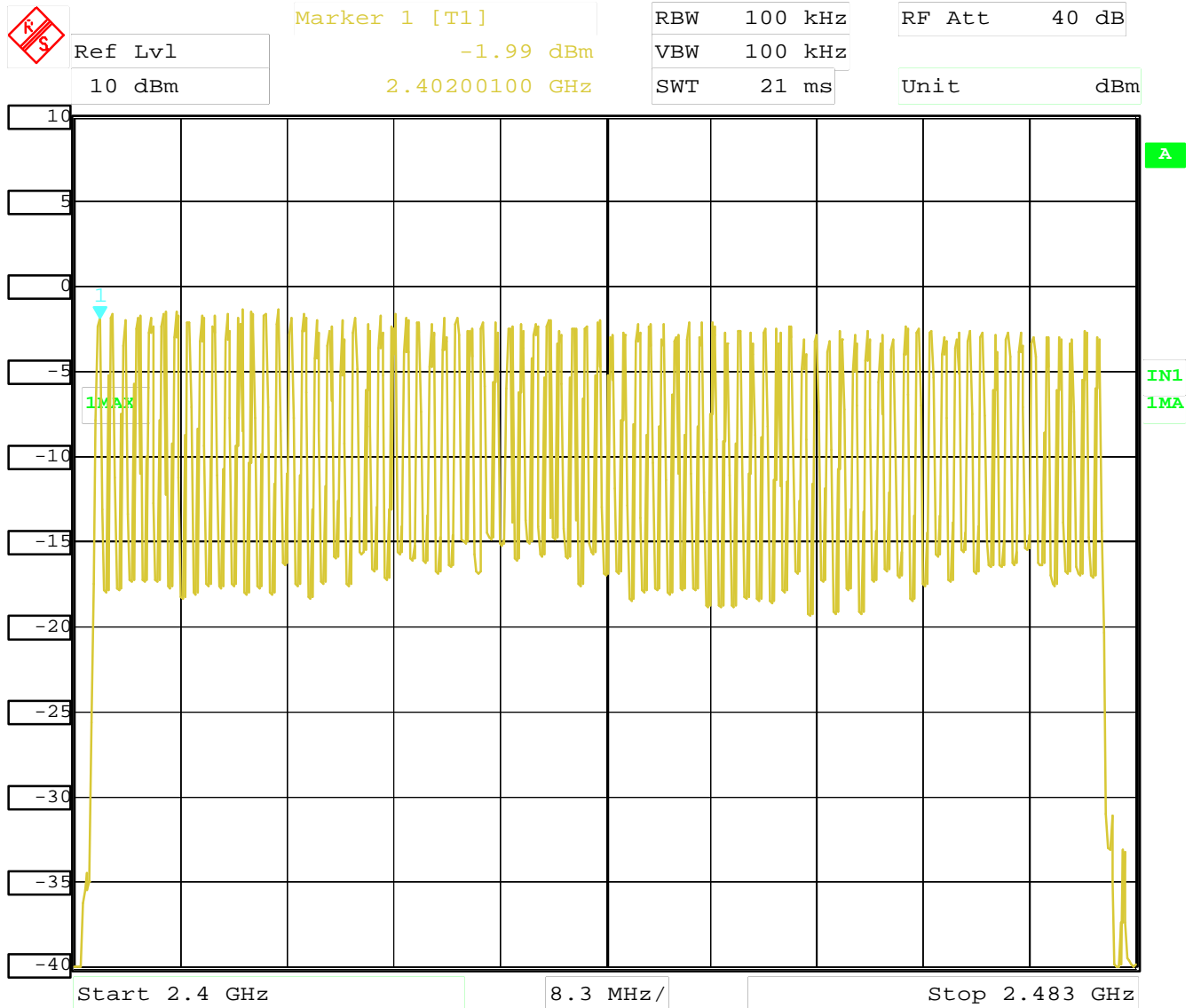
Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

Relative humidity: 58%

### NUMBER OF HOPPING CHANNELS

§ 15.247/a



Date: 21.JAN.2002 08:56:19

The number of hopping channels is defined as 79 in bluetooth specifications.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

Relative humidity: 58%

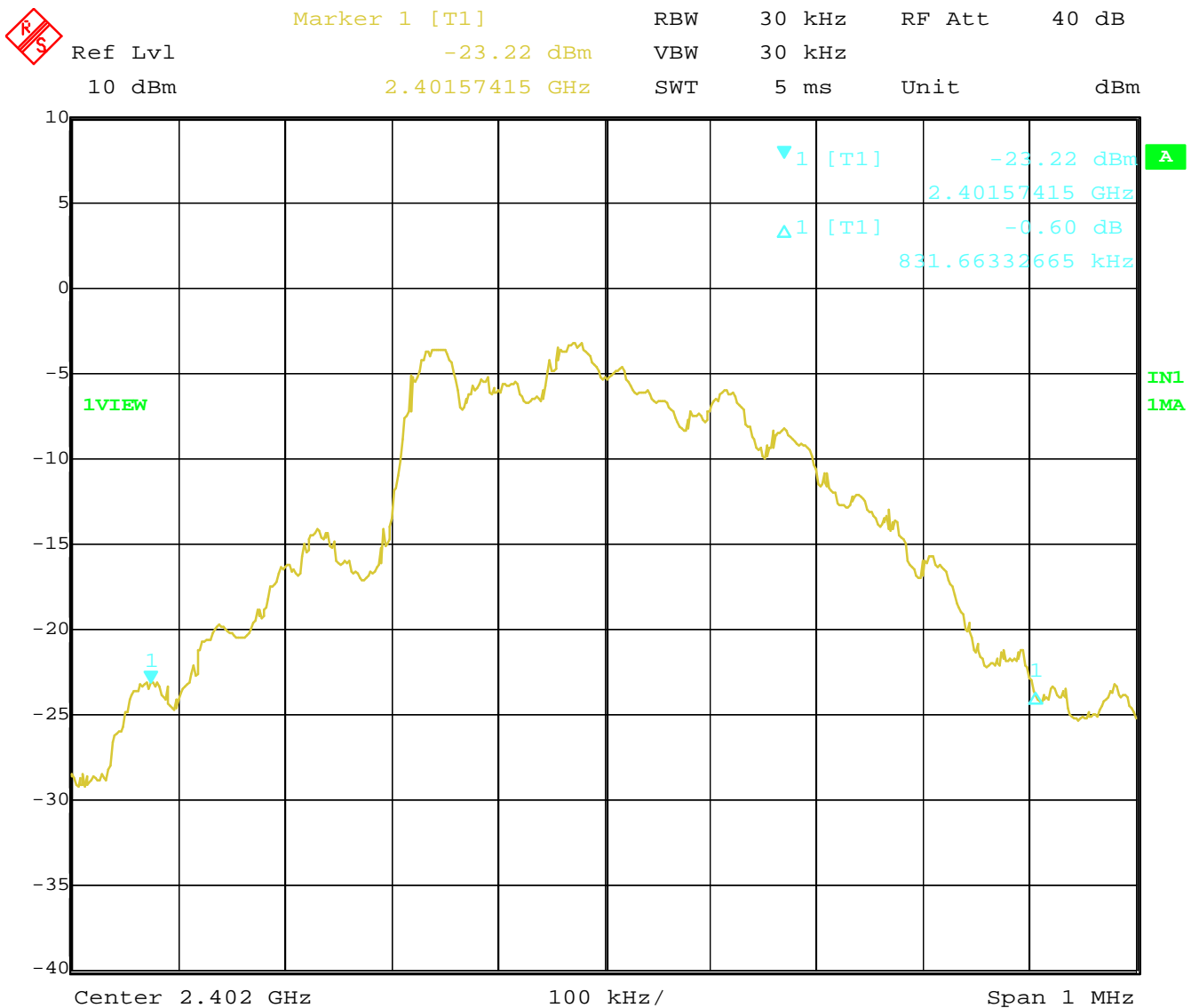
20 dB BANDWIDTH

§ 15.247/a

Measurements were made on the lowest and highest hopping channel frequency (channel 0; 2402 MHz and channel 78; 2480 MHz) with hopping disabled.

The measurements were carried out in 3 operating modes:

1. Data TX, mode DH1 (2 timeslots, one used)
2. Data TX, mode DH3 (4 timeslots, three used)
3. Data TX, mode DH5 (6 timeslots, five used)



Date: 21.JAN.2002 09:27:09

channel 0, mode DH1

Bandwidth: 831,66 kHz

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

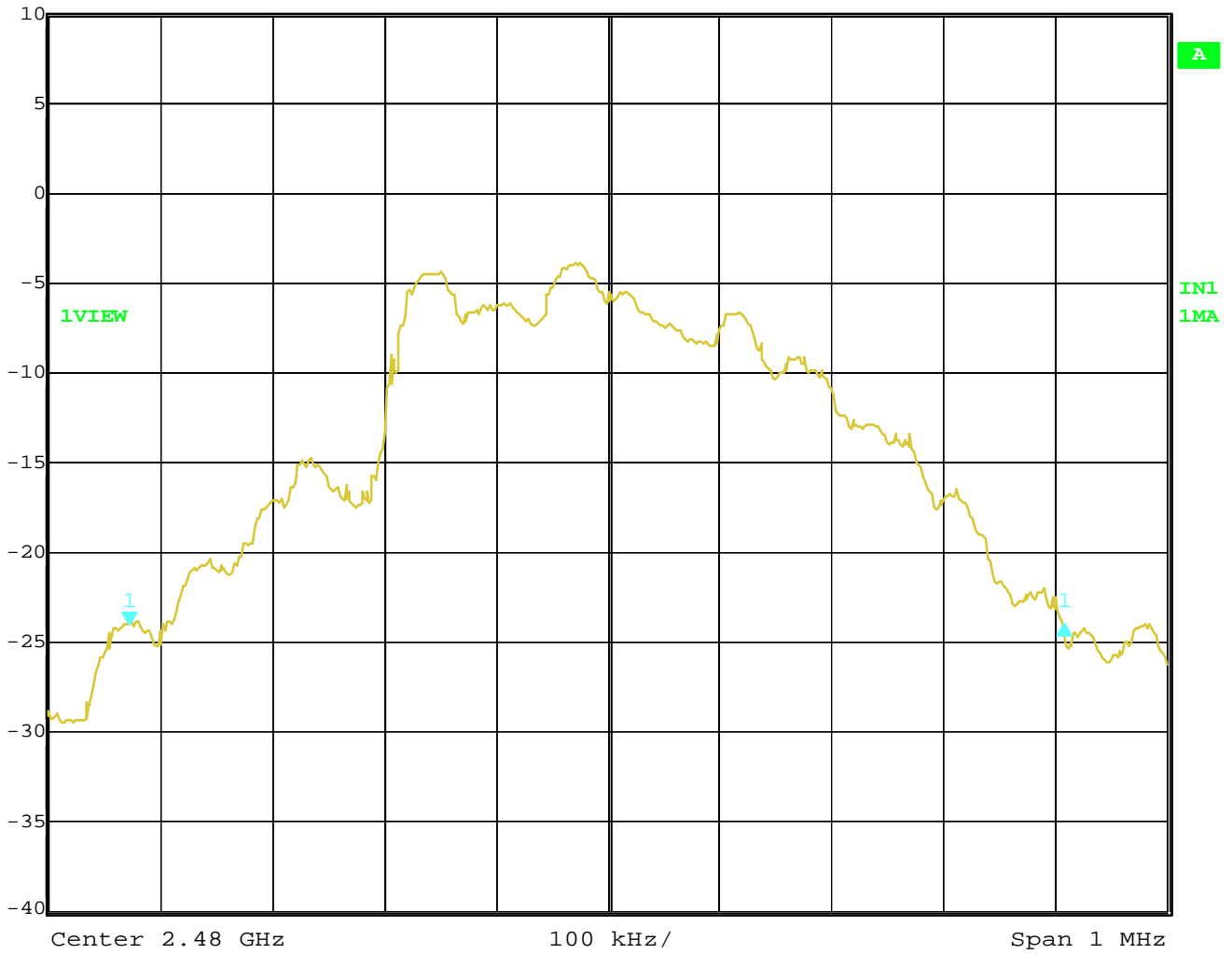
Relative humidity: 58%

20 dB BANDWIDTH

§ 15.247/a



Ref Lvl	Delta 1 [T1]	RBW	30 kHz	RF Att	40 dB
10 dBm	-0.02 dB	VBW	30 kHz		
	835.67134268 kHz	SWT	5 ms	Unit	dBm



Date: 21.JAN.2002 09:37:02

channel 78, mode DH1

Bandwidth: 835,67 kHz

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

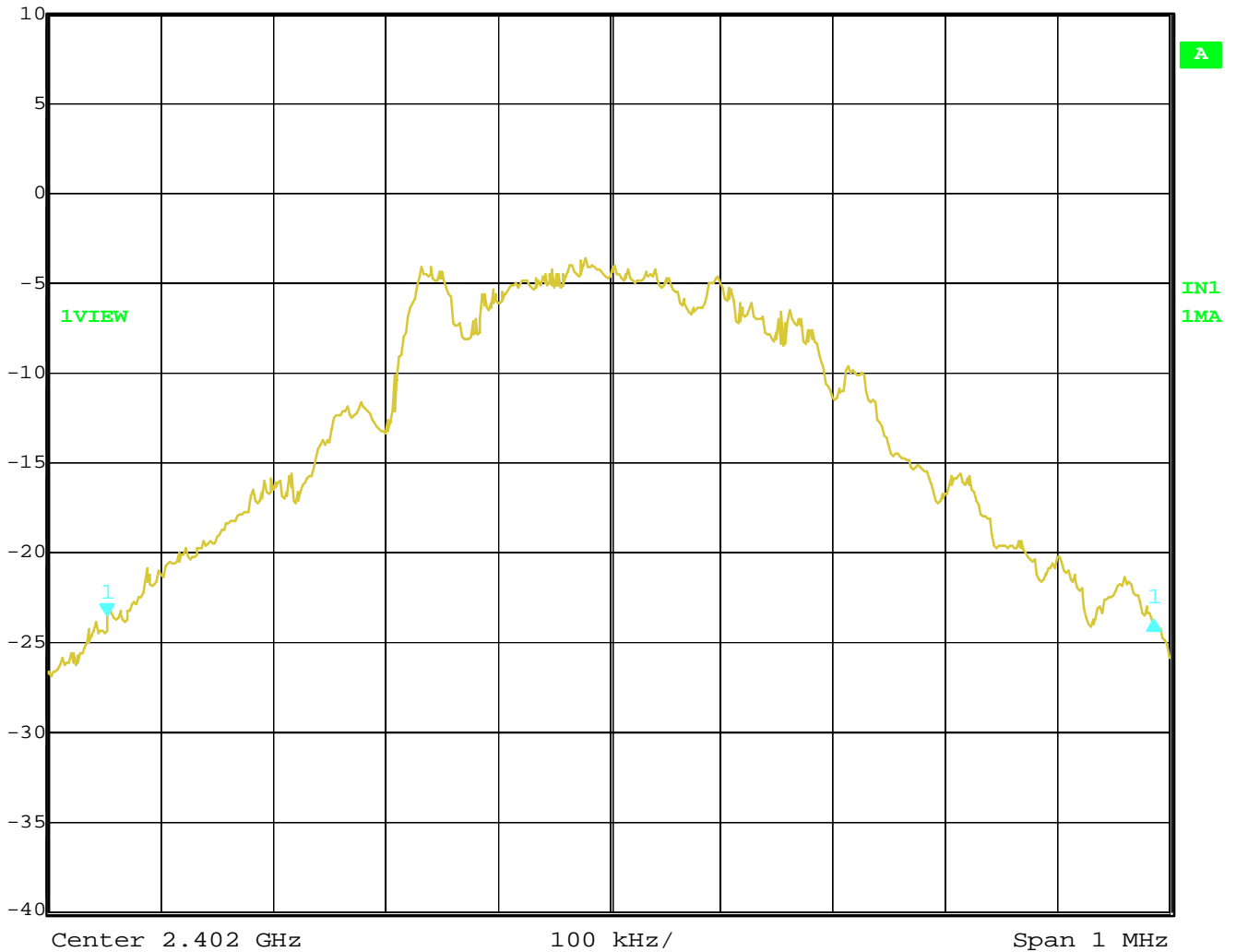
Relative humidity: 58%

20 dB BANDWIDTH

§ 15.247/a



Delta 1 [T1]	RBW	30 kHz	RF Att	40 dB
Ref Lvl	-0.31 dB	VBW	30 kHz	
10 dBm	933.86773548 kHz	SWT	5 ms	Unit dBm



Date: 21.JAN.2002 09:29:47

channel 0, mode DH3

Bandwidth: 933,87 kHz



Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

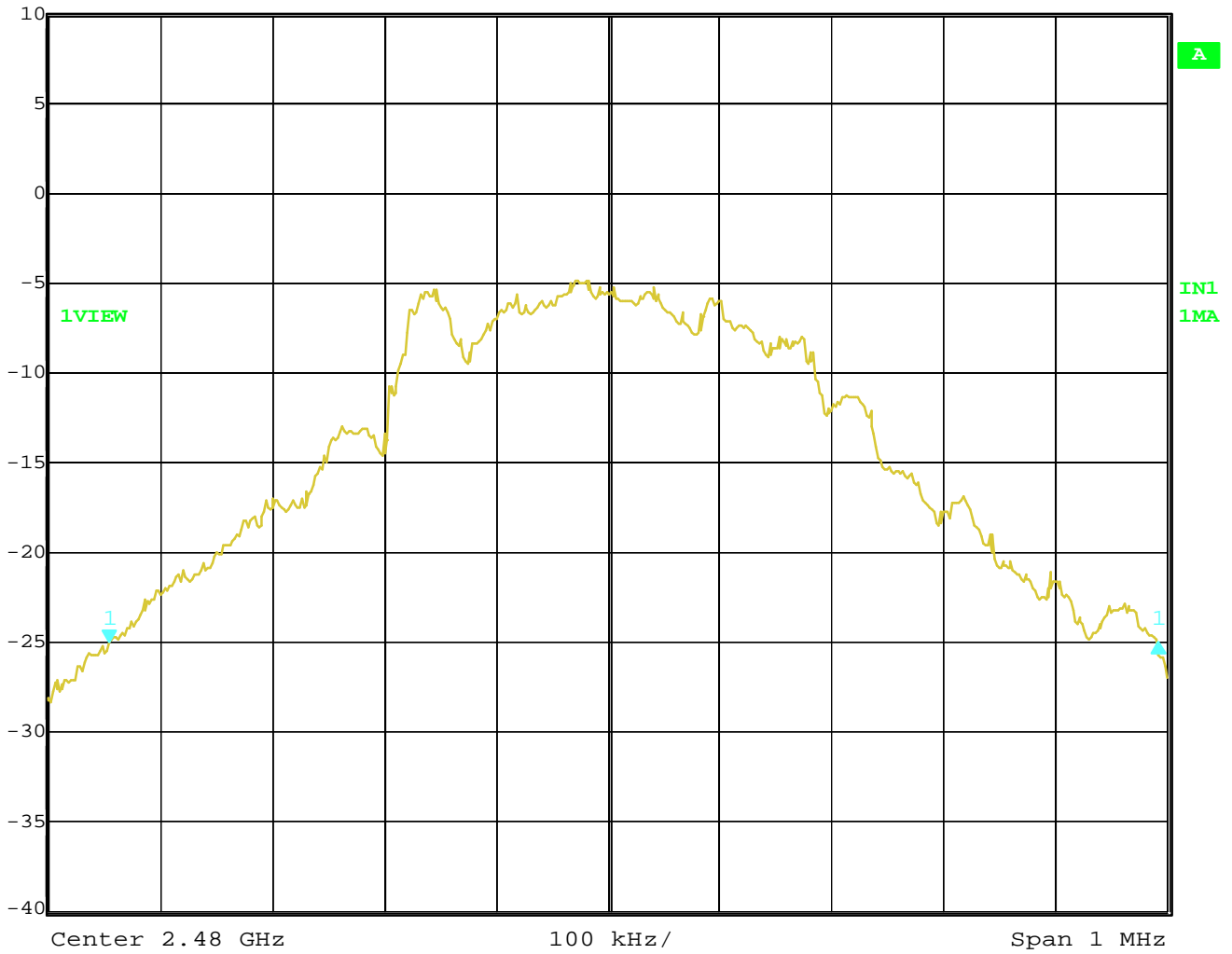
Relative humidity: 58%

20 dB BANDWIDTH

§ 15.247/a



Ref Lvl	Delta 1 [T1]	RBW	30 kHz	RF Att	40 dB
10 dBm	-0.04 dB	VBW	30 kHz		
	937.87575150 kHz	SWT	5 ms	Unit	dBm



Date: 21.JAN.2002 09:40:02

channel 78, mode DH3

Bandwidth: 937,88 kHz

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

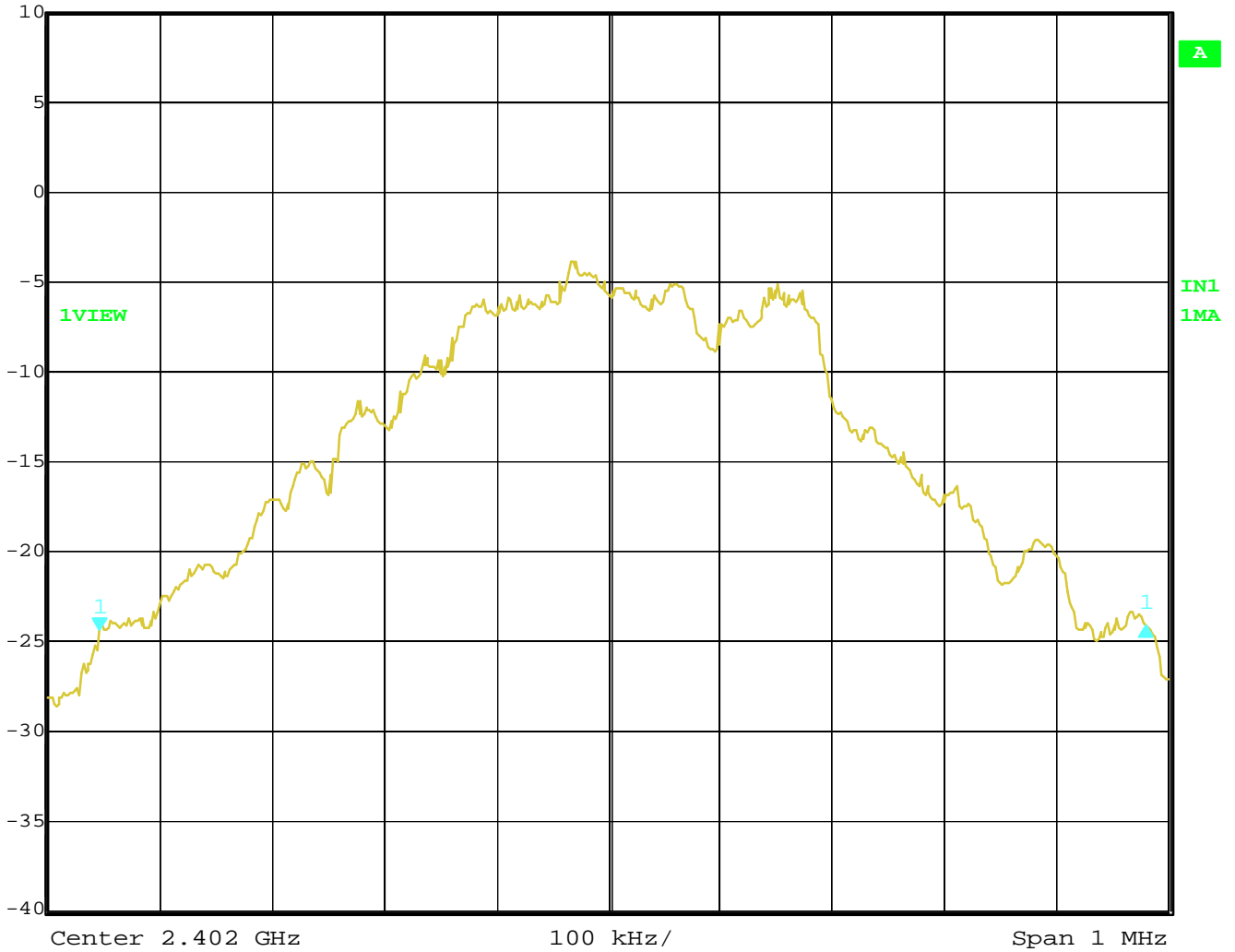
Relative humidity: 58%

20 dB BANDWIDTH

§ 15.247/a



Delta 1 [T1]	RBW	30 kHz	RF Att	40 dB
0.22 dB	VBW	30 kHz		
933.86773548 kHz	SWT	5 ms	Unit	dBm
Ref Lvl				
10 dBm				



Date: 21.JAN.2002 09:32:06

channel 0, mode DH5

Bandwidth: 933,87 kHz

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

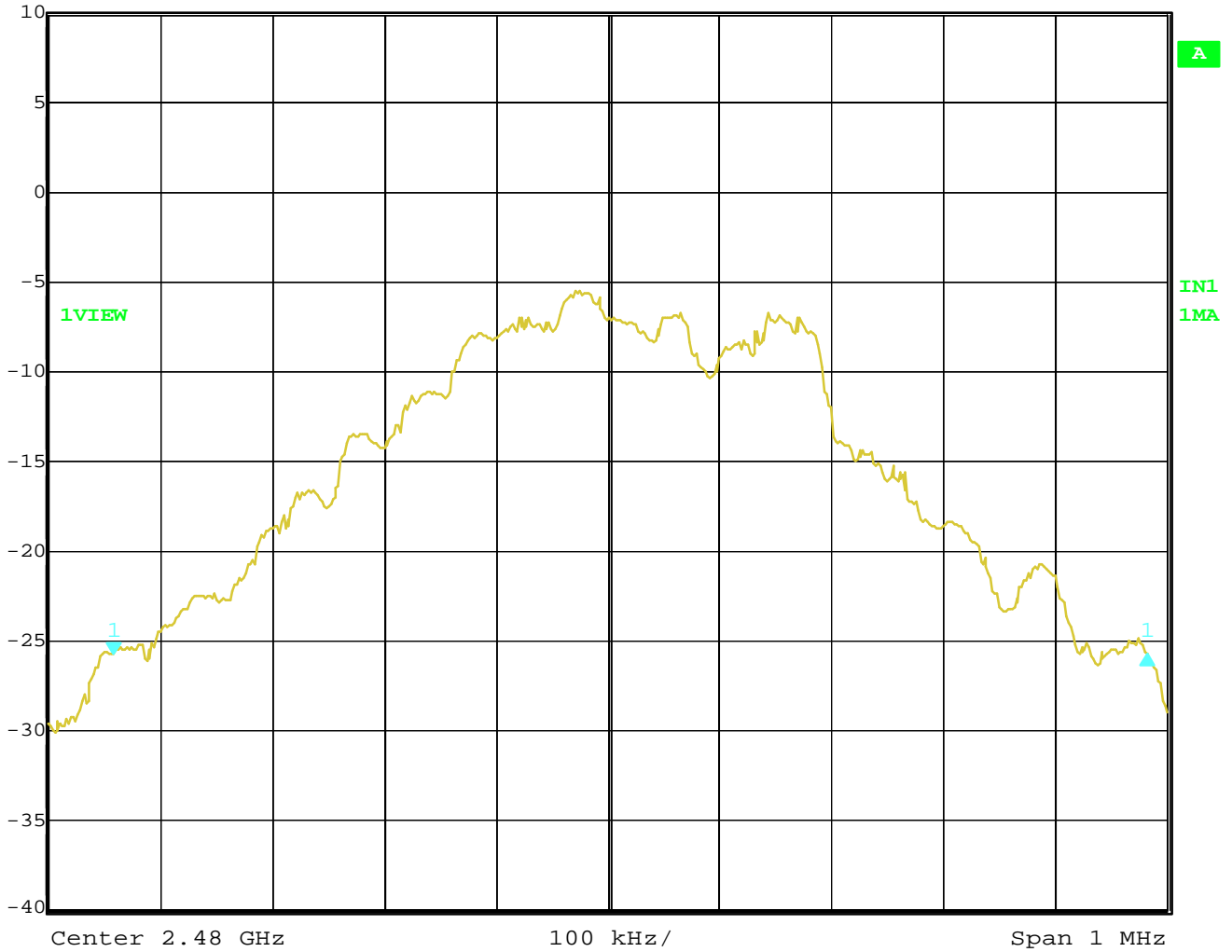
Relative humidity: 58%

20 dB BANDWIDTH

§ 15.247/a



Ref Lvl	Delta 1 [T1]	RBW	30 kHz	RF Att	40 dB
10 dBm	0.06 dB	VBW	30 kHz		
	923.84769539 kHz	SWT	5 ms	Unit	dBm



Date: 21.JAN.2002 09:43:00

channel 78, mode DH5

Bandwidth: 923,85 kHz

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

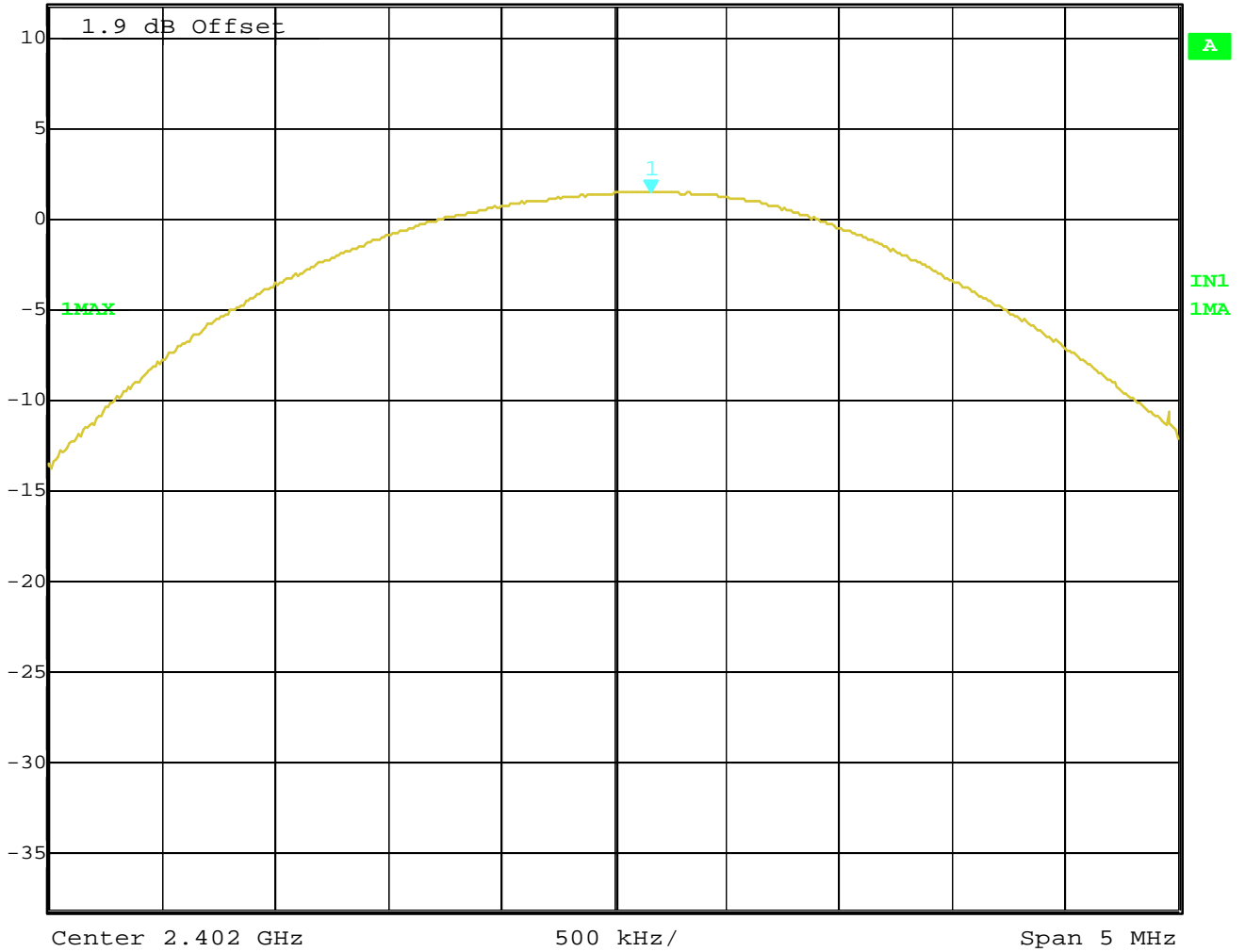
Relative humidity: 58%

### MAXIMUM PEAK OUTPUT POWER

§ 15.247/b



Ref Lvl	Marker 1 [T1]	RBW	2 MHz	RF Att	40 dB
11.9 dBm	1.43 dBm	VBW	2 MHz		
	2.40216533 GHz	SWT	5 ms	Unit	dBm



Date: 21.JAN.2002 10:06:32

channel 0

Peak output power 1,43 dBm

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

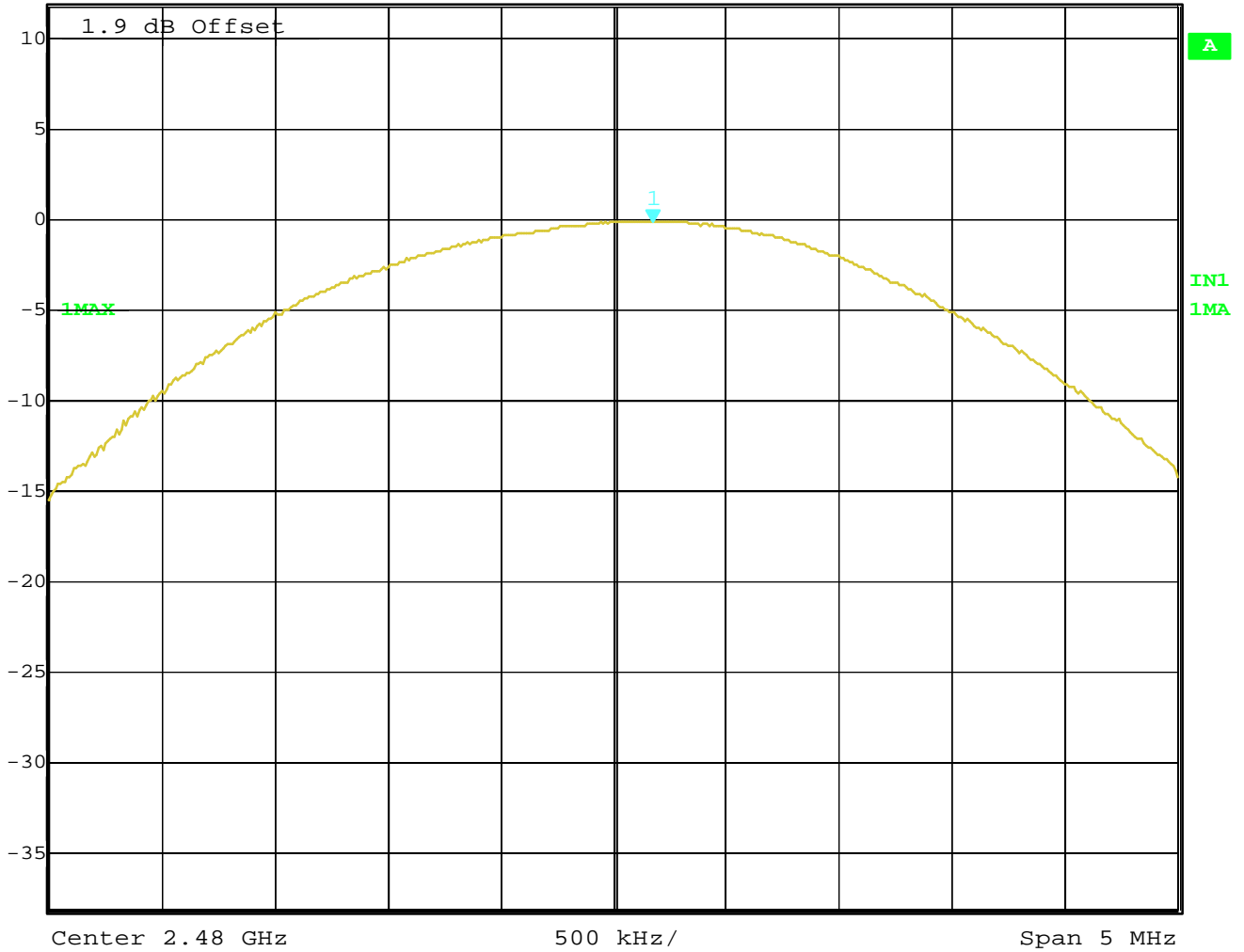
Relative humidity: 58%

### MAXIMUM PEAK OUTPUT POWER

§ 15.247/b



Ref Lvl	Marker 1 [T1]	RBW	2 MHz	RF Att	40 dB
11.9 dBm	-0.12 dBm	VBW	2 MHz		
	2.48017535 GHz	SWT	5 ms	Unit	dBm



Date: 21.JAN.2002 10:03:59

channel 78

Peak output power -0,12 dBm

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

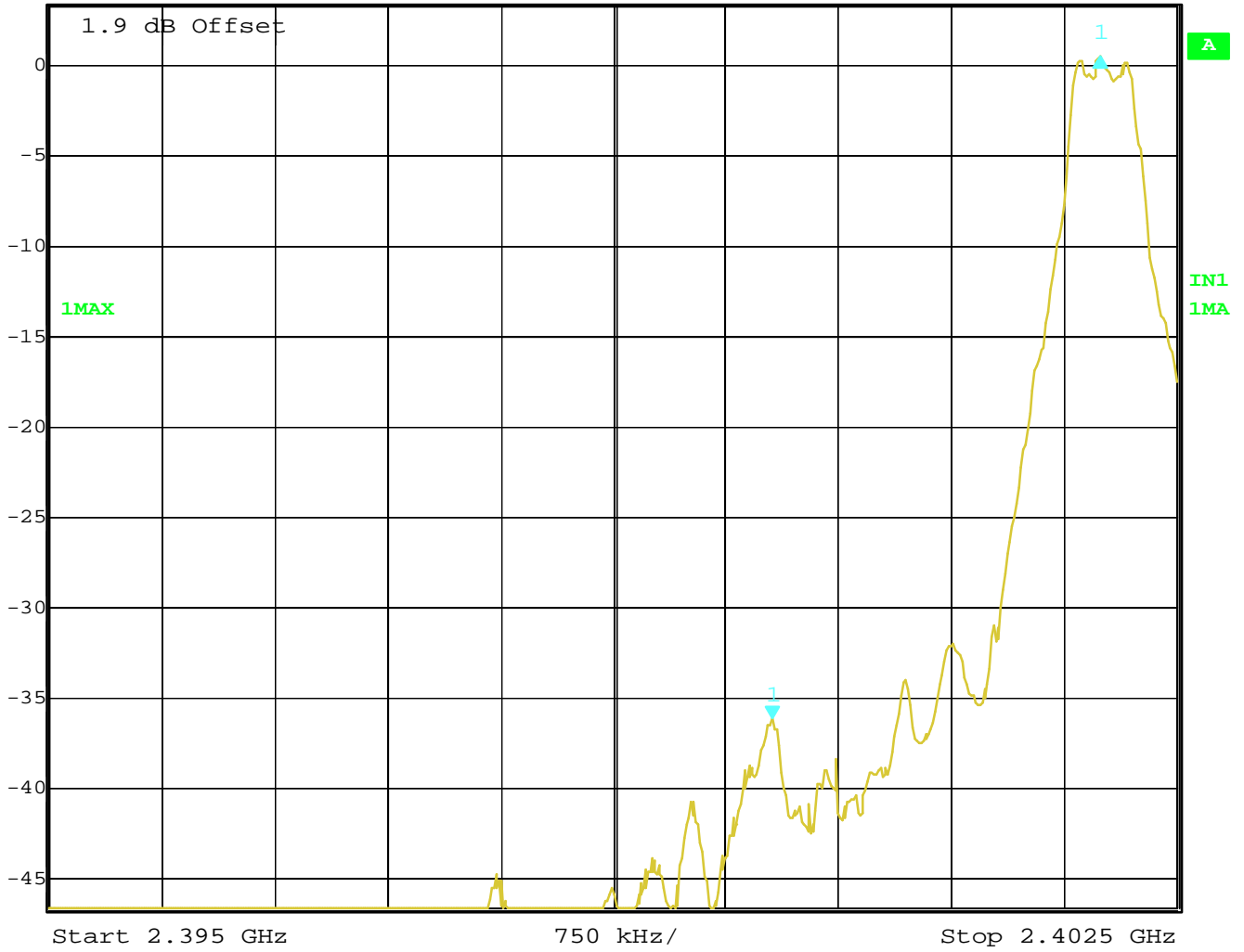
Relative humidity: 58%

### BAND EDGE REQUIREMENTS

§ 15.247/c



Delta 1 [T1]	RBW	100 kHz	RF Att	30 dB
Ref Lvl	36.63 dB	VBW	100 kHz	
3.4 dBm	2.18336673 MHz	SWT	5 ms	Unit dBm



Date: 21.JAN.2002 10:11:46

Peak power at the band edge or at the highest emission outside the band on channel 0: -36,63 dBc

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

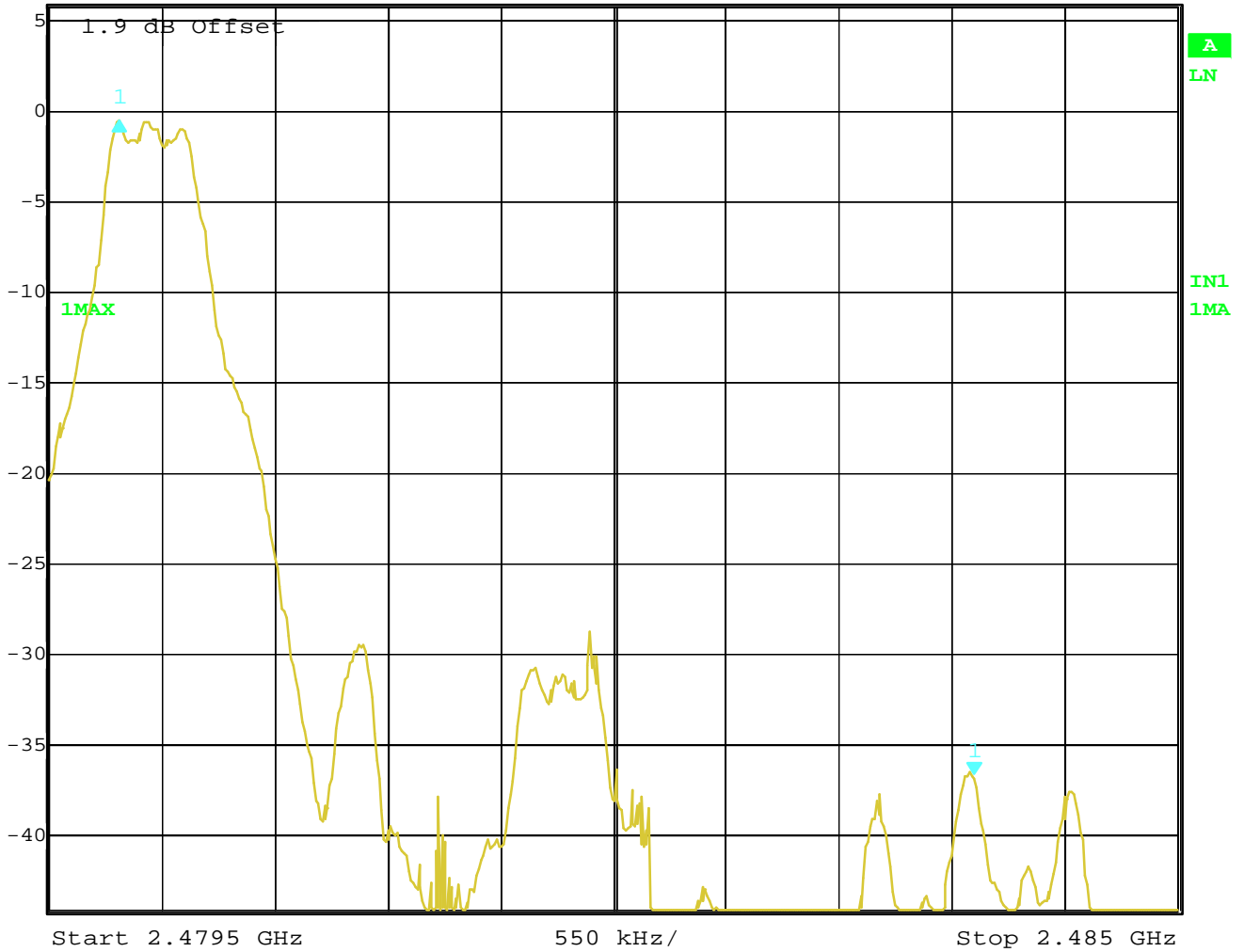
Relative humidity: 58%

### BAND EDGE REQUIREMENTS

§ 15.247/c



Ref Lvl	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
5.9 dBm	36.07 dB	VBW	100 kHz	Mixer	-20 dBm
	-4.17034068 MHz	SWT	5 ms	Unit	dBm



Date: 21.JAN.2002 10:32:29

Peak power at the band edge or at the highest emission outside the band on channel 78: -36,07 dBc

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

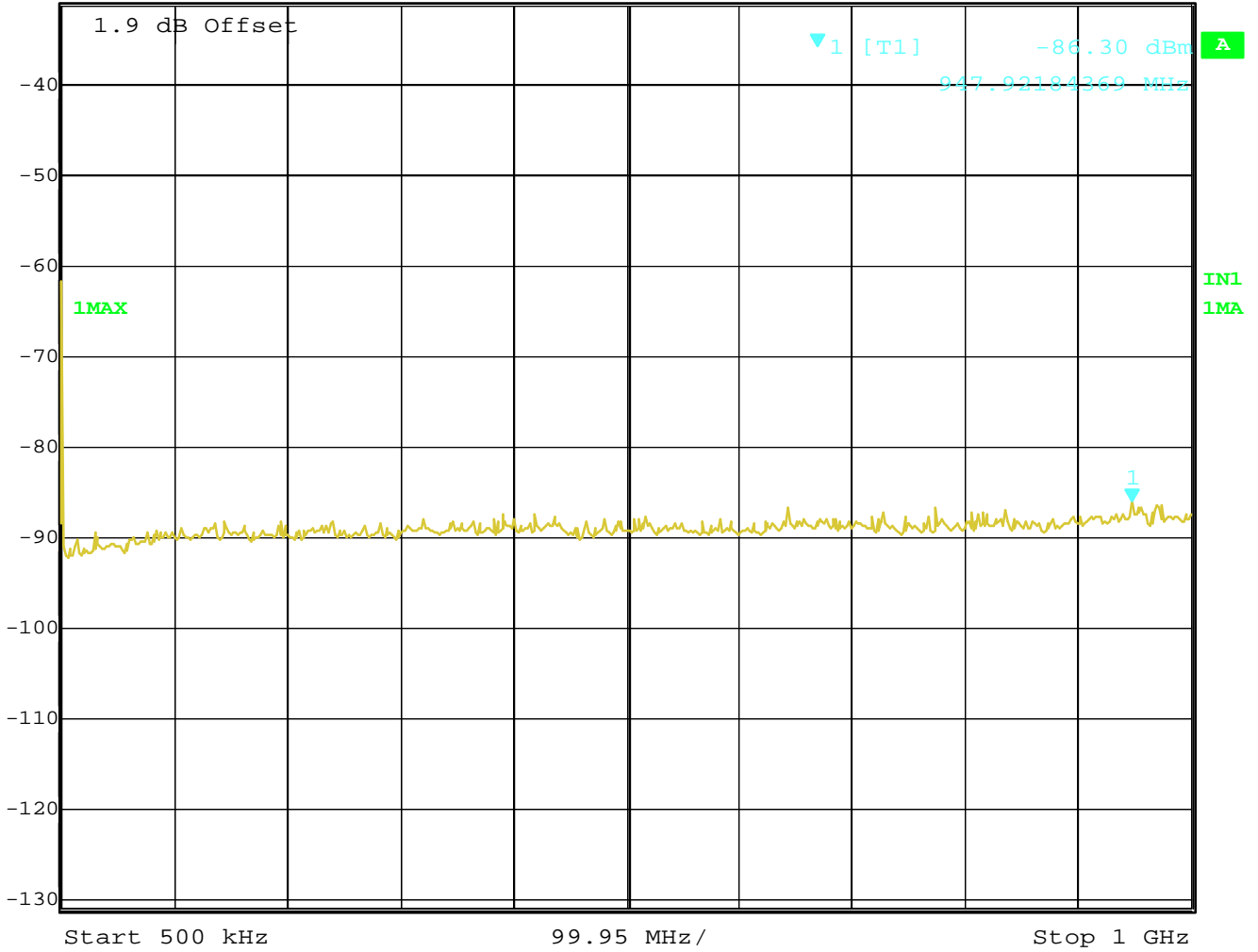
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Ref Lvl	Marker 1 [T1]	RBW	100 kHz	RF Att	0 dB
-31.1 dBm	-86.30 dBm	VBW	100 kHz	Mixer	-20 dBm
	947.92184369 MHz	SWT	250 ms	Unit	dBm



Date: 21.JAN.2002 10:57:14

Emissions in the frequency range 500 kHz to 1 GHz operated on channel 0.



Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

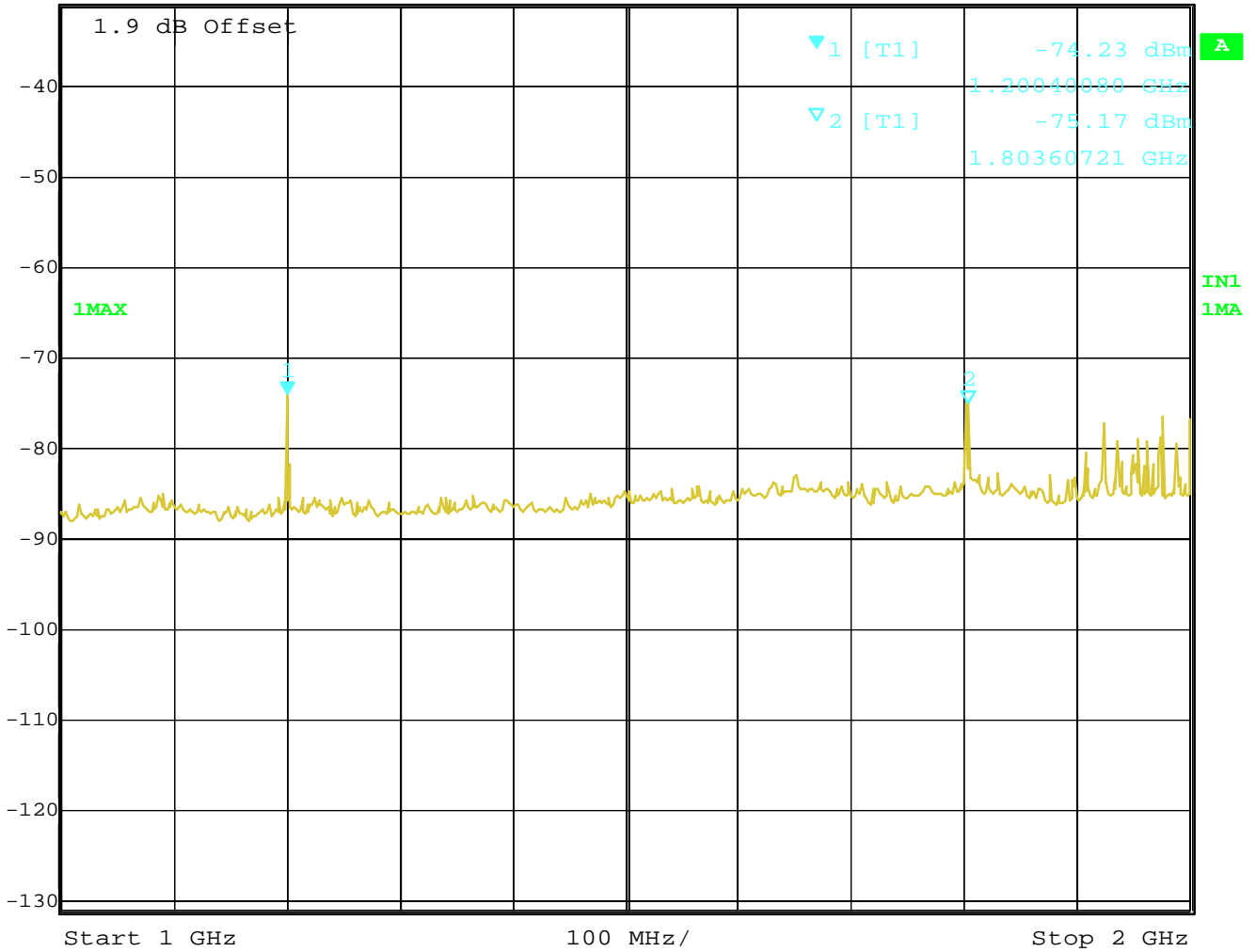
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Marker 1 [T1] RBW 100 kHz RF Att 0 dB  
Ref Lvl -31.1 dBm -74.23 dBm VBW 100 kHz Mixer -20 dBm  
1.20040080 GHz SWT 250 ms Unit dBm



Date: 21.JAN.2002 10:56:23

Emissions in the frequency range 1 GHz to 2 GHz operated on channel 0.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

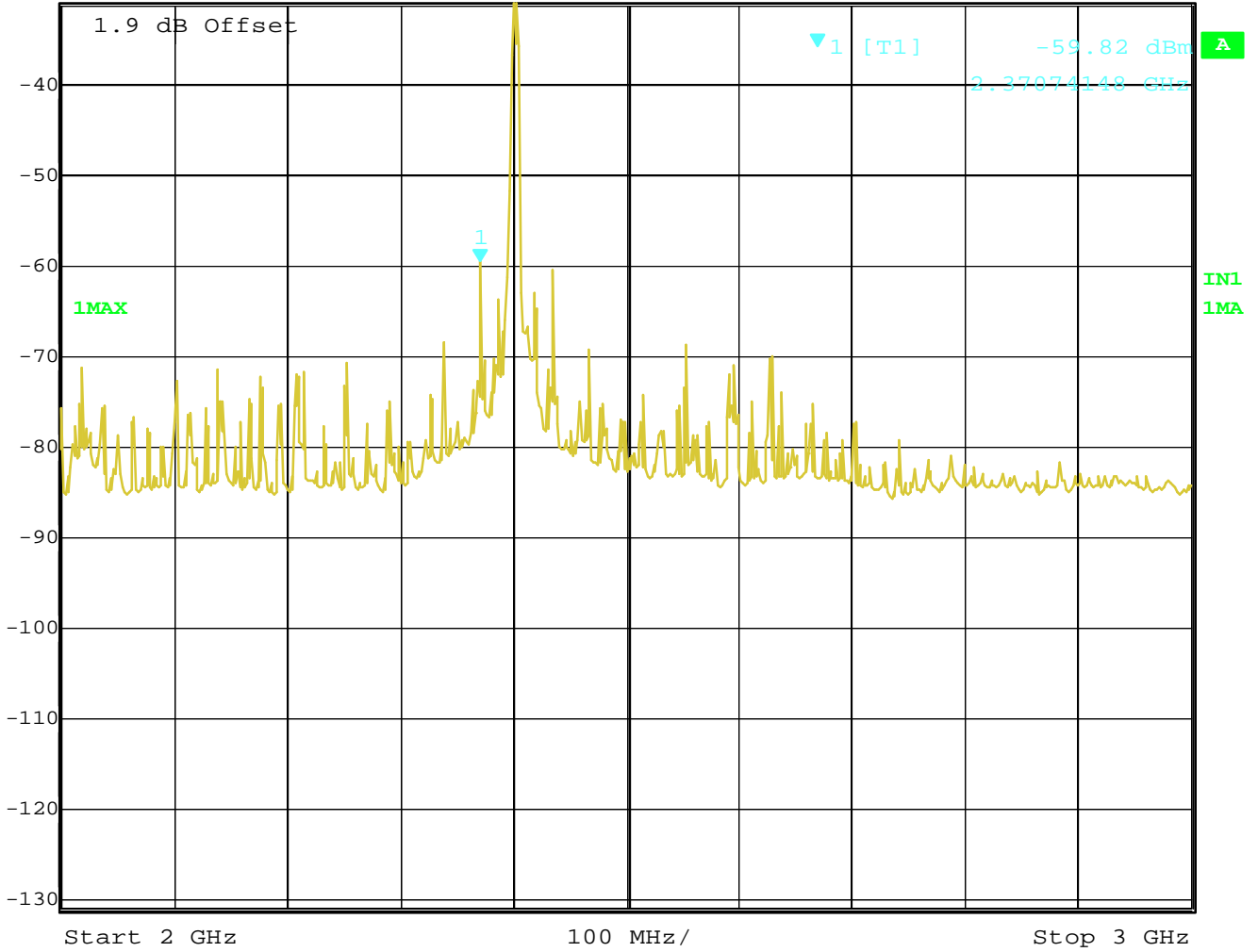
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Ref Lvl	Marker 1 [T1]	RBW	100 kHz	RF Att	0 dB
-31.1 dBm	-59.82 dBm	VBW	100 kHz	Mixer	-20 dBm
	2.37074148 GHz	SWT	250 ms	Unit	dBm



Date: 21.JAN.2002 10:55:08

Emissions in the frequency range 2 GHz to 3 GHz operated on channel 0.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

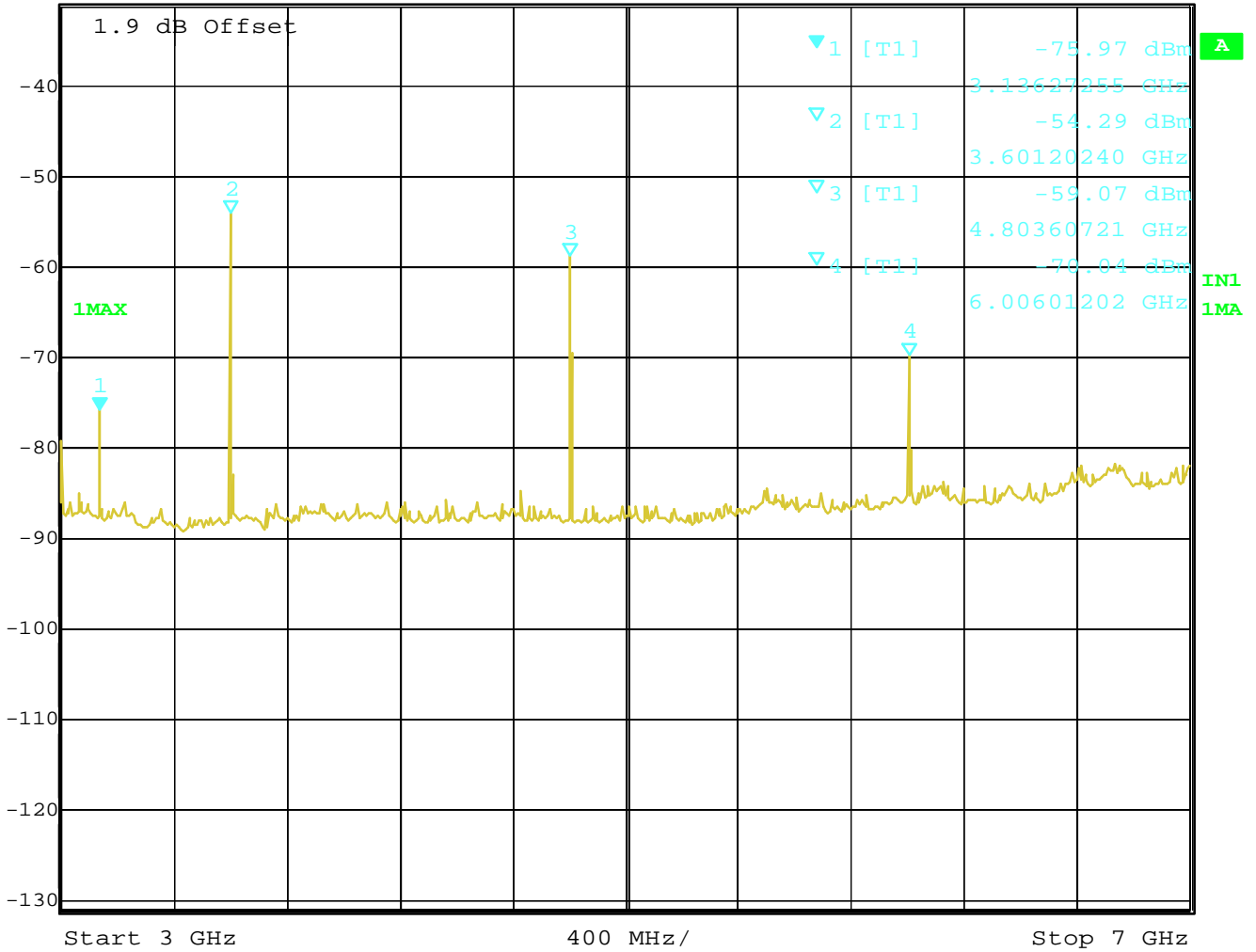
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Marker 1 [T1] RBW 100 kHz RF Att 0 dB  
Ref Lvl -31.1 dBm -75.97 dBm VBW 100 kHz Mixer -20 dBm  
3.13627255 GHz SWT 1 s Unit dBm



Date: 21.JAN.2002 10:47:55

Emissions in the frequency range 3 GHz to 7 GHz operated on channel 0.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

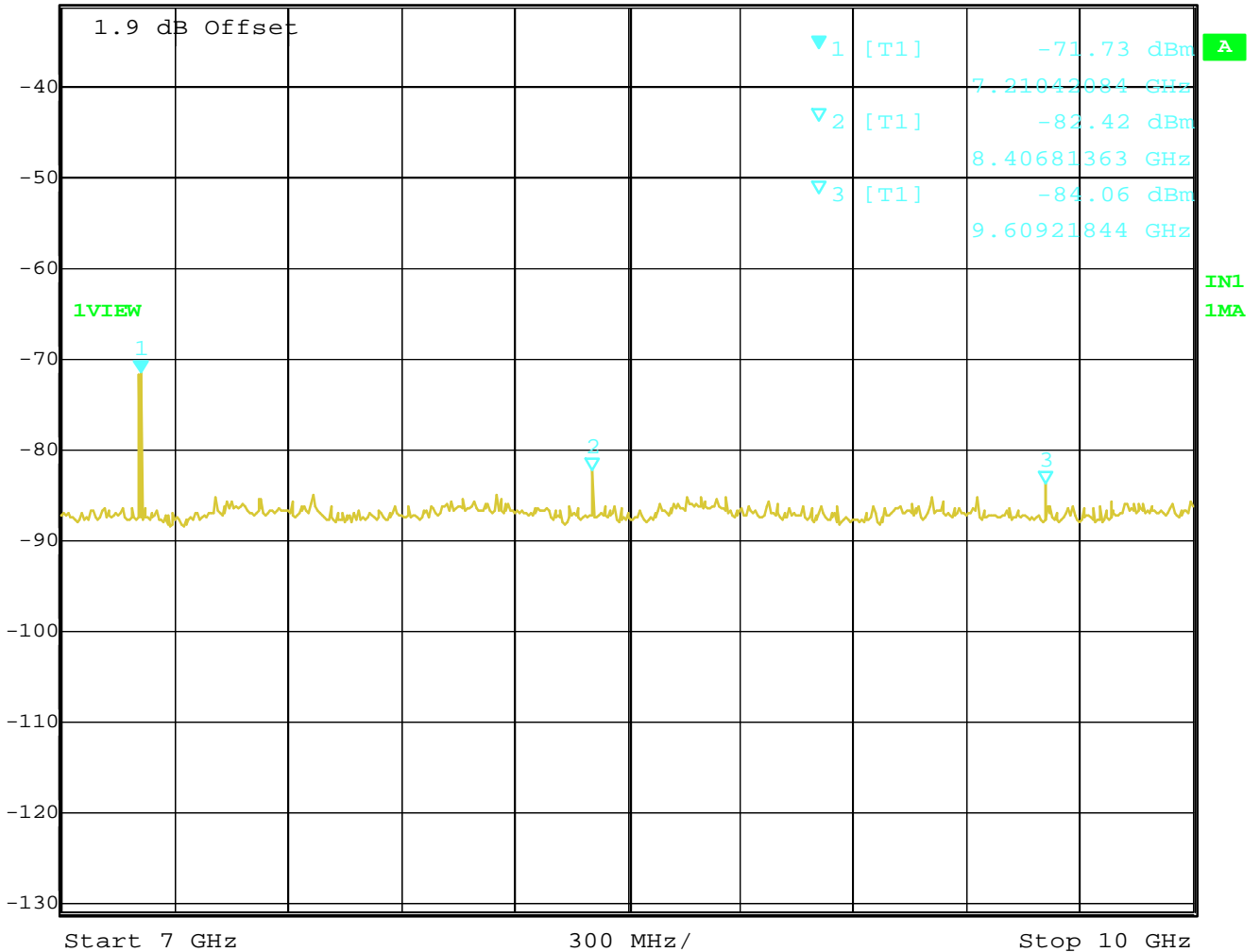
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Marker 1 [T1] RBW 100 kHz RF Att 0 dB  
Ref Lvl -31.1 dBm -71.73 dBm VBW 100 kHz Mixer -20 dBm  
7.21042084 GHz SWT 760 ms Unit dBm



Date: 21.JAN.2002 10:53:29

Emissions in the frequency range 7 GHz to 10 GHz operated on channel 0.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

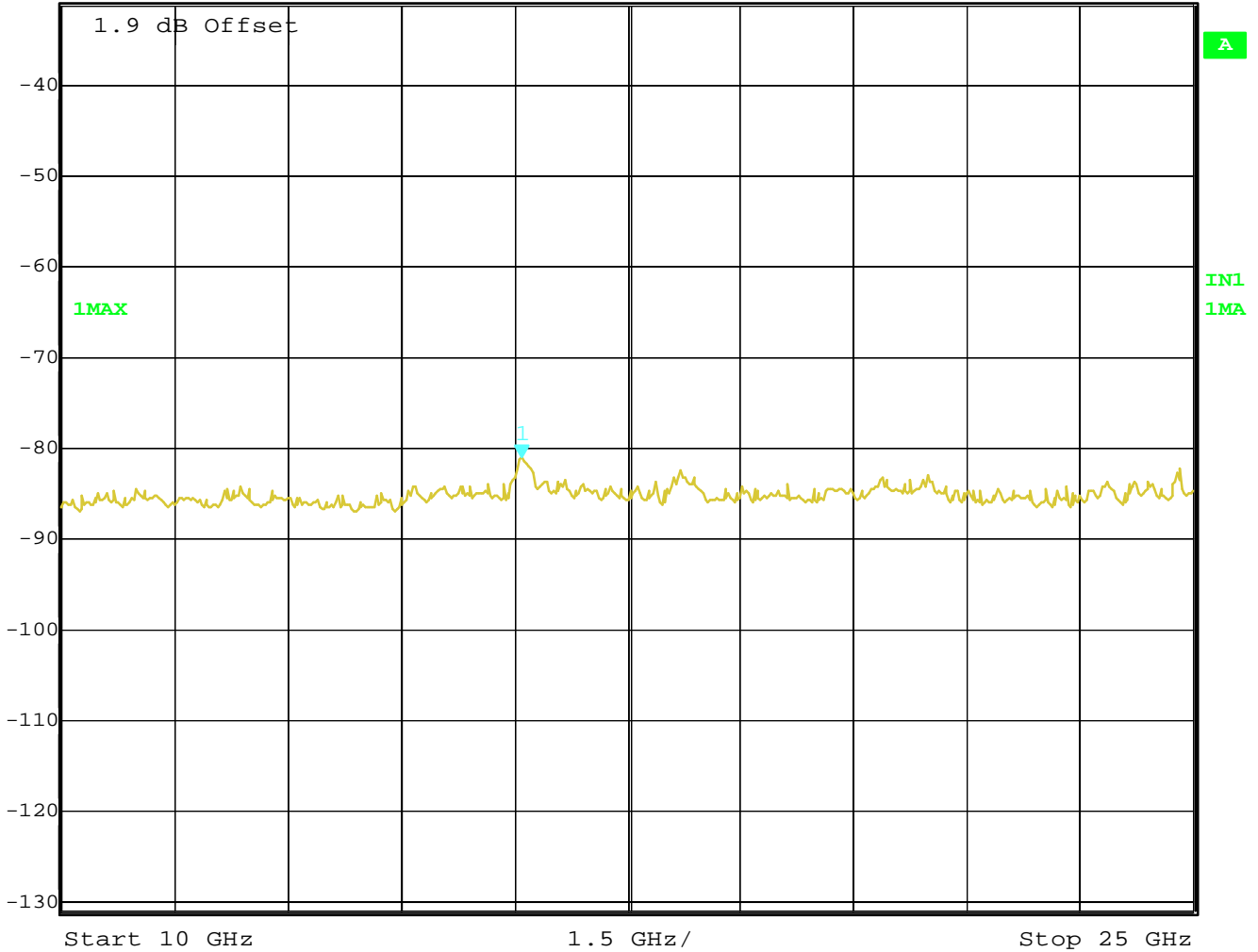
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Ref Lvl	Marker 1 [T1]	RBW	100 kHz	RF Att	0 dB
-31.1 dBm	-81.13 dBm	VBW	100 kHz	Mixer	-20 dBm
	16.10220441 GHz	SWT	3.8 s	Unit	dBm



Date: 21.JAN.2002 10:46:01

Emissions in the frequency range 10 GHz to 25 GHz operated on channel 0.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

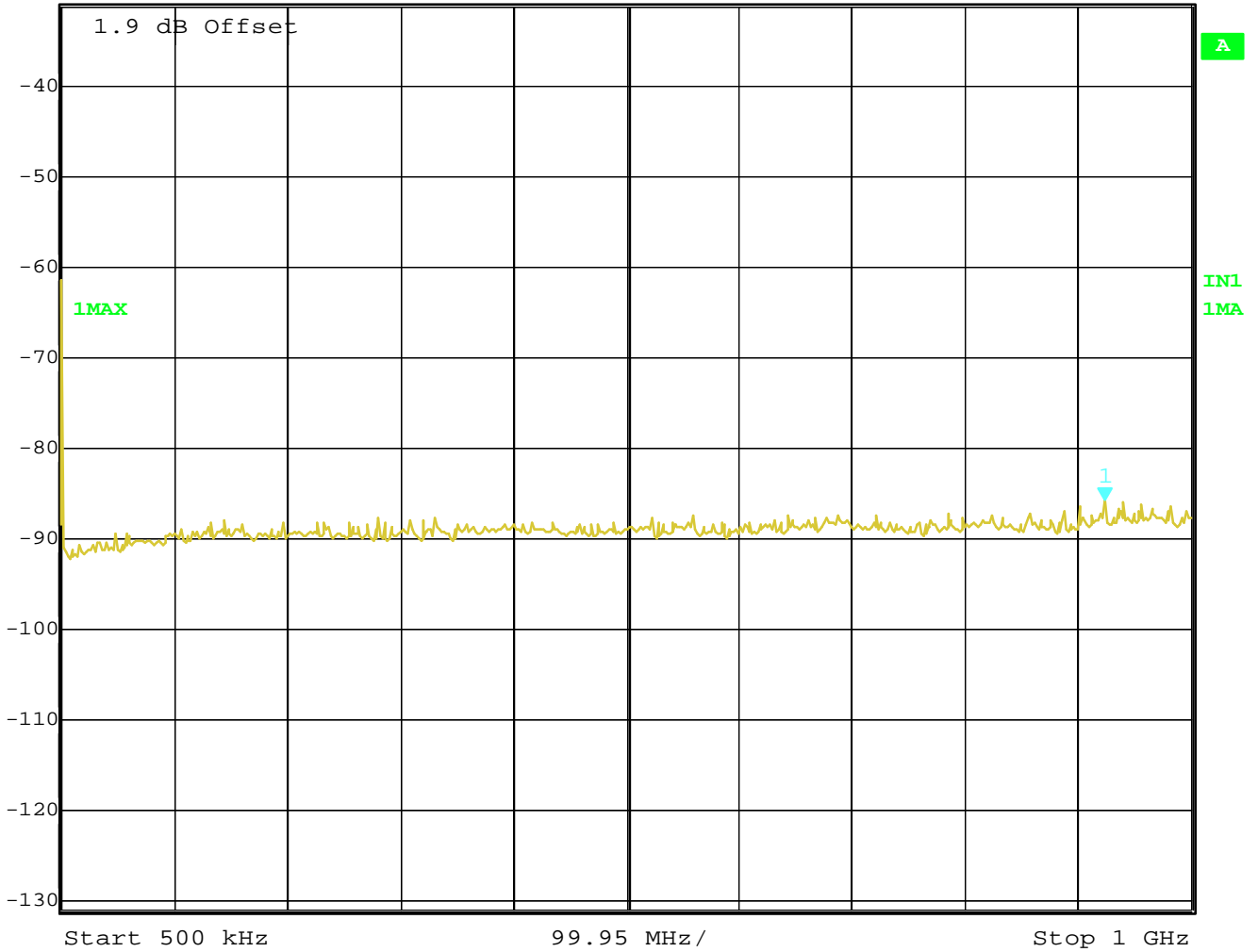
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Ref Lvl	Marker 1 [T1]	RBW	100 kHz	RF Att	0 dB
-31.1 dBm	-85.88 dBm	VBW	100 kHz	Mixer	-20 dBm
	923.88577154 MHz	SWT	250 ms	Unit	dBm



Date: 21.JAN.2002 10:35:29

Emissions in the frequency range 500 kHz to 1 GHz operated on channel 78.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

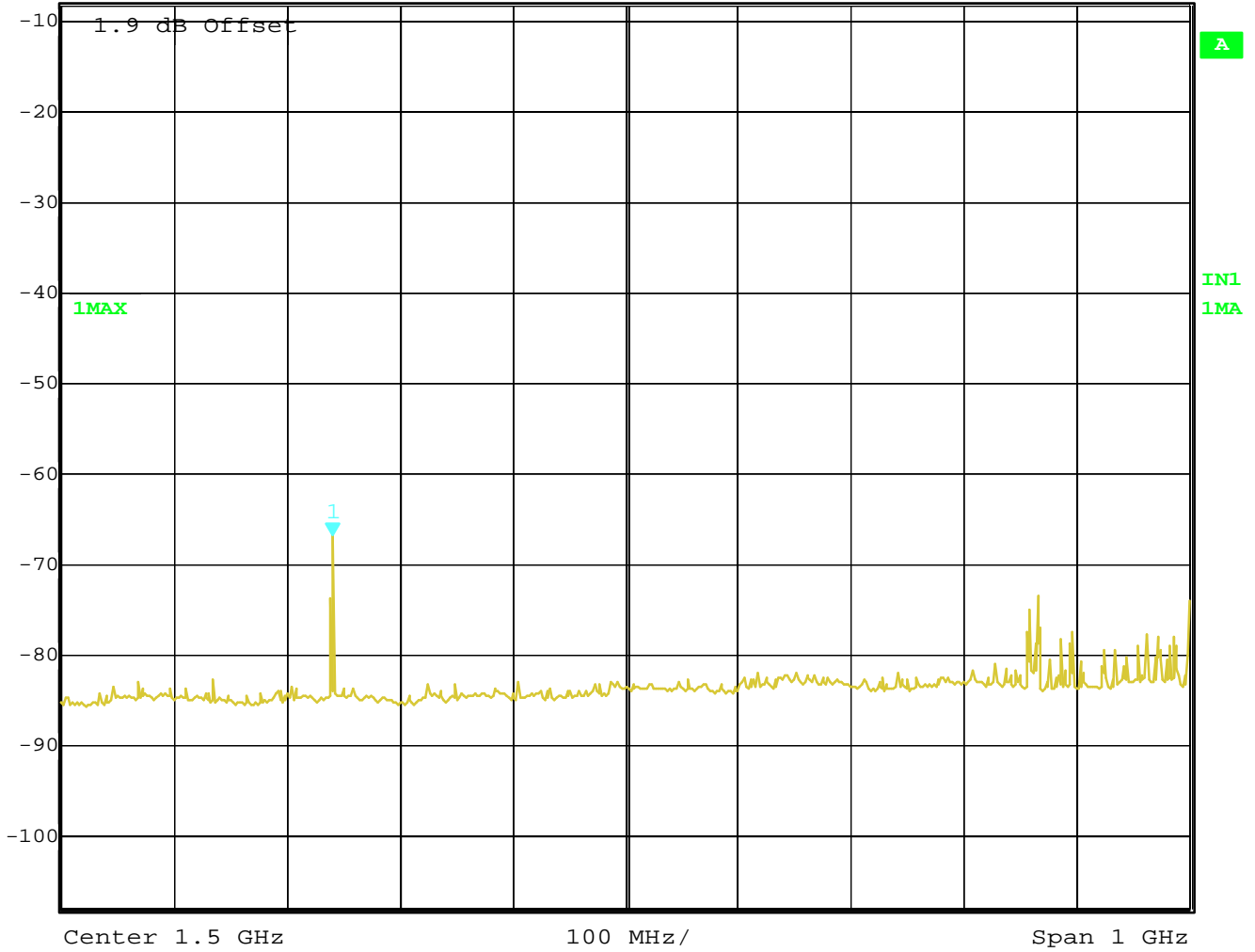
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Ref Lvl	Marker 1 [T1]	RBW	100 kHz	RF Att	0 dB
-8.1 dBm	-66.87 dBm	VBW	100 kHz		
	1.24048096 GHz	SWT	250 ms	Unit	dBm



Date: 21.JAN.2002 10:27:20

Emissions in the frequency range 1 GHz to 2 GHz operated on channel 78.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

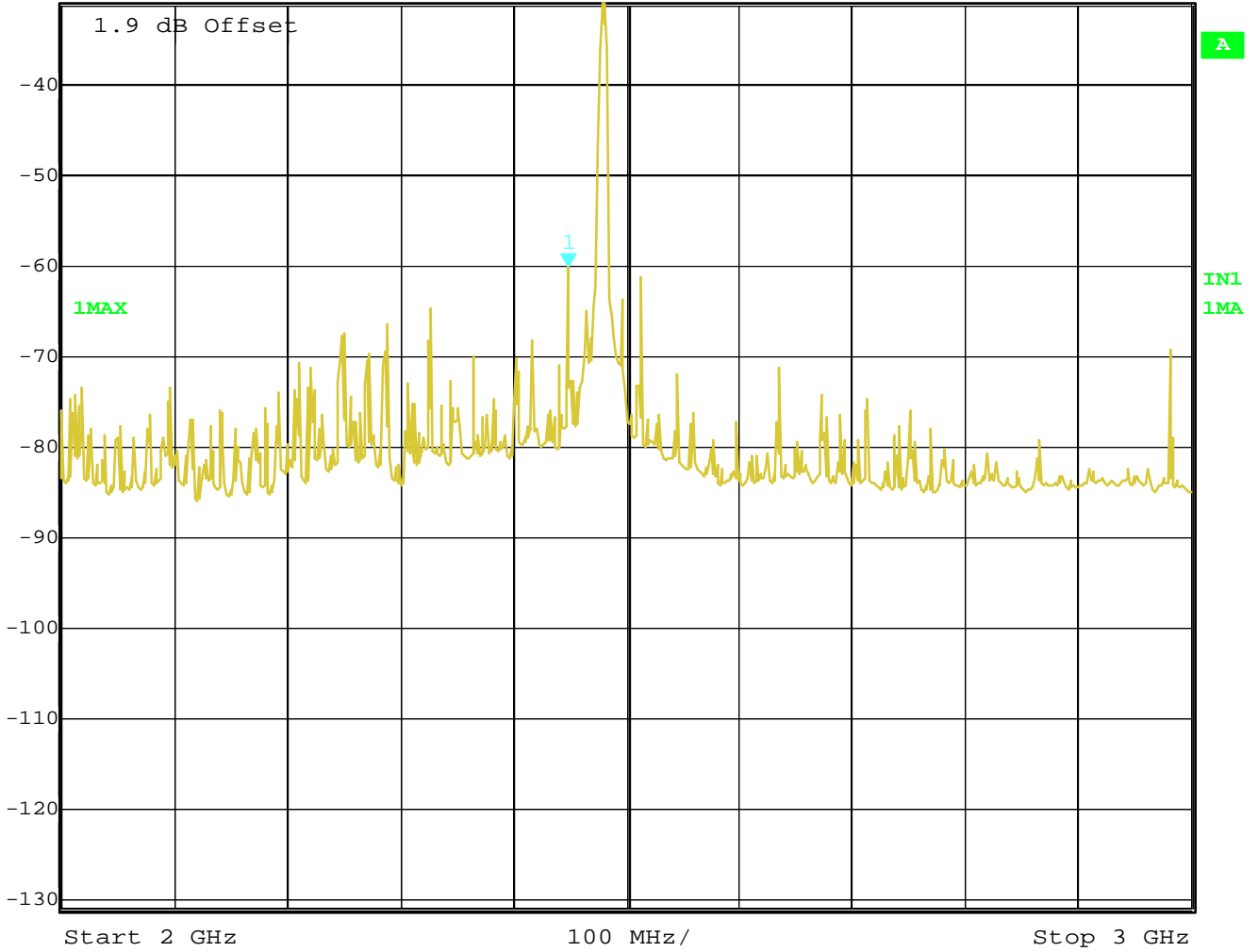
Relative humidity: 58%

### SPURIOUS EMISSIONS

§ 15.247/c



Ref Lvl	Marker 1 [T1]	RBW	100 kHz	RF Att	0 dB
-31.1 dBm	-60.14 dBm	VBW	100 kHz	Mixer	-20 dBm
	2.44889780 GHz	SWT	250 ms	Unit	dBm



Date: 21.JAN.2002 10:38:09

Emissions in the frequency range 2 GHz to 3 GHz operated on channel 78.

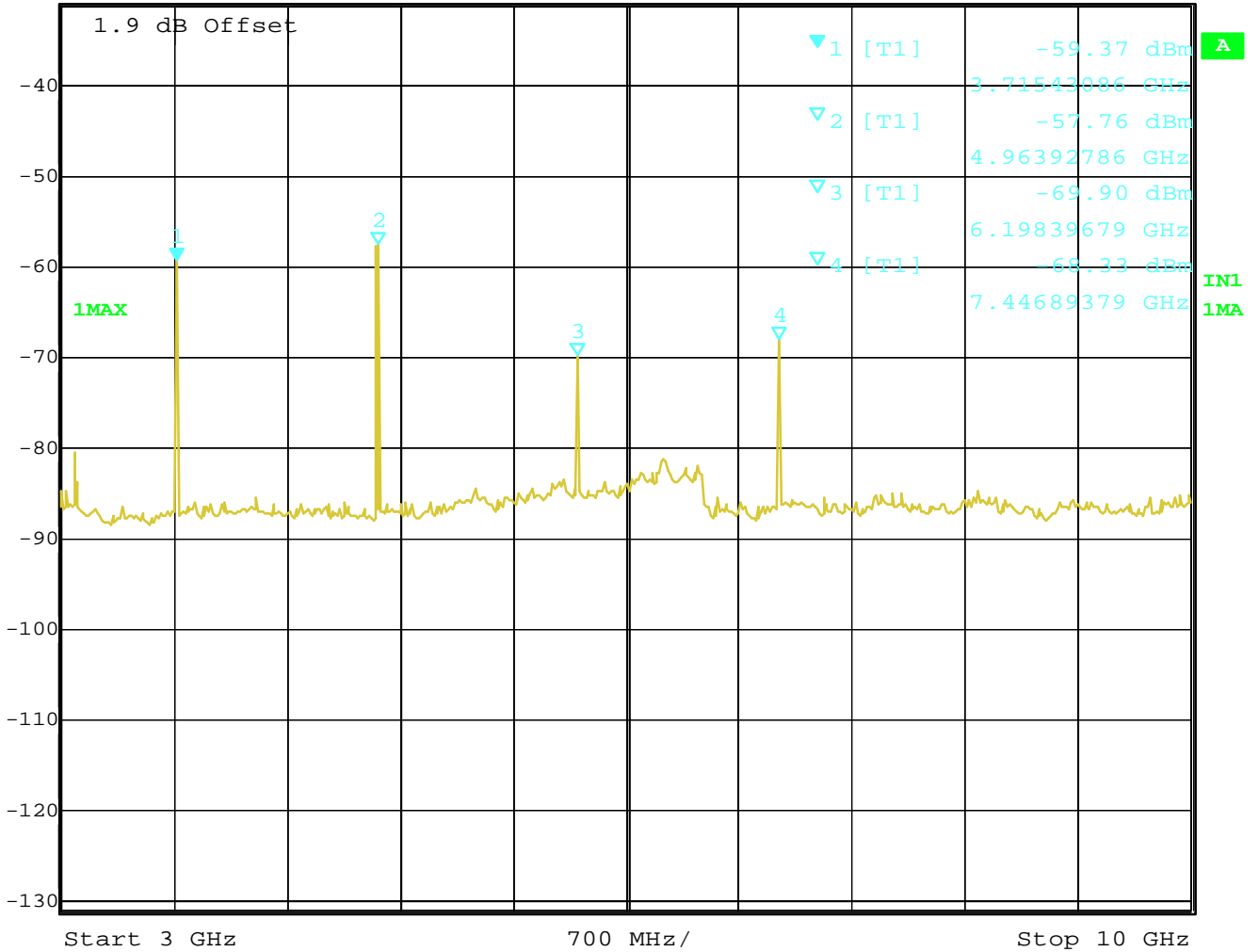


SPURIOUS EMISSIONS

§ 15.247/c



Marker 1 [T1] RBW 100 kHz RF Att 0 dB  
Ref Lvl -31.1 dBm -59.37 dBm VBW 100 kHz Mixer -20 dBm  
3.71543086 GHz SWT 1.75 s Unit dBm



Date: 21.JAN.2002 10:42:22

Emissions in the frequency range 3 GHz to 10 GHz operated on channel 78.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

Relative humidity: 58%

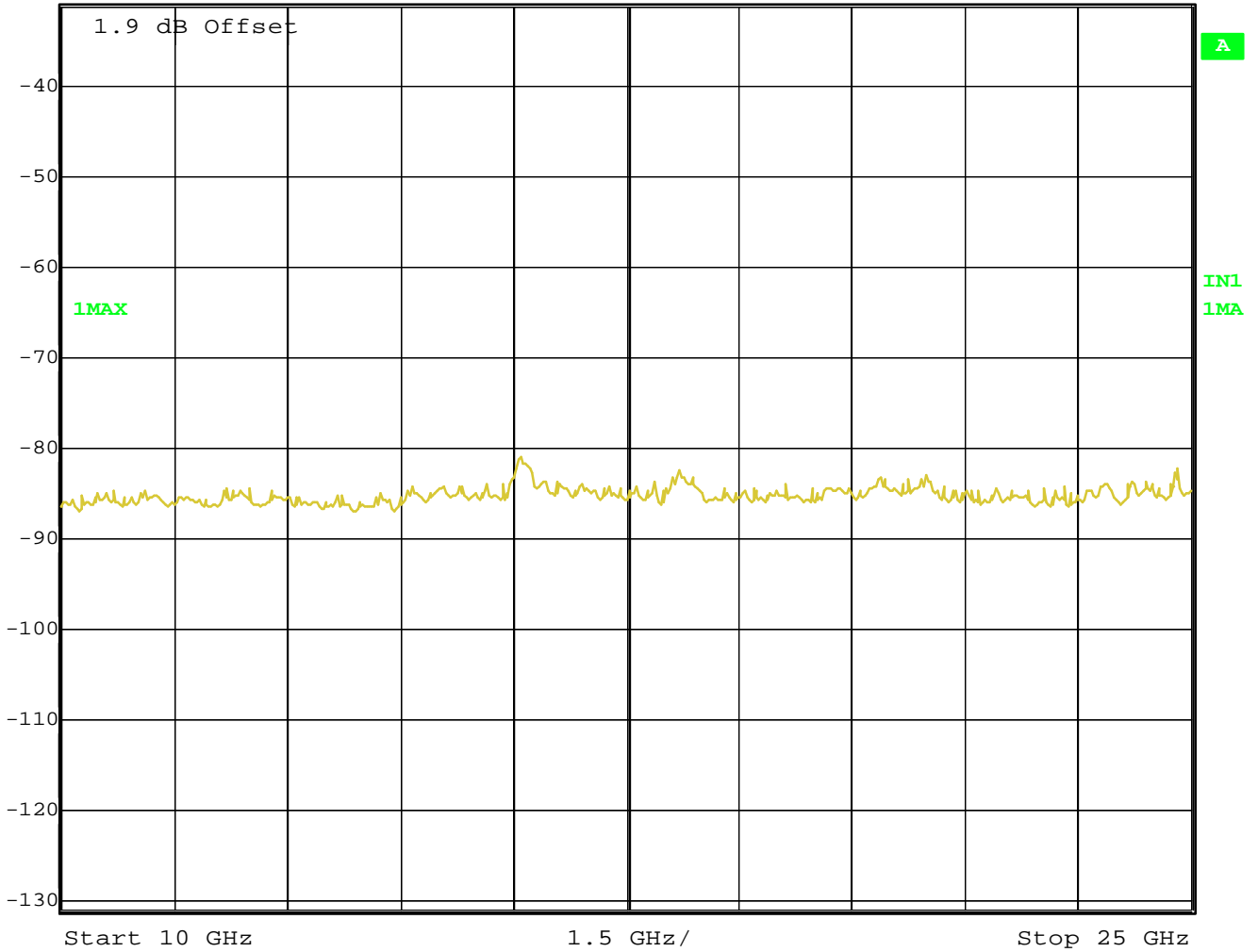
### SPURIOUS EMISSIONS

§ 15.247/c



Ref Lvl  
-31.1 dBm

RBW	100 kHz	RF Att	0 dB
VBW	100 kHz	Mixer	-20 dBm
SWT	3.8 s	Unit	dBm



Date: 21.JAN.2002 10:45:39

Emissions in the frequency range 10 GHz to 25 GHz operated on channel 78.

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

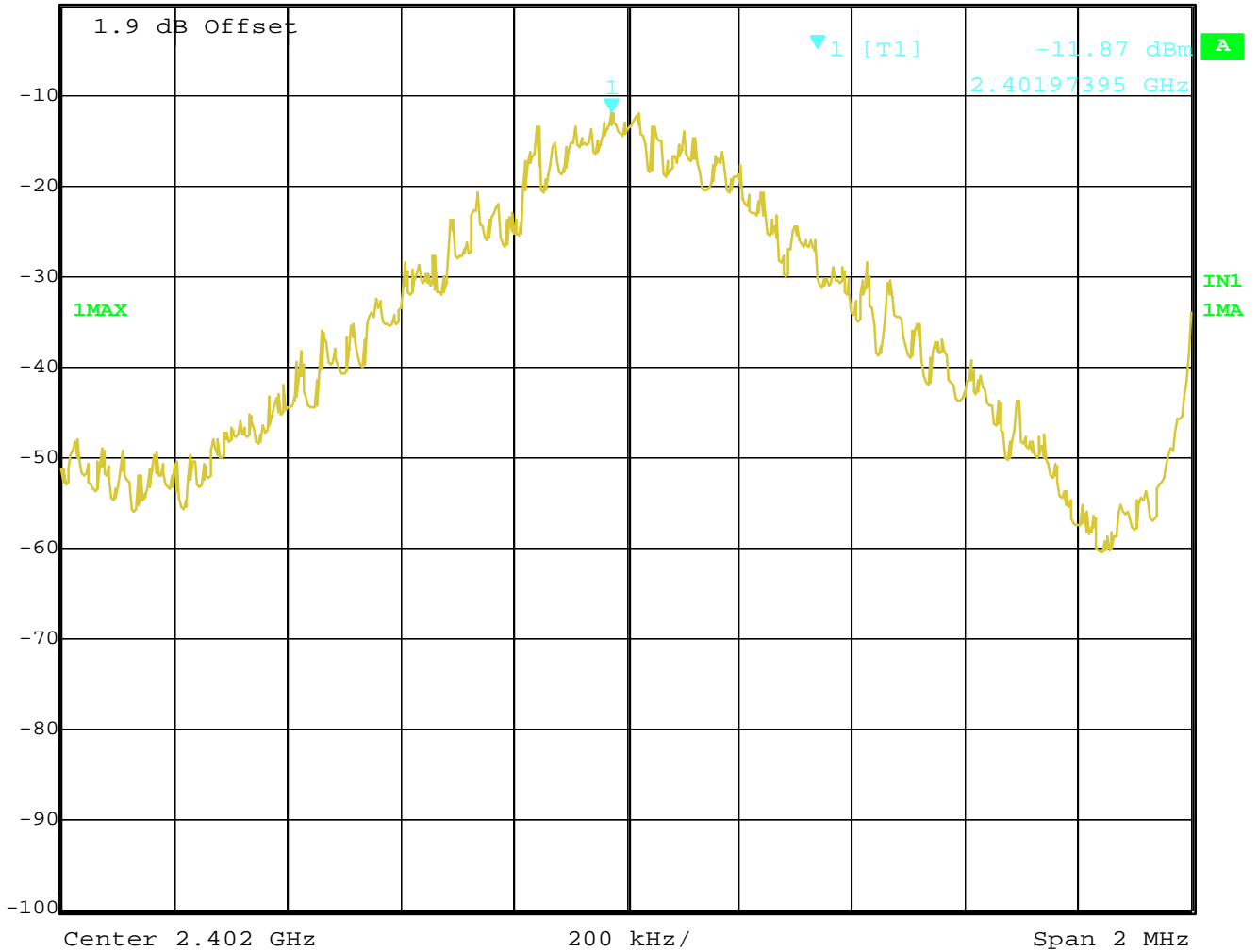
Relative humidity: 58%

### POWER SPECTRAL DENSITY

§ 15.247/f (d)



Ref Lvl	Marker 1 [T1]	RBW	3 kHz	RF Att	20 dB
-0.1 dBm	-11.87 dBm	VBW	3 kHz	Mixer	-20 dBm
	2.40197395 GHz	SWT	560 ms	Unit	dBm



Date: 21.JAN.2002 11:17:19

channel 0

Power density: -11,87 dBm

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

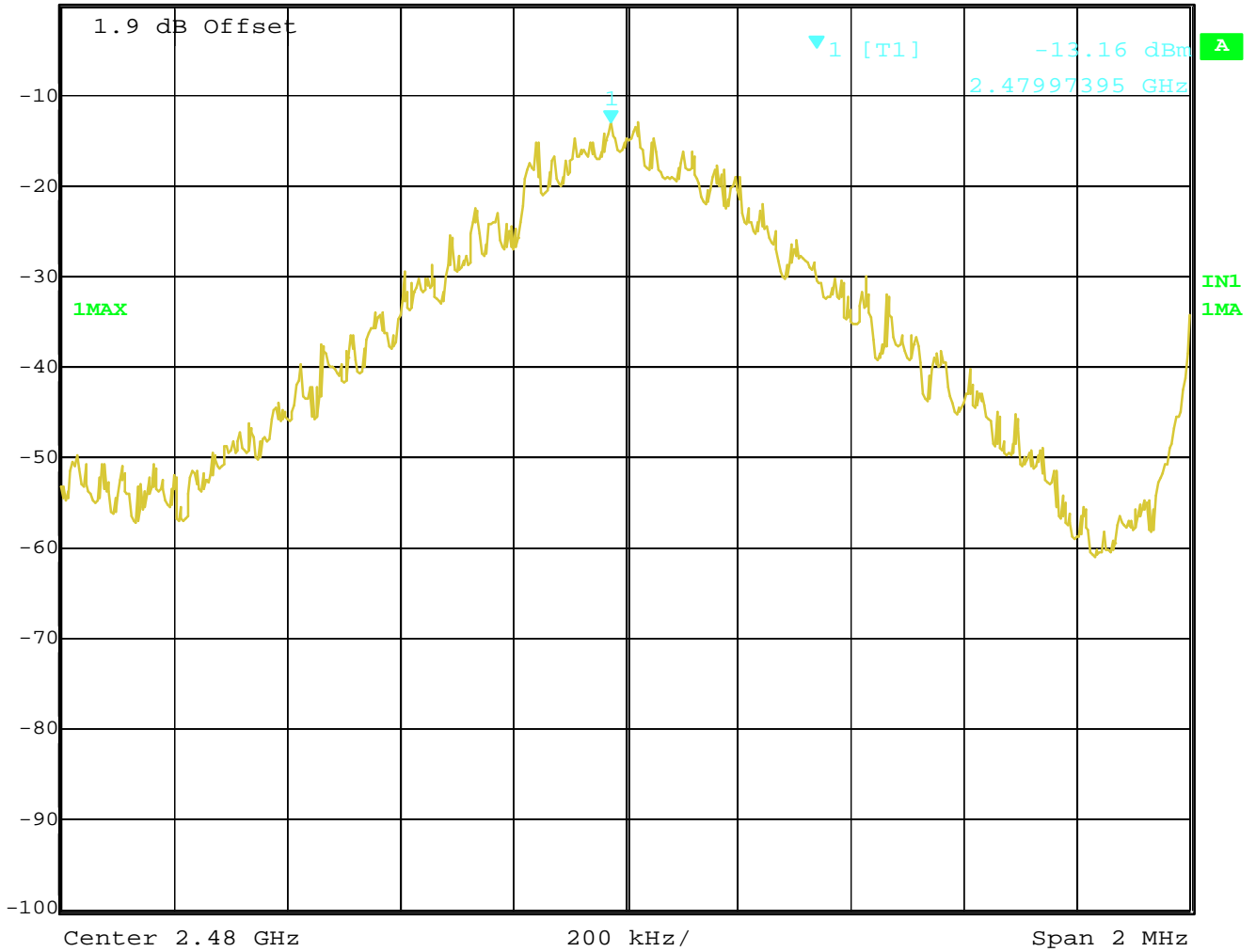
Relative humidity: 58%

### POWER SPECTRAL DENSITY

§ 15.247/f (d)



Ref Lvl	Marker 1 [T1]	RBW	3 kHz	RF Att	20 dB
-0.1 dBm	-13.16 dBm	VBW	3 kHz	Mixer	-20 dBm
	2.47997395 GHz	SWT	560 ms	Unit	dBm



Date: 21.JAN.2002 11:23:35

channel 78

Power density: -13,16 dBm

Test Report Reference:  
M/FG-02/104

Ambient temperature: 22°C

Relative humidity: 58%

RADIATED EMISSIONS (Intentional Radiator)

§ 15.209/a

The radiated emission test was made with the equipment BT-LAP (CasSi), which was the former inofficial name for the Bluetooth LAN Access Point „blue2net“. For details see test report number: M/EMV-01/260.

# Appendix 1

## Test equipment used

<input type="checkbox"/>	Anechoic Chamber with 3m measurement distance	NT-100	<input type="checkbox"/>	ESPC - Test receiver 9 kHz - 2,5 GHz	NT-203
<input type="checkbox"/>	MA 240 - Antenna mast 1 - 4 m height	NT-110	<input checked="" type="checkbox"/>	ESI26 – Test receiver 20 Hz – 26,5 GHz	NT-207
<input type="checkbox"/>	DS 412 - Turntable 0 - 400 ° Azimuth	NT-111	<input type="checkbox"/>	Digital Radio Tester CTS55	NT-208
<input type="checkbox"/>	HD 100 Controller Mast+Turntable	NT-112	<input type="checkbox"/>	Noise-gen., ITU-R 559-2 20 Hz – 20 kHz	NT-209
<input type="checkbox"/>	HUF-Z2 - Bicon. Antennna 20 - 300 MHz	NT-120	<input type="checkbox"/>	CMTA - Radiocommunication analyzer ; 0,1 - 1000 MHz	NT-210
<input type="checkbox"/>	HUF-Z3 - Log. Per. Antenna 200 - 1000 MHz	NT-121	<input type="checkbox"/>	3271 - Spectrum analyzer 100 Hz - 26,5 GHz	NT-211
<input type="checkbox"/>	HFH-Z2 - Loop Antenna. 9 kHz - 30 MHz	NT-122	<input type="checkbox"/>	Radiocommunicationanalyzer Marconi 2945A	NT-212
<input type="checkbox"/>	HFH-Z6 - Rod Antenna 9 kHz - 30 MHz	NT-123	<input type="checkbox"/>	2855S - Communication analyzer	NT-213
<input type="checkbox"/>	3121C - Dipole Antenna 28 - 1000 MHz	NT-124	<input type="checkbox"/>	Mixer M28HW 26,5 GHz - 40 GHz	NT-214
<input type="checkbox"/>	3115 - Horn Antenna 1 - 18 GHz	NT-125	<input type="checkbox"/>	Diode Detector 0,01 GHz - 26,5 GHz	NT-215
<input type="checkbox"/>	3116 - Horn Antenna 18 - 40 GHz	NT-126	<input type="checkbox"/>	3160-10 Horn Antenna 26,5 GHz - 40 GHz	NT-216
<input type="checkbox"/>	SAS-200/543 - Bicon. Ant. 20 MHz - 300 MHz	NT-127	<input type="checkbox"/>	Radiocommunicationanalyzer SWR 1180 MD	NT-217
<input type="checkbox"/>	AT-1080 - Log. Per. Ant. 80 - 1000 MHz	NT-128	<input type="checkbox"/>	Mixer M19HWD 40 GHz – 60 GHz	NT-218
<input type="checkbox"/>	HK-116 - bicon. Ant. 20 MHz - 300 MHz	NT-129	<input type="checkbox"/>	Mixer M12HWD 60 GHz – 90 GHz	NT-219
<input type="checkbox"/>	HK-116 - bicon. Ant. 20 MHz - 300 MHz	NT-130	<input type="checkbox"/>	TDS - 540 DSO Digital scope	NT-220
<input type="checkbox"/>	3146 - Log. Per. Ant. 200 - 1000MHz	NT-131	<input type="checkbox"/>	PM97 Scopemeter	NT-221
<input type="checkbox"/>	Loop Antenna H-Field	NT-132	<input type="checkbox"/>	B9-DSP-IS Digital Analyzer for voltage fluctuations	NT-230
<input type="checkbox"/>	Horn Antenna 500 MHz - 2900 MHz	NT-133	<input type="checkbox"/>	DFT 555 - Power and harmonics analyzer	NT-231
<input type="checkbox"/>	Log. per. Antenna 800 MHz - 2500 MHz	NT-134	<input type="checkbox"/>	EFA-3 H-field- / E-field probe	NT-243
<input type="checkbox"/>	Log. per. Antenna 800 MHz - 2500 MHz	NT-135	<input type="checkbox"/>	E-field measuring instrument EMR-200; 100 kHz – 3 GHz	NT-244
<input type="checkbox"/>	BiConiLog Antenna 26 MHz – 2000 MHz	NT-137	<input type="checkbox"/>	E-field probe (for use with EMR-200)	NT-245
<input type="checkbox"/>	Conical Dipol Antenna PCD8250	NT-138	<input type="checkbox"/>	Magneticfield-Sensor 300 kHz – 30 MHz	NT-246
<input type="checkbox"/>	HZ-1 Antenna tripod	NT-150	<input type="checkbox"/>	MDS 21 - Absorbing clamp 30 - 1000 MHz	NT-250
<input type="checkbox"/>	BN 1500 Antenna tripod	NT-151	<input type="checkbox"/>	FCC-203I EM Injection clamp	NT-251
<input type="checkbox"/>	ESVP - Test receiver 20 - 1000 MHz	NT-201	<input type="checkbox"/>	FCC-203I-DCN Ferrite decoupling network	NT-252
<input type="checkbox"/>	Switchbox	NT-202	<input type="checkbox"/>	PR50 Current Probe	NT-253

Medizintechnik/  
Nachrichtentechnik/EMV

Department: FG

Test report number:  
M/FG-02/104

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Date: 12. 3. 2002

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# Appendix 1 (continued)

## Test equipment used

<input type="checkbox"/>	Model 2000 Digital Multimeter	NT-261	<input type="checkbox"/>	Preamplifier 1 GHz - 4 GHz	NT-335
<input type="checkbox"/>	Fluke 97 Digital Multimeter	NT-262	<input type="checkbox"/>	2-97201 Electronic load	NT-341
<input type="checkbox"/>	Fluke 97 Digital Multimeter	NT-263	<input type="checkbox"/>	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-344
<input type="checkbox"/>	ESH2-Z5 Artificial mains network 4x25A	NT-300	<input type="checkbox"/>	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-345
<input type="checkbox"/>	ESH3-Z5 Artificial mains network 2x10A	NT-301	<input type="checkbox"/>	VDS 200 Mobil-impuls-generator	NT-350
<input type="checkbox"/>	ESH3-Z6 Artificial mains network 1x100A	NT-302	<input type="checkbox"/>	LD 200 Mobil-impuls-generator	NT-351
<input type="checkbox"/>	ESH3-Z4 T-Artificial network	NT-303	<input type="checkbox"/>	MPG 200 Mobil-Impuls-Generators	NT-352
<input type="checkbox"/>	PHE 4500/B Power amplifier	NT-304	<input type="checkbox"/>	EFT 200 Mobil-impuls-generator	NT-353
<input type="checkbox"/>	EZ10 T-Artificial network	NT-305	<input type="checkbox"/>	FP 16/3-1 3 ph. Coupling filter (Burst)	NT-400
<input type="checkbox"/>	MidiStar Telephone exchange	NT-306	<input type="checkbox"/>	PHE 4500 - Mains impedance network	NT-401
<input type="checkbox"/>	SMG - Signal generator 0,1 - 1000 MHz	NT-310	<input type="checkbox"/>	FP-SURGE 32.1 3 ph. Coupling filter (Surge)	NT-402
<input type="checkbox"/>	PM 5518 TXVPS Video generator	NT-311	<input type="checkbox"/>	IP 6.2 Coupling filter for data lines (Surge)	NT-403
<input type="checkbox"/>	RefRad Reference generator	NT-312	<input type="checkbox"/>	ESH2-Z3 - Probe 9 kHz - 30 MHz	NT-410
<input type="checkbox"/>	SMP 02 Signal generator 10 MHz - 20 GHz	NT-313	<input type="checkbox"/>	IP 4 - Capacitive clamp (Burst)	NT-411
<input type="checkbox"/>	PEFT - Burst generator up to 4 kV	NT-320	<input type="checkbox"/>	HV-Attenuator 54,5 dB (Burst)	NT-420
<input type="checkbox"/>	PSD - ESD generator up to 25 kV	NT-321	<input checked="" type="checkbox"/>	RF-Attenuator 20 dB 0,1 - 1000 MHz / 25 W	NT-421
<input type="checkbox"/>	ESD-Pistol	NT-322	<input type="checkbox"/>	RF-Attenuator 10 dB 0,1 - 1000 MHz / 20 W	NT-422
<input type="checkbox"/>	Vacuum-Relais up to 8 kV	NT-323	<input type="checkbox"/>	RF-Attenuator 30 dB 0,1 - 1000 MHz / 1 W	NT-423
<input type="checkbox"/>	PSURGE 4.1 Surge generator	NT-324	<input type="checkbox"/>	RF-Attenuator 30 dB	NT-424
<input type="checkbox"/>	TRANSIENT 1000 Immunity test system	NT-325	<input type="checkbox"/>	RF-Attenuator 6 dB 0,1 - 1000 MHz / 1 W	NT-425
<input type="checkbox"/>	VCS 500-M6 Surge-Generator	NT-326	<input type="checkbox"/>	RF-Attenuator 6 dB 0,1 - 1000 MHz / 1 W	NT-426
<input type="checkbox"/>	BTA-250 - RF-Amplifier 9 kHz - 220 MHz / 250 W	NT-330	<input type="checkbox"/>	Voltage-divider 1:100	NT-427
<input type="checkbox"/>	500W1000M7 - RF-Amplifier 80 - 1000 MHz / 500 W	NT-332	<input type="checkbox"/>	RF-Attenuator 6 dB	NT-428
<input type="checkbox"/>	AS0102-65R - RF-Amplifier 1 GHz - 2 GHz	NT-333	<input type="checkbox"/>	RF-Attenuator 0 dB - 81 dB	NT-429
<input type="checkbox"/>	APA01 - RF-Amplifier 0,5 GHz - 2,5 GHz	NT-334	<input type="checkbox"/>	WRU 27 - Band blocking 27 MHz	NT-430

Medizintechnik/  
Nachrichtentechnik/EMV

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# Appendix 1 (continued)

## Test equipment used

<input type="checkbox"/>	WHJ450C9 AA - High pass 450 MHz	NT-431	<input type="checkbox"/>	SPS_PHE - Test software voltage fluctuations/harmonics	NT-525	Medizintechnik/ Nachrichtentechnik/EMV
<input type="checkbox"/>	WHJ250C9 AA - High pass 250 MHz	NT-432	<input type="checkbox"/>	SPS_EM - Test software for PHE 4500/B	NT-527	Department: FG
<input type="checkbox"/>	RF-Load 150 W	NT-433	<input type="checkbox"/>	Noise power test apparatus according to EN 55014	NT-530	Test report number: M/FG-02/104
<input type="checkbox"/>	Impedance transducer 50 Ohm – 800 Ohm	NT-435	<input type="checkbox"/>	Vertical coupling plane (ESD)	NT-531	Page: 3 of 3
<input type="checkbox"/>	I+P 7780 Directional coupler 100 - 2000 MHz	NT-440	<input type="checkbox"/>	Equipment for ESD-pulse verification.	NT-532	Date: 12. 3. 2002
<input type="checkbox"/>	ESH3-Z2 - Pulse limiter 9 kHz - 30 MHz	NT-441	<input type="checkbox"/>	TEM-Zelle	NT-533	Checked by: _____
<input type="checkbox"/>	Power Divider 6 dB/1 W/50 Ohm	NT-443	<input type="checkbox"/>	ESV-24 Plotter adapter	NT-540	
<input type="checkbox"/>	Directional coupler 0,1 MHz – 70 MHz	NT-444	<input checked="" type="checkbox"/>	Test cables	NT-550	
<input type="checkbox"/>	Directional coupler 0,1 MHz – 70 MHz	NT-445	<input type="checkbox"/>	Test cable #4 for EN 61000-4-6	NT-553	
<input type="checkbox"/>	Tube imitations according to EN 55015	NT-450	<input type="checkbox"/>	Test cable #3 for conducted emission	NT-554	
<input type="checkbox"/>	FCC-801-M5-25 Coupling decoupling network	NT-460	<input type="checkbox"/>	Test cable #5 ESD-cable (2x470k)	NT-555	
<input type="checkbox"/>	FCC-801-AF10 Coupling decoupling network	NT-461	<input type="checkbox"/>	Test cable #6 ESD-cable (2x470k)	NT-556	
<input type="checkbox"/>	FCC-801-S25 Coupling decoupling network	NT-462	<input type="checkbox"/>	Serial data - fiber optic link	NT-557	
<input type="checkbox"/>	FCC-801-T4 Coupling decoupling network	NT-463	<input type="checkbox"/>	Test cable #8 Sucoflex 104EA	NT-559	
<input type="checkbox"/>	FCC-801-C1 Coupling decoupling network	NT-464	<input type="checkbox"/>	Test cable #9 (for outdoor measurements)	NT-580	
<input type="checkbox"/>	F-16A - Current probe 1kHz - 70MHz	NT-465	<input type="checkbox"/>	Test cable #10 (for outdoor measurements)	NT-581	
<input checked="" type="checkbox"/>	PC P450 - Test computer	NT-500	<input type="checkbox"/>	Test cable #13 PBA-33PBC-10	NT-584	
<input type="checkbox"/>	SE 284 GPIB - Plotter	NT 502	<input type="checkbox"/>	Shield chamber	NT-600	
<input type="checkbox"/>	PC P133 Test computer #2	NT-504	<input type="checkbox"/>	Climatic chamber -55°C to +180°C	M-512	
<input type="checkbox"/>	PC P200 MMX Notebook	NT-505	<input type="checkbox"/>	Control and simulation equipment for EUT	---	
<input type="checkbox"/>	PC PIII 933 MHz Notebook	NT-506				
<input type="checkbox"/>	7110 - Controlling device for E-Field probe	NT-510				
<input type="checkbox"/>	Monitoring camera with Monitor	NT-511				
<input type="checkbox"/>	BSR-V1 - Video transmission system (optical fiber link)	NT-512				
<input type="checkbox"/>	ES-K1 Test software	NT-520				
<input type="checkbox"/>	ESPC-K1 Test software	NT-521				