



EMISSION -- TEST REPORT

Test Report File No. : **T 18002-1-05 NF** Date of issue : Sept. 13, 2001

Type Designation : FAA 2400

Kind of Product : RF Tansceiver Modul (2.4 GHz)

Applicant : Beissbarth GmbH

Manufacturer : PSW Elektronik GmbH

Licence holder : Beissbarth GmbH

Address : Hanauer Straße 101

D-80993 München

Test result accdg. to the regulation(s) at page 3 :

Positive

This test report with attachment consists of **28** pages.

The test result only corresponds to the tested sample. It is not permitted to copy this report, in part or in full, without the permission of the test laboratory.

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TEST REGULATIONS

The tests were performed according to following regulations :

- o - EN 50081-1 / 2.1991
- o - EN 50081-2 / 7.1993

-
- o - EN 55011 / 3.1991

- o - Group 1
- o - class A
- o - Group 2
- o - class B

- o - EN 55014 / 4.1993

- o - Household appliances and similar
- o - tools
- o - Semiconductor devices

- o - EN 55014 / A2:1990
- o - EN 55104 / 5.1995

Category:

- o - EN 55015 / A1:1990
- o - EN 55015 / 12.1993

- o - EN 55022 / 5.1995

- o - class A
- o - class B

- o - prEN 55103-1 / 3.1995
- o - prEN 50121-3-2 / 3.1995
- o - EN 60601-1-2 / 4.1994

- o - VCCI

- o - class 1
- o - class 2

- - Part 15 Subpart C (15.249)
- - Part 15 Subpart C (15.209)

ADDRESS OF THE TEST LABORATORY

- - MIKES BABT PRODUCT SERVICE GmbH
Ohmstrasse 2-4
D - 94342 Strasskirchen

0 - _____

ENVIRONMENTAL CONDITIONS

Temperature: 15-35 ° C

Humidity	45-60 %
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Atmospheric pressure	860-1060 mbar
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POWER SUPPLY SYSTEM UTILIZED

Power supply system	o 230V/50 Hz / 1ϕ	■ 5.0 V DC
	o 400V/50 Hz 3PE	o 400V/50 Hz 3NPE

STATEMENT OF MEASUREMENT UNCERTAINTY

SHORT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EuT)

The DC-operated transceiver modul FAA 2400 is designed for data transmission purposes at the frequency Band 2.400 GHz – 2.4835 GHz.

Number of received/tested samples: 1 / 1

Serial Number: _____ Pre Production Sample

DEFINITIONS FOR SYMBOLS USED IN THIS TEST REPORT

- The black square indicates that the listed condition, standard or equipment is applicable for this report.
- o Blank box indicates that the listed condition, standard or equipment was not applicable for this report.

MEASUREMENT PROTOCOL FOR FCC, VCCI AND AUSTEL

Test Methodology

Conducted and radiated emission testing is performed according to the procedures in International Special Committee on Radio Interference (CISPR) Publication 22 (1993), European Standard EN 55022 and Australian Standard AS 3548 (which are based on CISPR 22).

The Japanese standard, "Voluntary Control Council for Interference (VCCI) by Data Processing Equipment and Electronic Office Machines, Technical Requirements" is technically equivalent to CISPR 22 (1993). For official compliance, a conformance report must be sent to and accepted by the VCCI.

In compliance with FCC Docket 92-152, "Harmonization of Rules for Digital Devices Incorporate International Standards", testing for FCC compliance may be done following the ANSI C63.4-1992 procedures and using the FCC limits or the CISPR 22 Limits.

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. These test systems have a measurement uncertainty of ± 4.5 dB. The equipment comprising the test systems are calibrated on an annual basis.

Justification

The Equipment Under Test (EuT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into its characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

General Standard Information

The test methods used comply with CISPR Publication 22 (1993), EN 55022 (1987) and AS 3548 (1992) - "Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment" and with ANSI C63.4-1992 - "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz."

For detailed description of each measurement please refer to section test results.

DISCOVERY OF WORST CASE MEASUREMENT CONDITION:

The transceiver modul FAA 2400 is designed for data transmission purposes at the frequency band of 2.400 GHz – 2.4835 GHz. In order to operate the modul it is installed on a test board which provides the 5V DC supply and the transmit and receive control signals and also the connection with an antenna.

To find out the worst case conditions for the complete measurement the following tests have been performed:

- Measurement of the radiated fieldstrength of the operating frequency measured in permanent operation mode at the lower and upper edge in the specified frequency band. This measurement have been performed in order to find out the maximum transmitted fieldstrength of the RF Modul.
- Measurement of the radiated spurious emissions measured in permanent operation mode at the lower and upper edge in the specified frequency band. This measurement have been performed in transmit and receive mode in order to find out the maximum spurious emissions of the RF Modul.

Based on this test results, the measurements have been performed completely on the specified frequency band. This test results are documented in the following sections of the testreport.

TEST RESULT

CONDUCTED EMISSIONS - 10/150 kHz - 30 MHz

■ - Test not applicable

Test location :

- o - Shielded room no. 1
- o - Shielded room no. 2
- o - Shielded room no. 3
- o - Shielded room no. 4
- o - Shielded room no. 5
- o - Shielded room no. 6
- o - Shielded room no. 7
- o - Anechoic chamber
- o - Full compact chamber

For test instruments and test accessories used please see attachment B A4

Description of Measurement

The final level, expressed in dB μ V, is arrived at by taking the reading directly from the EMI receiver. This level is compared directly to the FCC Limit or to the CISPR limit, which is equivalent to the Australian AS 3548 limit.

To convert between dB μ V and μ V, the following conversions apply:

$$\text{dB}\mu\text{V} = 20(\log \mu\text{V})$$

$$\mu\text{V} = \text{Inverse log}(\text{dB}\mu\text{V}/20)$$

Conducted emissions on the 50 Hz and/or 60 Hz power interface of the EuT are measured in the frequency range of 150 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection, and a Line Impedance Stabilization Network (LISN), with 50 Ω /50 μ H (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimeter's above the floor and is positioned 40 centimeter's from the vertical ground plane (wall) of the screen room. If the minimum passing margin appears to be less than 20 dB with a peak mode measurement, the emissions are remeasured using a tuned receiver with quasi-peak and average detection and recorded on the data sheets.

Test result:

The requirements are

o - MET

o - NOT MET

Min. limit margin

_____ dB at _____ MHz

Max. limit exceeding

_____ dB at _____ MHz

Remarks: 5V DC supplied RF-modul.

SPURIOUS EMISSION

Spurious emissions from the EuT are measured in the frequency range of 9 kHz to 30 MHz using a tuned receiver and a shielded loop antenna. The antenna was positioned 3, 10 or 30 meters horizontally from the EuT. Measurements have been made in all three orthogonal axes and the shielded loop antenna was rotated to locate the maximum of the emissions.

Spurious emissions from the EuT are measured in the frequency range of 30 MHz to 10 times the highest used frequency using a tuned receiver and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection and measurements above 1000 MHz are made with a 1 MHz/6 dB bandwidth and peak detection, remeasurement of results which may be critical will be repeated in average mode. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimetres above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimetres to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimetres from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna was positioned 3, 10 or 30 meters horizontally from the EuT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarization`s and the EuT are rotated 360 degrees.

SPURIOUS EMISSION (MAGNETIC FIELD) 9 kHz - 30 MHz

■ - Test not applicable

- o - in a shielded room
- o - at a non - reflecting open-site and
- o - in a test distance of 3 meters.
- o - in a test distance of 30 meters.

For test instruments and test accessories used please see attachment B SER1

Description of Measurement

The final level, expressed in dB μ V/m, is arrived at by taking the reading from the EMI receiver (Level dB μ V) and adding the antenna correction factor and cable loss factor (Factor dB) to it. This result then has to be compared with the relevant FCC limit.

The resolution bandwidth during the measurement is as follows:

9 kHz – 150 kHz: ResBW: 200 Hz

150 kHz – 30 MHz: ResBW: 10 kHz

Example:

Frequency (MHz)	Level (dB μ V)	+	Factor (dB)	=	Level (dB μ V/m)	Limit (dB μ V/m)	=	Delta (dB)
1.705	5	+	20	=	25	30	=	5

Testresult in detail:

Frequency [MHz]	L: PK [dBµV]	L: AV [dBµV]	L: QP [dBµV]	Correct. [dB]	L: PK [dBµV/m]	L: AV [dBµV/m]	L: QP [dBµV/m]	Limit [dBµV/m]

The requirements are

o - MET

o - NOT MET

Min. limit margin

_____ dB

_____ MHz

Min. limit margin

_____ dB

_____ MHz

Remarks: _____

SPURIOUS EMISSIONS (electric field) 30 MHz - 1000 MHz

☐ - Test not applicable

Test location :

- ☒ - Open-site 1
- ☐ - Open-site 2
- ☒ - 3 meters
- ☐ - 10 meters
- ☐ - 30 meters

For test instruments and test accessories used please see attachment B SER2

Description of Measurement

The final level, expressed in dB μ V/m, is arrived by taking the reading from the EMI receiver (Level dB μ V) and adding the correction factors and cable loss factor (Factor dB) to it. This is done automatically in the EMI receiver, where the correction factors are stored. This result then has the FCC or CISPR limit subtracted from it to provide the Delta which gives the tabular data as shown in the data sheets at page 24 - 25. The CISPR 22 limit is equivalent to the Australian AS 3548 limit.

Example:

Frequency (MHz)	Level (dB μ V)	+	Factor (dB)	=	Level (dB μ V/m)	Limit (dB μ V/m)	=	Delta (dB)
719	75	+	32.6	=	107.6	110	=	-2.4

Testresult in detail:

Frequency [MHz]	L: PK [dB μ V]	L: AV [dB μ V]	L: QP [dB μ V]	Correct. [dB]	L: PK [dB μ V/m]	L: AV [dB μ V/m]	L: QP [dB μ V/m]	Limit [dB μ V/m]
30-1000							<23	

Test result:

The requirements are

☒ - MET

☐ - NOT MET

Min. limit margin

_____ dB

_____ MHz

Min. limit margin

_____ dB

_____ MHz

Remarks: _____ RF levels not detected in the frequency range 30 MHz – 1000 MHz .

_____ The limits are kept.

SPURIOUS EMISSION 1 GHz - 18 GHz

☐ - Test not applicable

Testlocation :

- ☐ - Open-site 1
 - ☐ - Open-site 2
 - ☒ - Anechoic chamber
 - ☐ - Full compact chamber
-
- ☐ - 1 meters
 - ☒ - 3 meters
 - ☐ - 10 meters

For test instruments and test accessories used please see attachment B SER3

Description of Measurement

The final level, expressed in dB μ V/m, is arrived by taking the reading from the Spectrumalyzer in dB μ V and adding the correction factors of the test setup incl. cables.

Example of the correction value at 1.8 GHz

Level reading at 1.8 GHz	Correction EMCO 3115	correction Amplifier AWT 4534 + cable	Correction factor (summarized)	corrected level
56 dB μ V	+27.3 dB	-41.2 dB	-15.8 dB	42.1 dB μ V/m

Testresult in detail:

Frequency [MHz]	L: PK [dB μ V]	L: AV [dB μ V]	L: QP [dB μ V]	Correct. [dB]	L: PK [dB μ V/m]	L: AV [dB μ V/m]	L: QP [dB μ V/m]	Limit [dB μ V/m]
1769	64.7	54.2		-13.5	51.2	40.7		54.0
2088	64.4	53.5		-11.6	52.8	41.9		54.0
2725	67.8	56.6		-10.2	57.6	46.4		54.0
2857	55.1	44.6		-10.0	45.1	34.6		54.0
3173	51.1	40.8		-9.2	41.9	31.6		54.0
4323	53.3	42.0		1.1	54.4	43.1		54.0
6484	45.0	33.0		4.0	49.0	37.0		54.0
7430	45.4	33.9		6.1	51.5	40.0		54.0
9803	41.4	29.5		8.0	49.4	37.5		54.0

Testresult

The requirements are

☒ - MET

☐ - NOT MET

Min. limit margin

7.6 dB

2725 MHz

Remarks: The limits are kept. RF-levels not detected at frequencies higher than 9803 MHz.

The measurement has been performed up to 25 GHz.

FIELD STRENGTH OF THE FUNDAMENTAL WAVE

☐ - Test not applicable

- ☐ - Open-site 1
- ☐ - Open-site 2
- ☒ - Anechoic chamber
- ☐ - Full compact chamber

- ☒ - 3 meters
- ☐ - 10 meters
- ☐ - 30 meters

For test instruments and test accessories used please see attachment B CPR1

Description of Measurement

The final level, expressed in dB μ V/m, is arrived by taking the reading from the EMI receiver (Level dB μ V) and adding the correction factors and cable loss factor (Factor dB) to it. This is done automatically in the EMI receiver, where the correction factors are stored. This result then has the FCC or CISPR limit subtracted from it to provide the Delta which gives the tabular data as shown in the data sheets at page 24 - 25. The CISPR 22 limit is equivalent to the Australian AS 3548 limit.

Example:

Frequency (MHz)	Level (dB μ V)	+	Factor (dB)	=	Level (dB μ V/m)	-	Limit (dB μ V/m)	=	Delta (dB)
315	45	+	22.5	=	67.5	-	74.3	=	-6.8

Testresult in detail:

Frequency [MHz]	L: PK [dB μ V]	L: AV [dB μ V]	L: QP [dB μ V]	Correct. [dB]	L: PK [dB μ V/m]	L: AV [dB μ V/m]	L: QP [dB μ V/m]	Limit [dB μ V/m]
2406 ¹⁾	104.4	102.7		-10.7	93.7	92.0		94
2478 ²⁾	104.5	104.0		-10.6	93.9	93.4		94
¹⁾ lower ch.								
²⁾ upper ch.								

Testresult

The requirements are

☒ - MET

☐ - NOT MET

Min. limit margin

0.6 dB

2478 MHz

Min. limit margin

_____ dB

_____ MHz

Remarks: The limits are kept.

CONDUCTED POWER OF THE FUNDAMENTAL WAVE MEASURED ON THE ANTENNA TERMINALS

■ - Test not applicable

Testlocation :

- ☐ - Shielded room no. 1
- ☐ - Shielded room no. 2
- ☐ - Shielded room no. 3
- ☐ - Shielded room no. 4
- ☐ - Shielded room no. 5
- ☐ - Shielded room no. 6
- ☐ - Shielded room no. 7
- ☐ - Anechoic chamber
- ☐ - Full compact chamber
- ☐ - Climatic test chamber VLK

For test instruments and test accessories used please see attachment B CPC2

Description of Measurement

The conducted power of the fundamental wave measured on the antenna terminals in a climatic test chamber. The antenna jack was connected to the input of a communication test receiver. The internal batteries have been removed also and a variable DC power supply was used instead. The measurements have been made with the EuT unmodulated. During the test the supply voltage and the temperature were varied and applied simultaneously. The lower supply voltage was given by the manufacturer. In case the equipment was switching off before, the switch off voltage was used instead.

Testresult

The requirements are

o - MET

o - NOT MET

Frequency range of equipment								
Temperature °C	DC supply voltage V	Power dBm	Power dBm	Power dBm	Power dBm	Power dBm	Power dBm	Power dBm
-30								
-20								
-10								
0								
+10								
+20								
+30								
+40								
+50								

Remarks: _____

EQUIPMENT UNDER TEST

Operation - mode of the EuT.:

The equipment under test was operated during the measurement under following conditions:

- ☐ - Standby
- ☐ - Test program (H - Pattern)
- ☐ - Test program (colour bar)
- ☒ - Test program (customer specific)

☒ - RX-Mode

☒ - TX-Mode

Configuration of the equipment under test: see attachment D

Following periphery devices and interface cables were connected during the measurement:

☒ - Peripheral PCB

Type : PSW

☐ -

Type :

☐ -

Type :

☐ -

Type :

☐ -

Type :

☐ -

Type :

☒ - unshielded power cable

☐ - unshielded cables

☐ - shielded cables

MBPS.No.:

☐ - customer specific cables

☐ -

☐ -

SUMMARY

GENERAL REMARKS:

For the transmit mode the RF-modul FAA 2400 was operated and tested at the following frequencies:

- 2406 MHz (lower frequency)
- 2478 MHz (upper frequency)

The unit measurements met also the bandwidth requirements.

FINAL JUDGEMENT:

The requirements according to the technical regulations and tested operation modes are

■ - met.

o - **not** met.

The Equipment Under Test

■ - **Fulfils** the general approval requirements according to page 3.

o - **Does not** fulfil the general approval requirements according to page 3.

Date of receipt of test sample : accdg. to storage record of MBPS

Testing Start Date : June 29, 2001

Testing End Date : July 10, 2001

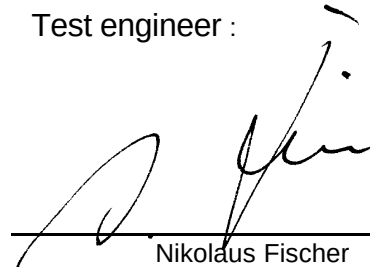
- MIKES BABT PRODUCT SERVICE GmbH -

Test engineer :



i. V.

Günter Mikes
Dipl.Ing.(FH)



Nikolaus Fischer

Attachment : B

List of Test Equipment

All test instruments used, in addition to the test accessories, are calibrated and verified regularly.

Test Report No: T 18002-1-05 NF

Beginning of Testing: 29-Juni-2001

Test ID	Model Type	Kind of Equipment	Manufacturer	Equipment No.
CPR3	Sucoflex 104, SMA	RF-Cable 2 m	Huber+Suhner	04-07/60-97-485
	Sucoflex 104, N	RF-cable 3 m	Huber+Suhner	04-07/60-97-492
	Model 3115	Hornantenna	EMCO Elektronik GmbH	04-07/62-96-458
	AWT-4534	Microwave-Amplifier	TransTech Hochfrequenztechn	04-07/66-90-217
	FSEM 30	Spectrum Analyser	Rohde & Schwarz München	04-07/74-97-001
MB	Sucoflex 104, SMA	RF-Cable 2 m	Huber+Suhner	04-07/60-97-485
	Sucoflex 104, N	RF-cable 3 m	Huber+Suhner	04-07/60-97-492
	Model 3115	Hornantenna	EMCO Elektronik GmbH	04-07/62-96-458
	AWT-4534	Microwave-Amplifier	TransTech Hochfrequenztechn	04-07/66-90-217
	FSEM 30	Spectrum Analyser	Rohde & Schwarz München	04-07/74-97-001
SER2	HCC	Controller Ant.-Mast	Rohde & Schwarz München	04-07/59-97-001
	RG 214 U	Antennacable 2 m	Huber+Suhner	04-07/60-89-463
	HF 7/8 inch	Antennacable 13 m	Huber+Suhner	04-07/60-99-001
	HF 7/8 inch	Antenna cable 20 m	Huber+Suhner	04-07/60-99-002
	HF 7/8 inch	Antenna cable 40 m	Huber+Suhner	04-07/60-99-003
	KR - 200	Coax Antenna Switch	Rosenberger HF-Technik	04-07/60-99-004
	VULB - 9165	Super-Broadband-Anten	Schwarzbeck G.	04-07/62-00-001
	ESVP	Test Receiver	Rohde & Schwarz München	04-07/63-89-008
	ESVP-EZM	Spectrum Monitor	Rohde & Schwarz München	04-07/74-86-016
SER3	Antennenmast	Antenna Mast	Rohde & Schwarz München	04-07/92-97-001
	Sucoflex 104, SMA	RF-Cable 2 m	Huber+Suhner	04-07/60-97-485
	Sucoflex 104, N	RF-cable 3 m	Huber+Suhner	04-07/60-97-492
	Model 3115	Hornantenna	EMCO Elektronik GmbH	04-07/62-96-458
	AWT-4534	Microwave-Amplifier	TransTech Hochfrequenztechn	04-07/66-90-217
	AMF-5B-120180-50-20P	Microwave-Amplifier	TransTech Hochfrequenztechn	04-07/66-94-270
	AMF-4B-040130-25P	Microwave-Amplifier	TransTech Hochfrequenztechn	04-07/66-97-001
	FSEM 30	Spectrum Analyser	Rohde & Schwarz München	04-07/74-97-001



wavelength ahead

Marker 1 [T1]

RBW

1 kHz

RF A

20 dB

Ref. Lvl

107.00 dBμV

VBW

1 MHz

Unit

dBμV

110 dBμV

2.40604559 GHz

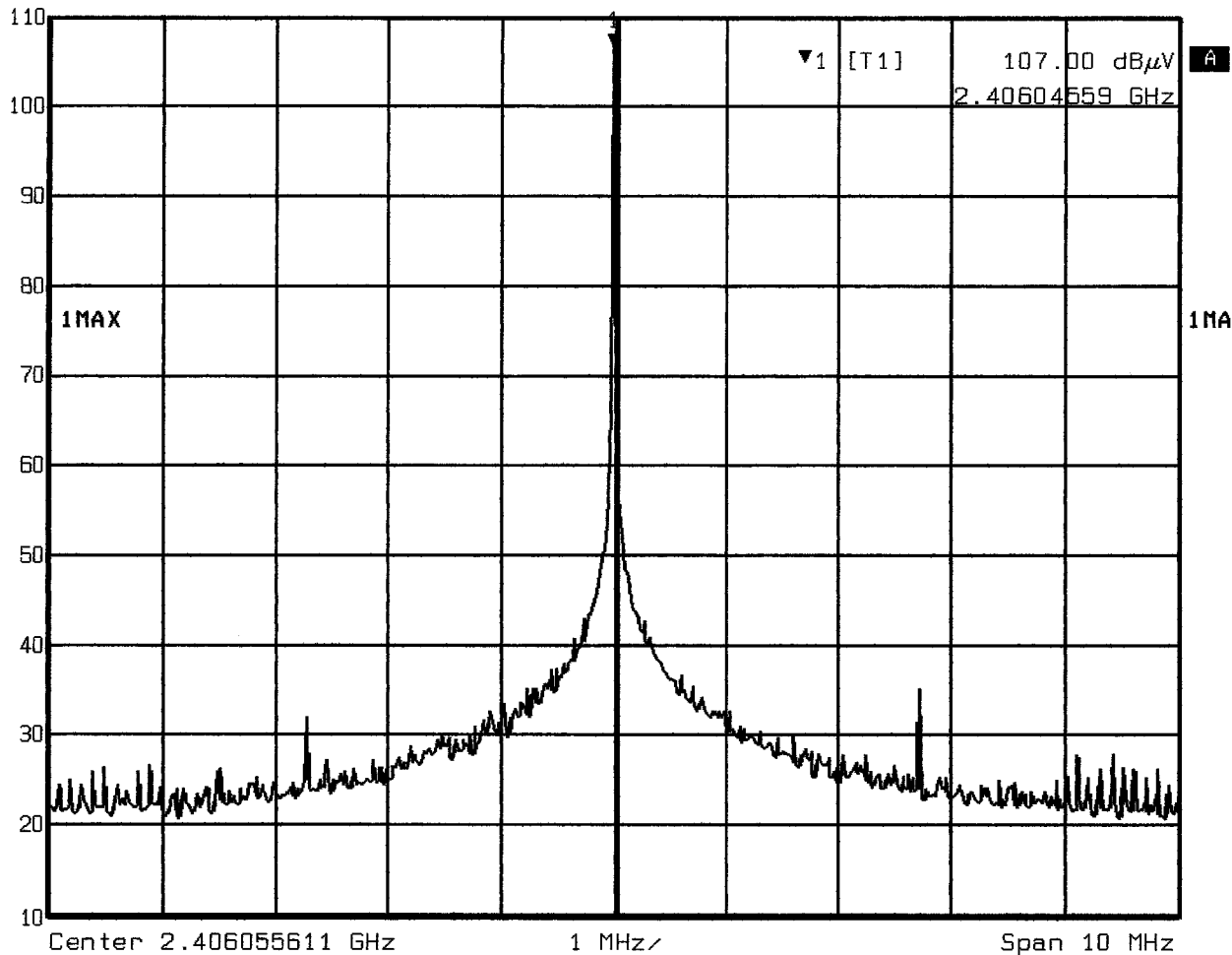
SWT

25 s

Unit

dBμV

mikes B A B T
PRODUCT SERVICE



Date: 10.JUL.2001 11:50:34

			Gerät:	RF-MODUL	Norm:	FCC
Auftragsnr.: 18002104			Modell:	FAA 2400	Unterpunkt:	15.249
Kunde: PSW			Ser.Nr.:		Messung:	BW
Betriebsart: TX-MODE, LOWER FREQUENCY, RBW 1 KHZ						
Nr.	Frequenz (MHz)	Ablesewert (dBm)	Polarisation	Korrekturwert (dB)	Ergebnis (dBm)	Limit (dBm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

FCC ID: PWPFAA2400

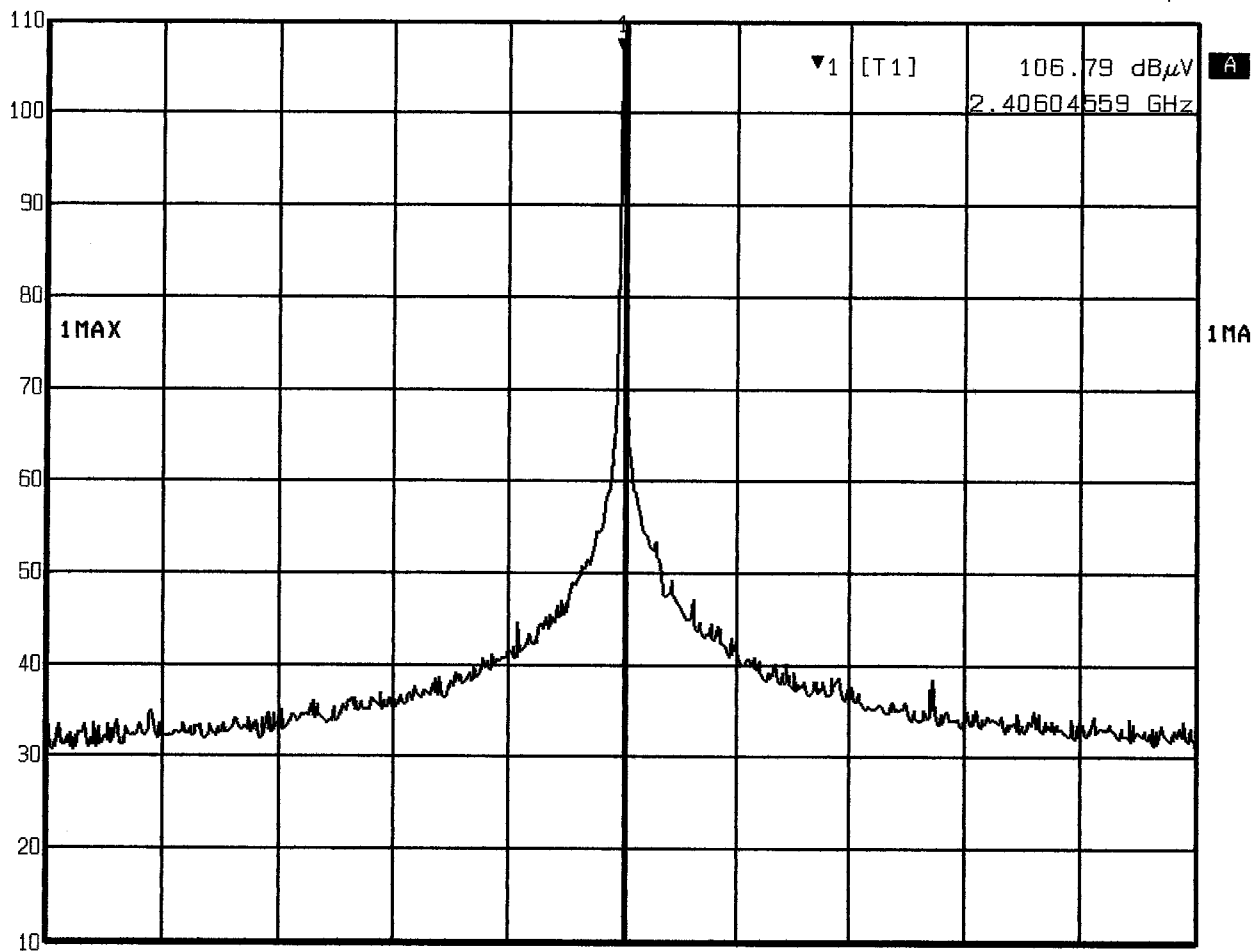
A1 / A8

TX



Marker 1 [T1] RBW 10 kHz RF Att 20 dB
 Ref Lvl 106.79 dB μ V VBW 1 MHz
 110 dB μ V 2.40604559 GHz SWT 250 ms Unit dB μ V

BW



A

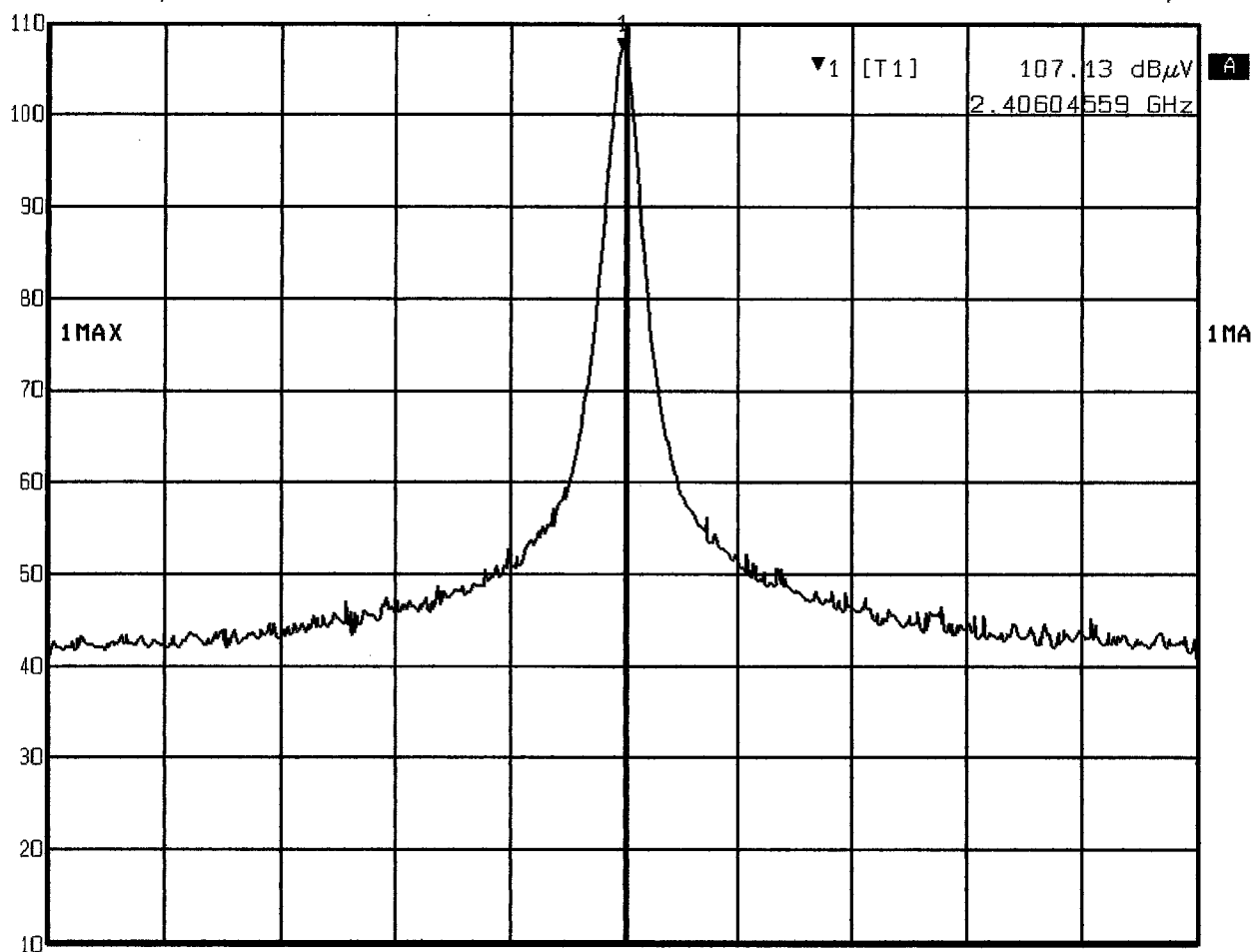
Center 2.406055611 GHz			1 MHz		Span 10 MHz	
Date: 10. JUL. 2001 11:49:14			Gerät: RF-Modul		Norm: FCC	
Auftragsnr.: 78002104			Modell: FAA 2400		Unterpunkt: 15.249	
Kunde: PSCV			Ser.Nr.:		Messung: BW	
Betriebsart: TX-MODE, LOWER FREQUENCY, RBW 10 kHz						
Nr.	Frequenz (MHz)	Ablesewert (dBm)	Polarisation	Korrekturwert (dB)	Ergebnis (dBm)	Limit (dBm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

TX



Marker 1 [T1] RBW 100 kHz RF Att 20 dB
 Ref Lvl 107.13 dB μ V VBW 1 MHz
 110 dB μ V 2.40604559 GHz SWT 5 ms Unit dB μ V

BW



A

Center 2.406055611 GHz		1 MHz		Span 10 MHz		
Date: 10. JUL. 2001 11:48:22		Gerät: RF-MODUL		Norm: FCC		
Auftragsnr.: 18002104		Modell: FAA 2400		Unterpunkt: 15.249		
Kunde: PSW		Ser.Nr.:		Messung: BW		
Betriebsart: TX-MODE, LOWER FREQUENCY, RBW 100kHz						
Nr.	Frequenz (MHz)	Ablesewert (dBm)	Polarisation	Korrekturwert (dB)	Ergebnis (dBm)	Limit (dBm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

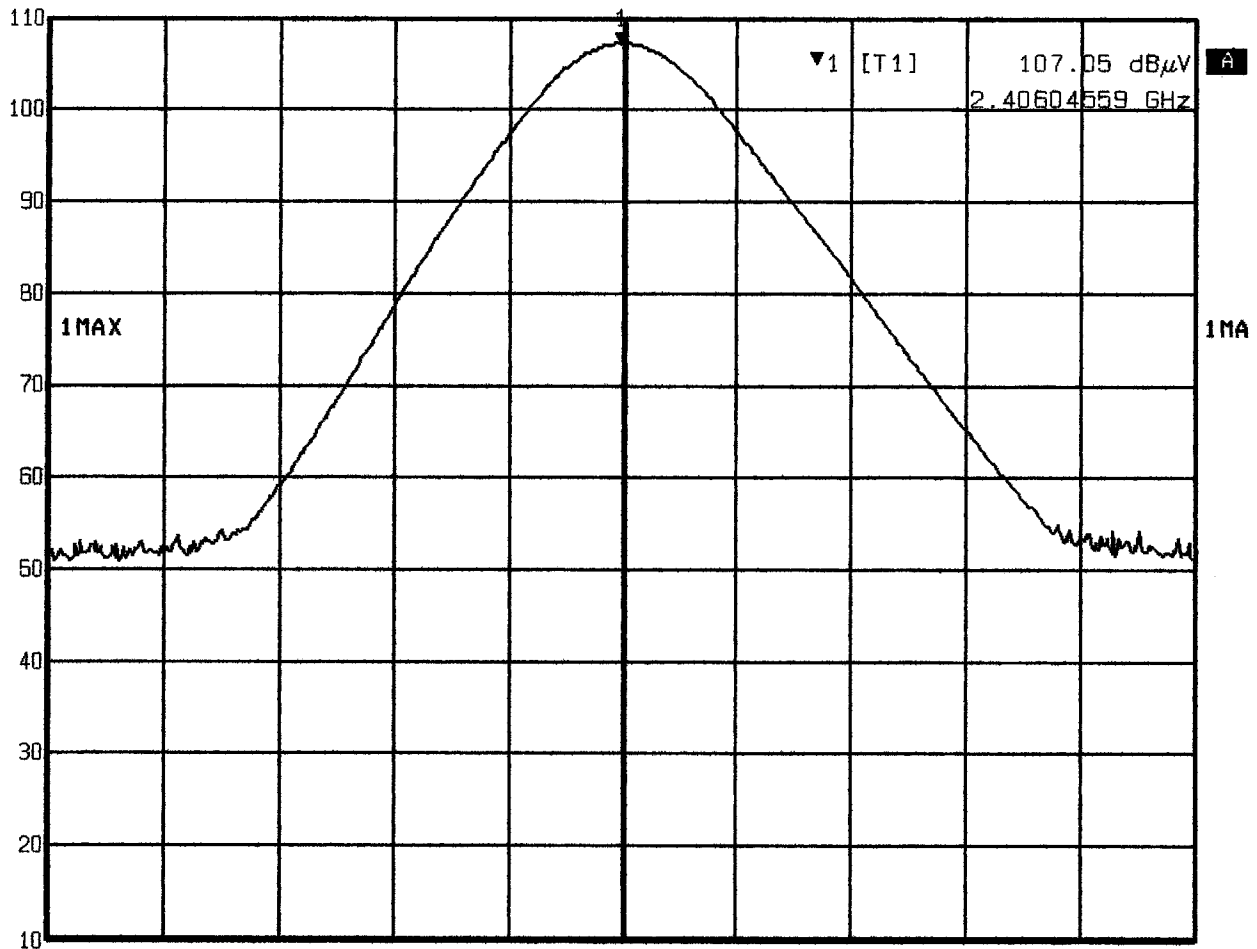
TX



Ref Lvl
110 dB μ V

Marker 1 [T1]
107.05 dB μ V
2.40604559 GHz

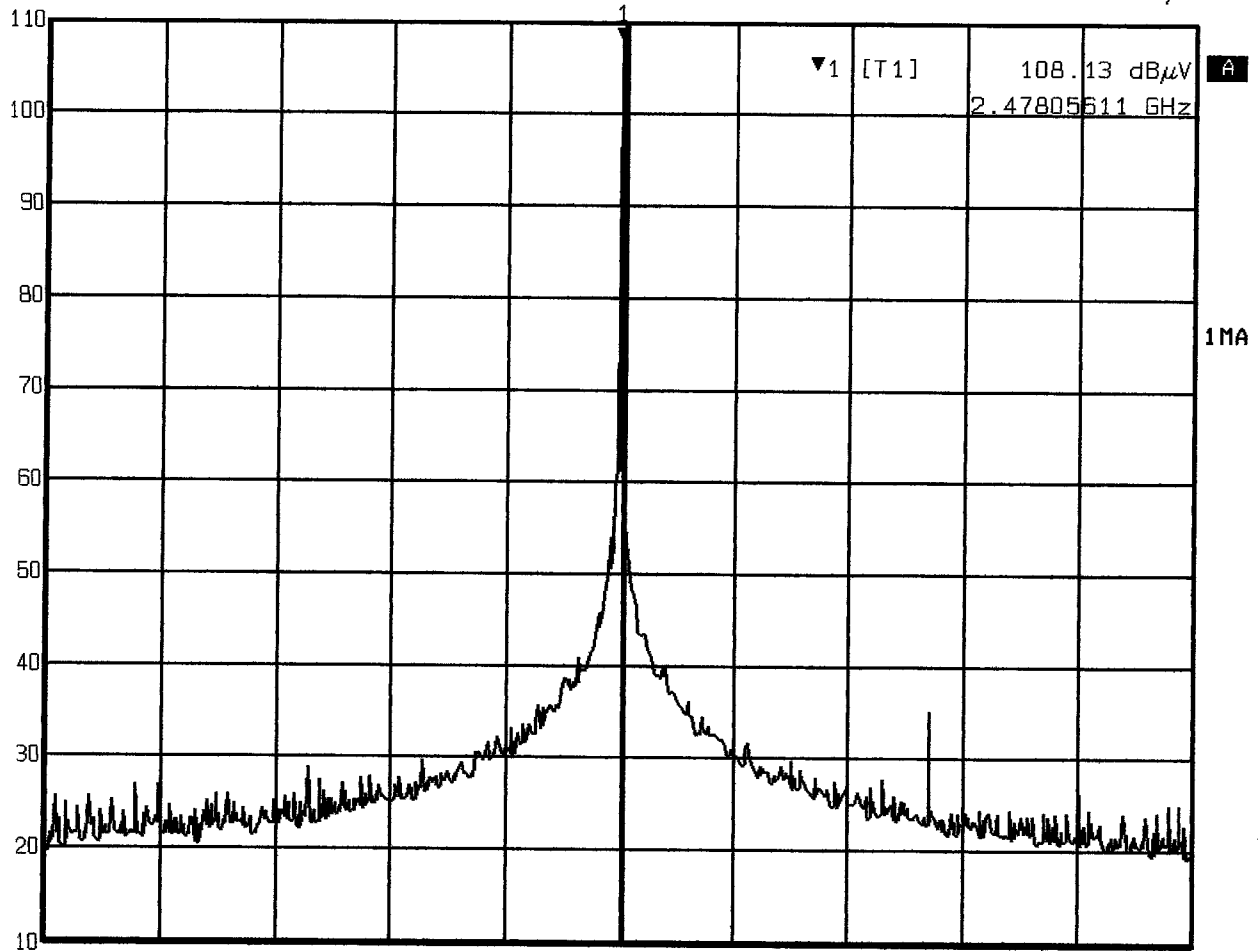
RBW 1 MHz RF Att 20 dB
VBW 1 MHz
SWT 5 ms Unit dB μ V



Center 2.406055611 GHz		1 MHz		Span 10 MHz		
Date: 10. JUL. 2001 11:46:22		Gerät: RF-MODULE		Norm: FCC		
Auftragsnr.: 18002/04		Modell: FAA 24000		Unterpunkt: 15.247		
Kunde: PSN		Ser.Nr.:		Messung: BW		
Betriebsart: TX-MODE, LOWER FREQUENCY, RBW 1 MHz						
Nr.	Frequenz (MHz)	Ablesewert (dBm)	Polarisation	Korrekturwert (dB)	Ergebnis (dBm)	Limit (dBm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

BW


Marker 1 [T1] RBW 1 kHz RF Att 20 dB
 Ref Lvl 108.13 dB μ V VBW 1 MHz
 110 dB μ V 2.47805611 GHz SWT 25 s Unit dB μ V



1MA

A

Center 2.478066132 GHz		1 MHz		Span 10 MHz		
Date: 10. JUL. 2001 12.06.53		Gerät: RF-Modul		Norm: FCC		
Auftragsnr.: 18002104		Modell: FAA2400		Unterpunkt: 15.249		
Kunde: PSEN		Ser.Nr.:		Messung: BW		
Betriebsart: TX-Modul, UPPER FREQUENCY, RBW 1kHz						
Nr.	Frequenz (MHz)	Ablesewert (dBm)	Polarisation	Korrekturwert (dB)	Ergebnis (dBm)	Limit (dBm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

FCC ID: PWPFAA2400

A5 / A8

(TX)



wavelength ahead Marker 1 [T1]

RBW 10 kHz

mikes **BABT**
PRODUCT SERVICE

Ref Lvl

108.49 dB μ V

VBW

1 MHz

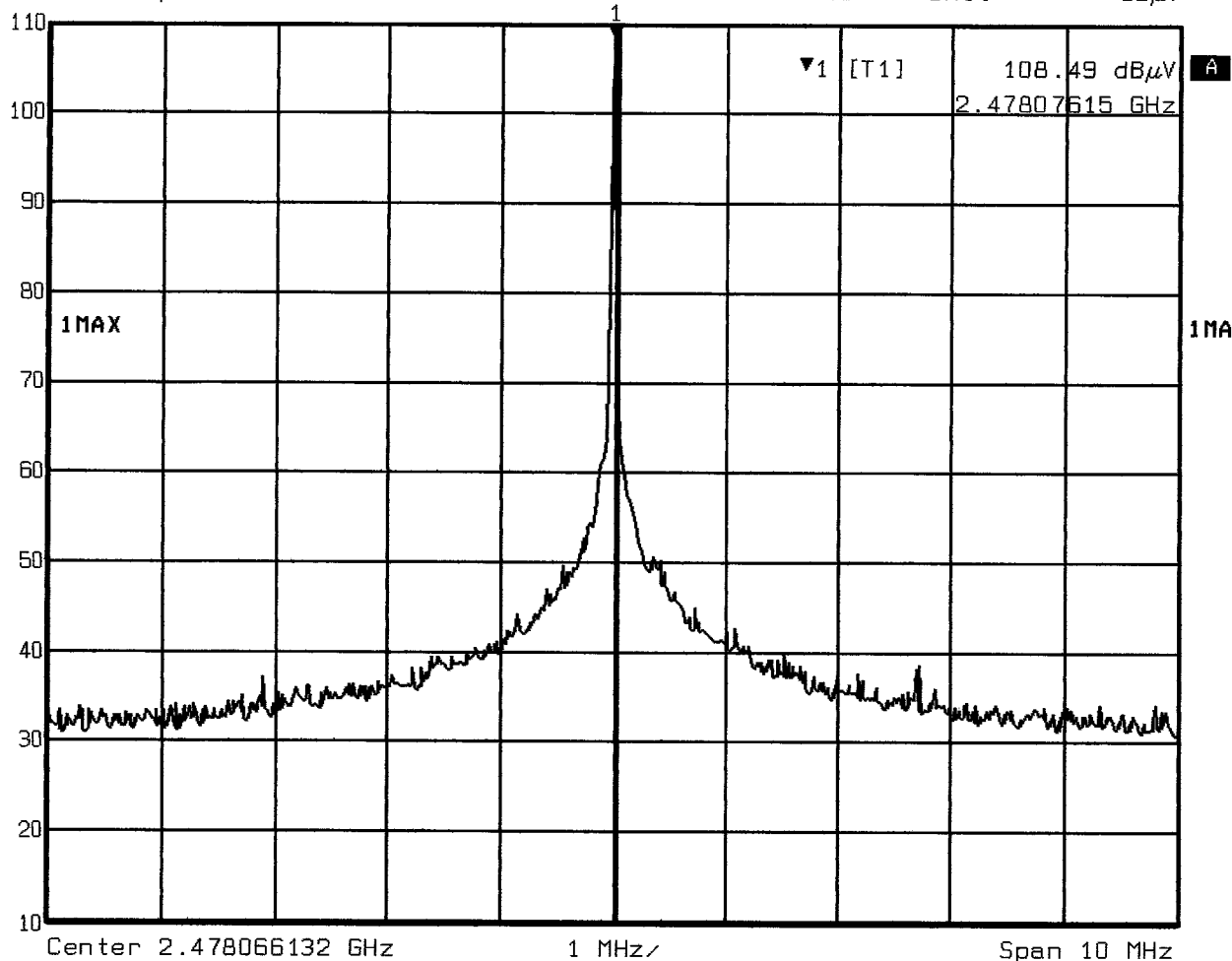
110 dB μ V

2.47807615 GHz

SWT

250 ms

Unit

dB μ V

BW

A

Date: 10. JUL. 2001 12:03:32

			Gerät:	RF-Modul	Norm:	FCC
Auftragsnr.: 78002/04			Modell:	FAA 2400	Unterpunkt:	15.249
Kunde: PSW			Ser.Nr.:		Messung:	BW
Betriebsart: TX-MODE, UPPER FREQUENCY, RBW 10 kHz						
Nr.	Frequenz (MHz)	Ablesewert (dBm)	Polarisation	Korrekturwert (dB)	Ergebnis (dBm)	Limit (dBm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

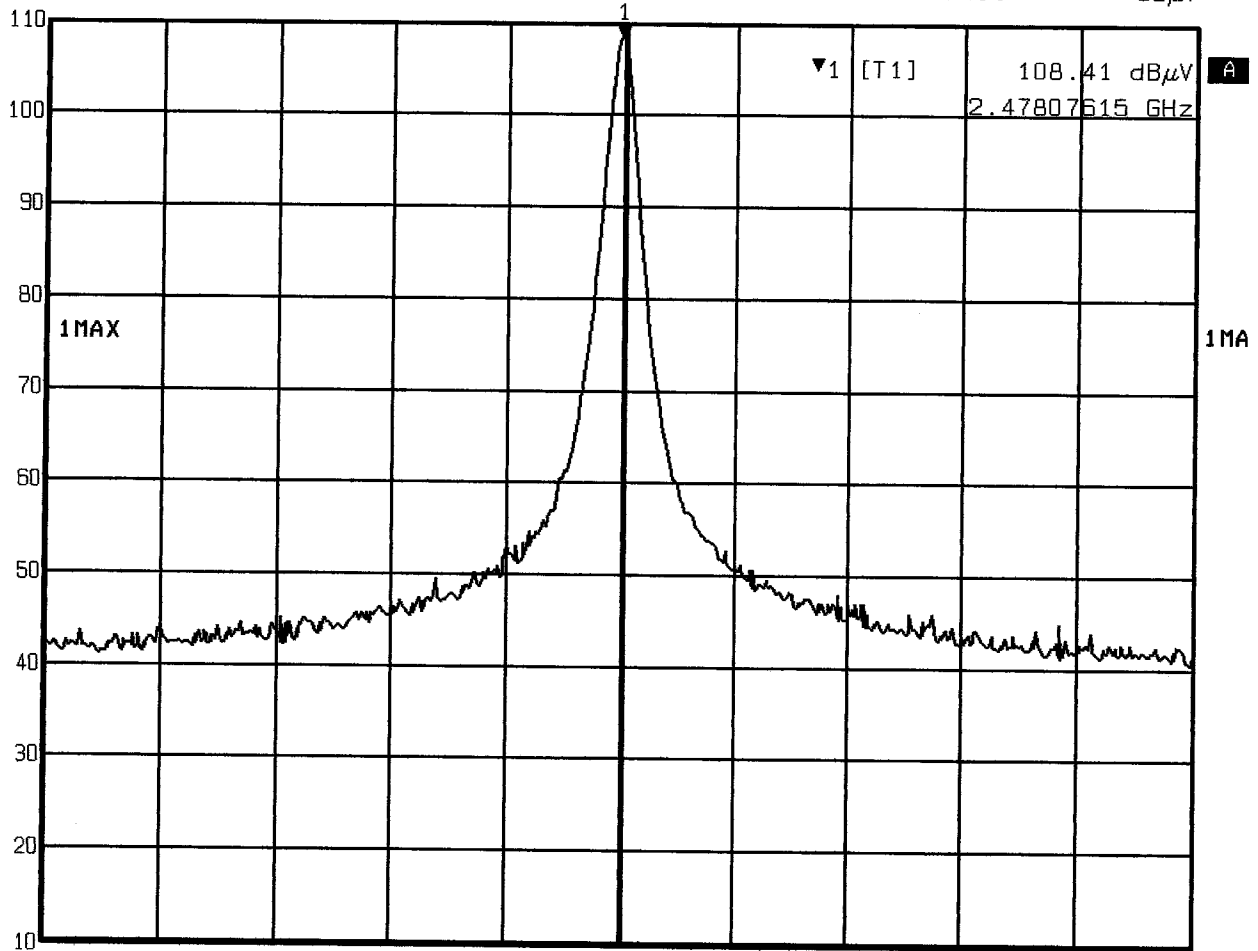
FCC ID: PWPFAA2400

A6 / A8

TX



Marker 1 [T1] RBW 100 kHz RF Att 20 dB
 Ref Lvl 108.41 dB μ V VBW 1 MHz
 110 dB μ V 2.47807615 GHz SWT 5 ms Unit dB μ V



A

Center 2.478066132 GHz		1 MHz		Span 10 MHz		
Date: 10. JUL. 2001 12:01:47		Gerät: RF-MODUL	Norm: FCC			
Auftragsnr.: 18002/04		Modell: FAA 2400	Unterpunkt: 15.249			
Kunde: PSA		Ser.Nr.:	Messung: BW			
Betriebsart: TX-MODE, UPPER FREQUENCY, RBW 100kHz						
Nr.	Frequenz (MHz)	Ablesewert (dBm)	Polarisation	Korrekturwert (dB)	Ergebnis (dBm)	Limit (dBm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

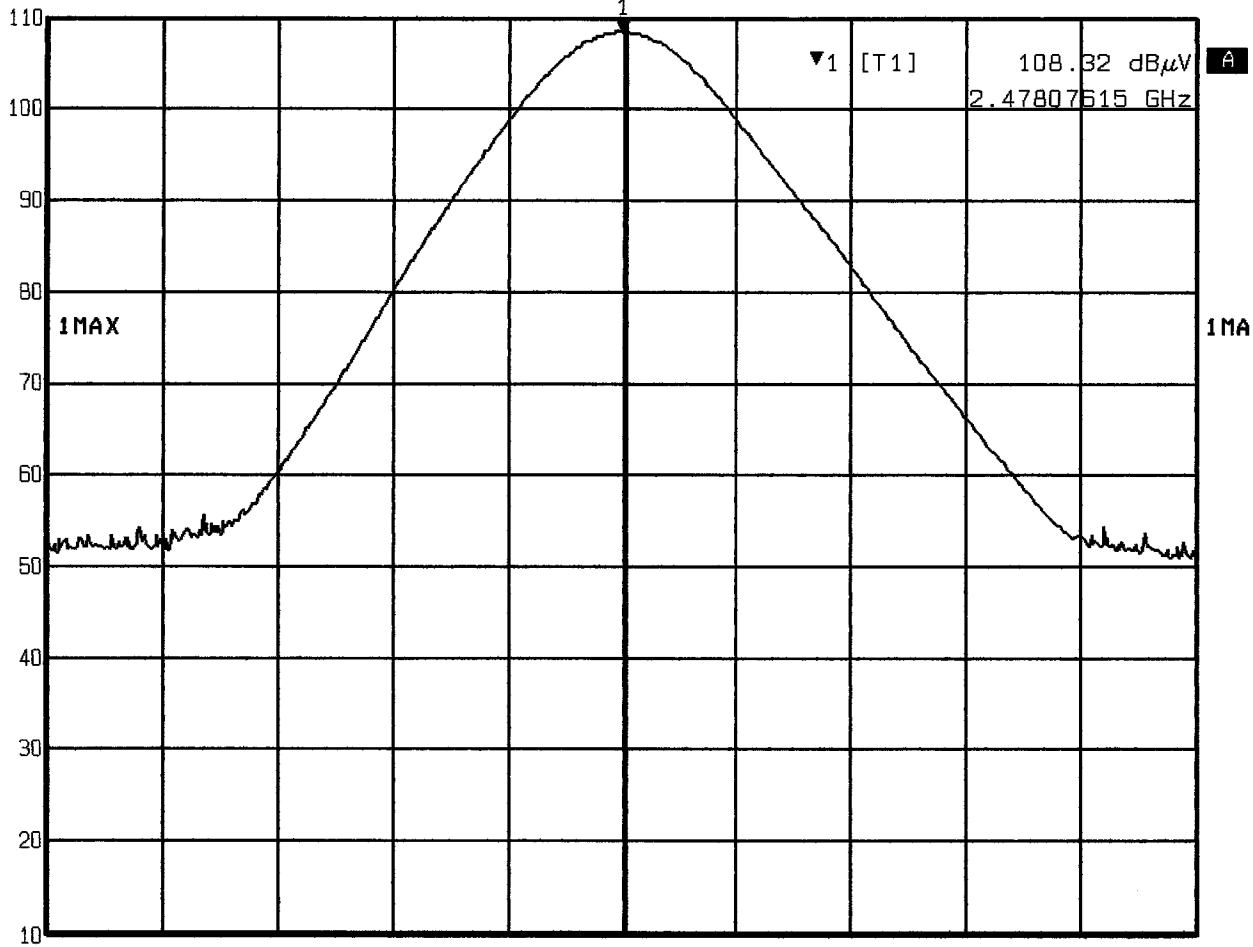
TX

A wavelength ahead



Marker 1 [T1] RBW 1 MHz
Ref Lvl 110 dBμV 108.32 dBμV VBW 1 MHz
2.47807615 GHz SWT 5 ms Unit dBμV

BW



Center 2.478066132 GHz 1 MHz/ Span 10 MHz

A

Date: 10. JUL. 2001 12:00:16

Date: 10. JUL. 2001 12:00:16		Gerät: RF-Modul		Norm: FCC		
Auftragsnr.: 18002104		Modell: FAA 2400		Unterpunkt: 15.249		
Kunde: PSA		Ser.Nr.:		Messung: BW		
Betriebsart: TX-1700E, UPPER FREQUENCY, RBW 1MHz						
Nr.	Frequenz (MHz)	Ablesewert (dBm)	Polarisation	Korrekturwert (dB)	Ergebnis (dBm)	Limit (dBm)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

FCC ID: PWPFAA2400

TX