Measurement of RF Emissions from a Cellular Signal Enhancer, Model No. B8001900-1

For : RES Limited
Elgin, IL

Date Received : May 16, 2005
Dates Tested : May 16 - 27, 2005
Test Personnel : T.Palaniswami, EMC Engineer
Specification : FCC "Code of Federal Regulations" Title 47 Parts 22 and 24

Test Report By :

T. Palaniswami
EMC Engineer

Witnessed By : Edwin Moreno
RES Limited

Approved By :

Raymond J. Klouda
Registered Professional Engineer of Illinois - 44894

Elite Electronic Engineering Inc.
1516 Centre Circle
Downers Grove, IL 60515
Tel : (630) 495-9770
Fax: (630) 495-9785
www.elitetest.com

TABLE OF CONTENTS

PARAGRAPH NO.	DESCRIPTION OF CONTENTS	PAGE
1.0	INTRODUCTION	3
1.1	DESCRIPTION OF TEST ITEM	3
1.2	PURPOSE	3
1.3	DEVIATIONS, ADDITIONS AND EXCLUSIONS	3
1.4	APPLICABLE DOCUMENTS	3
1.5	SUBCONTRACTOR IDENTIFICATION	3
1.6	LABORATORY CONDITIONS	3
2.0	TEST ITEM SETUP AND OPERATION	3
2.1	POWER INPUT	3
2.2	GROUNDING	3
2.3	PERIPHERAL EQUIPMENT	3
2.4	MODULATION	3
2.5	FREQUENCY SELECTION	3
2.6	RF POWER OUTPUT	3
3.0	TEST EQUIPMENT	3
3.1	TEST EQUIPMENT LIST	3
3.2	CALIBRATION TRACEABILITY	3
4.0	REQUIREMENTS, PROCEDURES AND RESULTS	3
4.1	RF POWER OUTPUT MEASUREMENTS	3
4.1.1	REQUIREMENTS	3
4.1.2	PROCEDURES	3
4.1.3	RESULTS	3
4.2	OCCUPIED BANDWIDTH MEASUREMENTS	3
4.2.1	REQUIREMENTS	3
4.2.2	PROCEDURES	3
4.2.3	RESULTS	3
4.3	SPURIOUS EMISSIONS AT ANTENNA TERMINAL	3
4.3.1	REQUIREMENTS	3
4.3.2	PROCEDURES	3
4.3.3	RESULTS	3
4.4	FIELD STRENGTH OF SPURIOUS EMISSIONS	3
4.4.1	PRELIMINARY RADIATED MEASUREMENTS	3
4.4.1.1	REQUIREMENTS	3
4.4.1.2	PROCEDURES	3
4.4.1.3	RESULTS	3

THIS REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ELITE ELECTRONIC ENGINEERING INCORPORATED.

4.4.2 FINAL RADIATED EMISSIONS....3
4.4.2.1 REQUIREMENTS....3
4.4.2.2 PROCEDURES....3
4.4.2.3 RESULTS OF OPEN FIELD RADIATED TEST....3
5.0 CONCLUSION....3
6.0 CERTIFICATION....3
7.0 ENDORSEMENT DISCLAIMER....3
TABLE I - EQUIPMENT LIST....13

THIS REPORT SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF ELITE ELECTRONIC ENGINEERING INCORPORATED.

Measurement of RF Emissions from a Cellular Signal Enhancer, Model No. B8001900-1

1.0 INTRODUCTION:

1.1 DESCRIPTION OF TEST ITEM: During the period of May 17-27, 2005, a series of radio interference measurements were performed on a RES Limited Cellular Signal Enhancer, model B8001900-1, serial number 010003 and 010005, (hereinafter referred to as the test item). The tests were performed for RES Limited of Elgin, IL.

The test item is a single channel Cellular Signal Enhancer that operates in the 800MHz Cellular bands, 824MHz to 849MHz and 869MHz to 894MHz or PCS blocks A through F, 1930 through 1990 and 1850 through 1910. The test item has a rated gain of 50dB.

1.2 PURPOSE: The test series was performed to determine if the test item meets the technical requirements of FCC Part 22 for 800MHz cellular radio and FCC Part 24 for broadband PCS,.

1.3 DEVIATIONS, ADDITIONS AND EXCLUSIONS: There were no deviations, additions to, or exclusions from the test specification during this test series.

1.4 APPLICABLE DOCUMENTS: The following documents of the exact issue designated form part of this document to the extent specified herein:

- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 22, dated 1 October 2004

- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 24, dated 1 October 2004

- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 2, dated 1 October 2004

- ANSI C63.4-2001, "American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"

1.5 SUBCONTRACTOR IDENTIFICATION: This series of tests was performed by Elite Electronic Engineering Incorporated, of Downers Grove, Illinois. The laboratory is accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP Lab Code: 100278-0.

1.6 LABORATORY CONDITIONS: The temperature at the time of the test was 23°C and the relative humidity was 33 %.

2.0 TEST ITEM SETUP AND OPERATION:

2.1 POWER INPUT: The test item obtained 12 VDC through two 1 meter long, unshielded power leads.

2.2 GROUNDING: The test item was not grounded during the tests.

2.3 PERIPHERAL EQUIPMENT: The following peripheral equipment was submitted with the test item:

ITEM	DESCRIPTION
HP Signal Generator	M/N E4432B, S/N US38441686

The output of the signal generator was connected to the test item through a 3 feet long SMA Cable.

2.4 MODULATION: For occupied bandwidth, band edge compliance and antenna conducted emissions data, the test signals were modulated with four different representative types of modulations: (1) Amps (FM) 30kHz modulation, (2) Digital modulation - CDMA 1.23 MHz, (3) Digital modulation - GSM 300 kHz and (4) Digital modulation - TDMA 30 kHz. The modulated input signals were supplied from an HP M/N E4432B Signal Generator.

For radiated emissions data, the test signal was unmodulated.

2.5 FREQUENCY SELECTION: For Part 22 testing, three test frequencies (low, middle and high) were selected for each frequency band. Occupied Bandwidth test was limited to one frequency per band.

For the part 24 testing, the frequencies were selected one channel spacing from the low or high edge of the frequency range edge and a low middle and high for each band.

The specified channel spacing used for each modulation type is shown below:

Modulation	Channel Spacing
AMPS	30kHz
CDMA	1.23MHz
GSM	300kHz
TDMA	30kHz

The specific test frequencies are designated as follows:

Modulation Type	Low Edge Frequency MHz	High Edge Frequency MHz	Low Frequency MHz	Middle Frequency MHz	High Frequency MHz
Downlink Test: Occupied Bandwidth Measurements					
AMPS		894			
CDMA		894			
GSM		894			
TDMA		894			
Downlink Tests: Power Output , Spurious Emissions at Antenna Terminal, Field Strength of Spurious Emissions					
AMPS			869	881.5	894
CDMA			869	881.5	894
GSM			869	881.5	894
TDMA			869	881.5	894
Uplink Test: Occupied Bandwidth Measurements					
AMPS	824				
CDMA	824				
GSM	824				
TDMA	824				
Uplink Test: RF Power Output, Spurious Emissions at Antenna Terminal , Field Strength of Spurious Emissions test					
AMPS			824	836.5	849
CDMA			824	836.5	849
GSM			824	836.5	849
TDMA			824	836.5	849
Downlink Test: RF Power Output, Occupied Bandwidth Measurements, Spurious Emissions at Antenna Terminal					
AMPS	1930.03	1989.97			
CDMA	1931.23	1988.77			
GSM	1930.3	1989.7			
TDMA	1930.03	1989.97			
Downlink Test: RF Power Output, Spurious Emissions at Antenna Terminal (Mid-band only), Field Strength of Spurious Emissions					
AMPS			1935	1955	1985
CDMA			1935	1955	1985
GSM			1935	1955	1985
TDMA			1935	1955	1985
Uplink Test: RF Power Output, Occupied Bandwidth Measurements, Spurious Emissions at Antenna Terminal					
AMPS	1850.03	1909.97			
CDMA	1851.23	1908.77			
GSM	1850.3	1909.7			
TDMA	1850.03	1909.97			
Uplink Test: RF Power Output, Spurious Emissions at Antenna Terminal (Mid-band only), Field Strength of Spurious Emissions					
AMPS			1855	1875	1905
CDMA			1855	1875	1905
GSM			1855	1875	1905
TDMA			1855	1875	1905

2.6 RF POWER OUTPUT: The input levels were adjusted to reach the rated output levels shown below:

Modulation	Rated Power dBm		Rated Power Watts	
	Uplink	Downlink	Uplink	Downlink
Part 22 AMPS	27	15	0.5	0.03
Part 22 CDMA	25	15	0.32	0.03
Part 22 GSM	27	15	0.5	0.03
Part 22 TDMA	27	15	0.5	0.03
Part 24 CDMA	25	15	0.32	0.03
Part 24 GSM	27	15	0.5	0.03
Part 24 TDMA	27	15	0.5	0.03

3.0 TEST EQUIPMENT:

3.1 TEST EQUIPMENT LIST: A list of the test equipment used can be found on Table I. All equipment was calibrated per the instruction manuals supplied by the manufacturer.

3.2 CALIBRATION TRACEABILITY: Test equipment is maintained and calibrated on a regular basis. All calibrations are traceable to the National Institute of Standards and Technology (NIST).

4.0 REQUIREMENTS, PROCEDURES AND RESULTS:

4.1 RF POWER OUTPUT MEASUREMENTS:

4.1.1 REQUIREMENTS: In accordance with paragraph 22.913, the effective radiated power (ERP) level is allowed up to 7 watts for mobile transmitters.

In accordance with paragraph 24.323, mobile/portable stations are limited to 2 Watts e.i.r.p. peak power and the equipment must employ means to limit the power of the minimum necessary for successful communications.

4.1.2 PROCEDURES: The test item was adjusted for the rated gain. The test item was configured to measure the output for the uplink path.

(a) The input signal was set to 824MHz.

(b) The input signal was not modulated.

(c) The spectrum analyzer was connected to the output of the test item through 50 dB of attenuation and the output of the test item was monitored.

(d) The amplitude of the input signal was adjusted until the rated output level was achieved. The output power level was measured and recorded. The input signal level was also recorded.

(e) Steps (b) through (d) were repeated separately for each frequency listed in paragraph 2.5 above.

4.1.3 RESULTS: The output power measurements are presented on pages 14 through 17.

The remainder of the tests series was performed at these power levels. The power output complies with the FCC requirements.

The EIRP limit does not apply to the power output alone, but the combination of the power output and the antenna. Compliance to the power output will be based on the system configuration. Therefore, the EIRP requirement cannot be directly applied to the test item.

4.2 OCCUPIED BANDWIDTH MEASUREMENTS:

4.2.1 REQUIREMENTS:

For AMPS and TDMA modulations, paragraph 22.917(d) states that the mean power of any emission shall be attenuated below the unmodulated carrier power (P) in accordance with the following schedule:

(1) On any frequency removed from the carrier frequency by more than 20 kHz but not more than 45kHz: at least 26 dB.
(2) On any frequency removed from the carrier frequency by more than 45 kHz but not more than 90kHz: at least 45 dB.
(3) On any frequency removed from the carrier frequency by more than 90 kHz; up to the first multiple of the carrier frequency: at least 60 dB or 43 + 10 log P dB, whichever is the lesser attenuation.

For CDMA modulation, in accordance with paragraph 10.5.1.3 of the TIA/EIA/IS-98-A specification, the mean power of any emission shall be attenuated below the unmodulated carrier power (P) in accordance with the following schedule:

(1) For offset frequencies greater than 900kHz from the CDMA Channel center frequency: At least 42dB
(2) For offset frequencies greater than 1.98MHz from the CDMA Channel center frequency: At least 54dB

For GSM modulation, there is no specific emission mask. To determine compliance the output signal must represent the input signal.

In accordance with Paragraph 24.238(a), on any frequency outside the authorized frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P)dB. For a rated power level of 0.5 watts uplink and 0.03 watts downlink, the emissions outside of the emission bandwidth shall be attenuated at least 40dB uplink and 28dB downlink below the transmitter power.

In the 1MHz bands immediately outside and adjacent to the frequency range a resolution of at least one percent of the emission bandwidth shall be used. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency where the emissions are 40dB down for uplink frequencies and 28dB down for downlink frequencies.

4.2.2 PROCEDURES: The test was performed using each of the modulation types listed in paragraph 2.5 (AMPS, CDMA, GSM, TDMA).

(a) The input signal was set separately to each of the frequencies listed in Para 2.5. The input signal level was adjusted to provide the rated level at the test item output. The reference level was recorded.
(b) The input signal was AMPS modulated.
(c) A spectrum analyzer was connected to the output of the test item. With a bandwidth of the spectrum analyzer set to 300 Hz, the output of the test item was measured and recorded.
(d) The input signal from the signal generator was measured with the spectrum analyzer and recorded over the same frequency range.
(e) The modulation was changed to CDMA and steps (c) and (d) were repeated separately with the input signal set to each of the frequencies listed in Para 2.5. The bandwidth of the spectrum analyzer was set to 30kHz.
(f) The modulation was changed to GSM and steps (c) and (d) were repeated separately with the input signal set to each of the frequencies listed in Para 2.5. The bandwidth of the spectrum analyzer was set to 30kHz.
(g) The modulation was changed to TDMA and steps (c) and (d) were repeated separately with the input signal set to each of the frequencies listed in Para 2.5. The bandwidth of the spectrum analyzer was set to 300Hz.

4.2.3 RESULTS: The plots of the occupied bandwidth measured with all modulations listed above in paragraph 2.4 are presented on pages 18 through 77. The limits, shown on the plots, are referenced to the power measured from the unmodulated carrier.

As can be seen from the data, the test item output met the occupied bandwidth requirements with the AMPS, CDMA, GSM and TDMA modulations of the carrier. The sideband emissions measured at the test item output were similar to the sideband emissions measured from the input signals. The test item did not produce any distortion to the modulated input signal.

4.3 SPURIOUS EMISSIONS AT ANTENNA TERMINAL:

4.3.1 REQUIREMENTS: This test determines whether the test item produces excessive spurious emissions.

In accordance with paragraph 22.917(e), on any frequency twice or more than twice the fundamental frequency, the spurious emissions shall be attenuated below the unmodulated carrier power (P) by at least 43 + 10 log (P) dB. This requirement translates to a field strength limit of -13dBm. The peak power of the emissions shall be measured from 30MHz up to the 10th harmonic of the fundamental frequency.

In accordance with Paragraph FCC 24.238, the spurious emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB. FCC requirements apply only to frequencies outside the authorized frequency block. For the uplink frequencies 0.5W, the spurious emissions shall be attenuated by a minimum of 40dB. This requirement translates to a limit of -13dBm. For the downlink frequencies 0.03W, the spurious emissions shall be attenuated by a minimum of 28dB. This requirement translates to a limit of -13dBm. The peak power of the emissions shall be measured at the antenna terminal from 30MHz up to the 10th harmonic of the fundamental frequency.

4.3.2 PROCEDURES: In general, this test will measure spurious emissions at the antenna terminals. The test was performed using each of the modulation types listed in paragraph 2.4 (AMPS, CDMA, GSM, and TDMA).

(a) The input signal was set to each of the frequencies listed in Para 2.5. The input signal level was adjusted to provide the rated level at the test item output.
(b) The input signal was AMPS modulated.
(c) A spectrum analyzer was connected to the output of the test item. The frequency span was adjusted to cover 30MHz up to 1GHz. With a bandwidth of the spectrum analyzer set to 100 kHz, the output of the test item was measured and recorded.
(d) The frequency span was adjusted to cover 1GHz up to 20GHz. With a bandwidth of the spectrum analyzer set to 1MHz, the output of the test item was measured and recorded. This range covers up through the 10th harmonic.
(e) Steps (c) and (d) were repeated with the input signals modulation set to CDMA.
(f) Steps (c) and (d) were repeated with the input signals modulation set to GSM.
(g) Steps (c) and (d) were repeated with the input signals modulation set to TDMA.

4.3.3 RESULTS: The plots of the antenna conducted output measurements are presented on pages 78 through 365. As can be seen from the data, the test item did not produce spurious emissions in excess of the -13dBm limit.

4.4 FIELD STRENGTH OF SPURIOUS EMISSIONS:

4.4.1 PRELIMINARY RADIATED MEASUREMENTS:

4.4.1.1 REQUIREMENTS: Because emission levels in the open field may be masked by interference from sources other than the test item, preliminary radiated measurements are first performed in the low ambient environment of a shielded enclosure. The radiated emissions from the test item were first measured using peak detection. This data was then automatically plotted

4.4.1.2 PROCEDURES: All preliminary tests were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. The walls and ceiling of the shielded chamber are lined with ferrite tiles. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4 2001 for site attenuation.

The shielded enclosure prevents emissions from other sources, such as radio and TV stations from interfering with the measurements. All power lines and signal lines entering the enclosure pass through filters on the enclosure wall. The power line filters prevent extraneous signals from entering the enclosure on these leads.

The test was performed using each of the modulation types listed in paragraph 2.5.

(a) The preliminary measurements were performed with the test item operating separately with the input signal set to each of the frequencies listed in Para 2.5 with the input signal unmodulated. The broadband measuring antennas were positioned at a 3 meter distance from the test item. The frequency range from 30MHz to 18GHz was investigated. The readings were taken with a peak detector function and recorded.

4.4.1.3 RESULTS: The preliminary plots are presented on pages 366 through 389. Factors for the antennas and cables were added to the data before it was plotted.

This data is only presented for a reference, and is not used as official data. All significant radiated emissions were subsequently measured at an open field test site.

4.4.2 FINAL RADIATED EMISSIONS:

4.4.2.1 REQUIREMENTS: In accordance with paragraph 24.238, on any frequency twice or more than twice the fundamental frequency, the emissions shall be attenuated below the transmitter power (P) by at least 43 + 10 log (P) dB. This requirement translates to a minimum attenuation of 40dB for the uplink frequencies and 28dB for the downlink frequencies. The peak power of the emissions shall be measured from 30MHz up to the 10th harmonic of the fundamental frequency.

4.4.2.2 PROCEDURES: Final open field measurements were performed in a 32ft. x 20ft. x 18ft. hybrid ferrite-tile/anechoic absorber lined test chamber. The walls and ceiling of the shielded chamber are lined with ferrite tiles. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4 2001 for site attenuation.
The final open field emission test procedure is as follows:

a) The test item was placed on a 0.8 meter high non-conductive stand at a 3 meter test distance from the receive antenna.
b) The antenna output of the test item was terminated in 50 ohms for the tests.
c) A double ridged waveguide antenna was placed on an adjustable height antenna mast 3 meters from the test item for emission measurements.
d) Detected emissions were maximized at each frequency by rotating the test item and adjusting the receive antenna height and polarization.
e) The maximum meter reading was recorded. Measurement BW was 1 MHz and Video of 3MHz. Peak readings were recorded. No averaging methods or corrections were applied.
f) Measurements were performed with the input signal unmodulated.
g) Measurements were performed separately at each frequency used during the preliminary measurements.

The equivalent power into a dipole antenna was determined from the field intensity levels measured at 3 meters using the substitution method. To determine the emission power another tuned dipole antenna or double ridged waveguide antenna was set in place of the test item and connected to a calibrated signal generator. The output of the signal generator was adjusted to match the received level at the spectrum analyzer. The signal level was recorded. The reading was corrected to compensate for cable loss, as required, and when the ridged waveguide antenna was used increased by the difference in gain between the dipole and the waveguide antenna.

4.4.2.3 RESULTS OF OPEN FIELD RADIATED TEST: The final open field radiated levels are presented on pages 390 through 401. The radiated emissions were measured through the

10th harmonic. All emissions measured from the test item were within the specification limits.

5.0 CONCLUSION:

It was found that the RES Limited, Cellular Signal Enhancer, Model No: B8001900-1, Serial No. 010003 and 010005, complies with the RF Power Output, the Occupied Bandwidth, the Spurious Emissions at Antenna Terminal, and the Field Strength of Spurious Emissions requirements of the 800MHz Cellular band of FCC Part 22 and the Broadband PCS band of FCC Part 24.

6.0 CERTIFICATION:

Elite Electronic Engineering Incorporated certifies that the information contained in this report was obtained under conditions which meet or exceed those specified in the test specification.

The data presented in this test report pertains only to the test item at the test date as operated by RES Limited personnel. Any electrical or mechanical modification made to the test item subsequent to the specified test date will serve to invalidate the data and void this certification.

7.0 ENDORSEMENT DISCLAIMER:

This report must not be used to claim product endorsement by NVLAP or any agency of the US Government.

TABLE I: TEST EQUIPMENT LIST

ELITE ELECTRONIC ENG. INC.

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Cal Inv	Due Date
Equipment Type: ANTENNAS								
NTA0	BILOG ANTENNA	CHASE EMC LTD.	BILOG CBL611	2057	0.03-2GHZ	07/12/04	12	07/12/05
NWI0	RIDGED WAVE GUIDE	AEL	H1498	153	2-18GHZ	09/05/04	12	09/05/05
NWN0	DOUBLE RIDGED GUIDE ANTENN	ETS-LINDGREN	3116	00026778	18 TO 40 GHZ	08/25/04	12	08/25/05
Equipment Type: ATTENUATORS								
T2C9	20DB, 20W ATTENUATOR	NARDA	768-20	19	DC-11GHZ	01/20/05	12	01/20/06
T2D8	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-43	AY9247	DC-18GHZ	05/17/05	12	05/17/06
T2DJ	25W 20DB ATTENUATOR	WEINSCHEL	46-20-34	BS0923	DC-18GHZ	10/09/04	12	10/09/05
Equipment Type: METERS								
MPA0	POWER METER	HEWLETT PACKARD	432A	1141A08696	0.01-40GHZ	06/22/04	12	06/22/05
Equipment Type: RECEIVERS								
RAC2	SPECTRUM ANALYZER	HEWLETT PACKARD	85660B	3638A08770	100HZ-22GHZ	02/09/05	12	02/09/06
RAKI	RF SECTION	HEWLETT PACKARD	85462A	3411A00181	0.009-6500MHZ	02/11/05	12	02/11/06
RAKJ	RF FILTER SECTION	HEWLETT PACKARD	85460A	3330A00154	---	02/11/05	12	02/11/06
RBA0	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESIB26	100145	20HZ-26.5GHZ	09/20/04	12	09/20/05
Equipment Type: SIGNAL GENERATORS								
GBX1	SYNTHESIZED SWEEPER	HEWLETT PACKARD	83630A	3420A00857	10MHZ-26.5GHZ	02/08/05	12	02/08/06

MANUFACTURER : RES Ltd.
MODEL : B8001900-1 Cellular Signal Enhancer
S/N : 010003 and 010005
SPECIFICATION : FCC- 22 RF Power Output
NOTES : All modulations
:

Frequency MHz	Modulation	Rated Power dBm	Rated Power Watts
824	AMPS	27	0.5
824	CDMA	25	0.32
824	GSM	27	0.5
824	TDMA	27	0.5
836.5	AMPS	27	0.5
836.5	CDMA	25	0.32
836.5	GSM	27	0.5
836.5	TDMA	27	0.5
849	AMPS	27	0.5
849	CDMA	25	0.32
849	GSM	27	0.5
849	TDMA	27	0.5

MANUFACTURER : RES Ltd.
MODEL : B8001900-1 Cellular Signal Enhancer
S/N : 010003 and 010005
SPECIFICATION : FCC- 22 RF Power Output
NOTES : All modulations
:

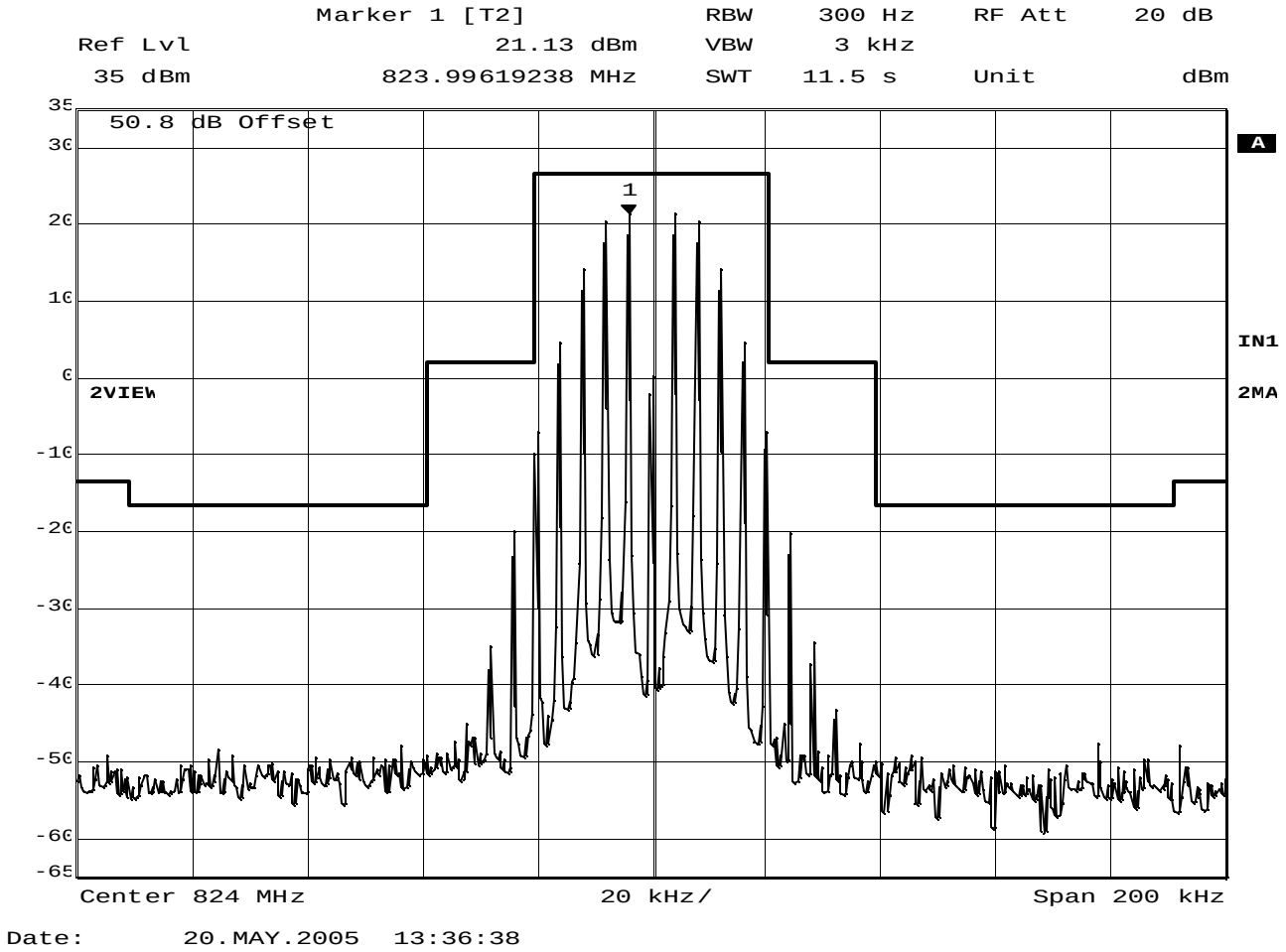
Frequency MHz	Modulation	Rated Power dBm	Rated Power Watts
869	AMPS	15	0.03
869	CDMA	15	0.03
869	GSM	15	0.03
869	TDMA	15	0.03
881.5	AMPS	15	0.03
881.5	CDMA	15	0.03
881.5	GSM	15	0.03
881.5	TDMA	15	0.03
894	AMPS	15	0.03
894	CDMA	15	0.03
894	GSM	15	0.03
894	TDMA	15	0.03

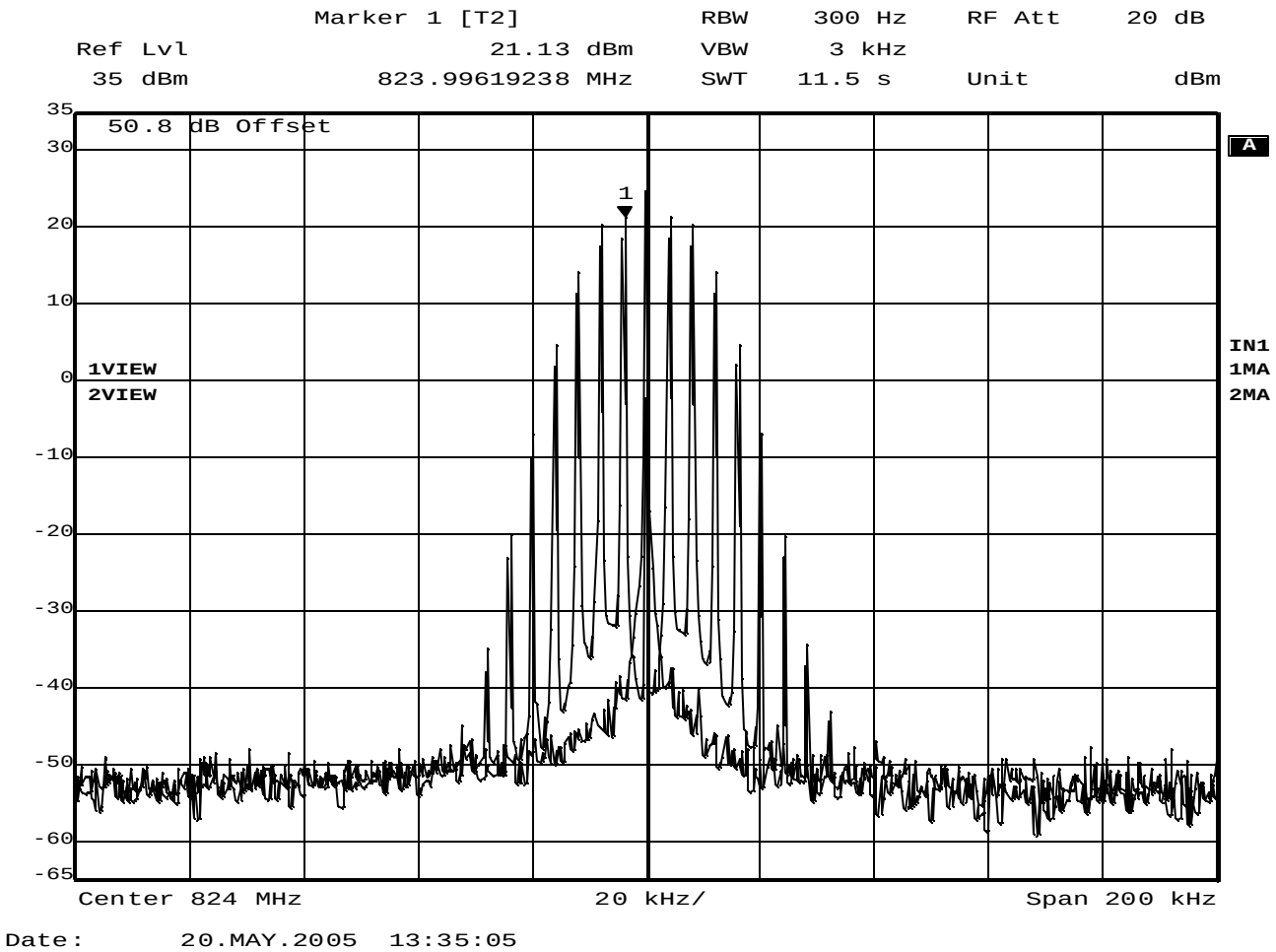
MANUFACTURER : RES Limited
MODEL : B8001900-1
S/N : 010003 and 010005
SPECIFICATION : FCC- 24 RF Power Output
NOTES : CDMA Modulation
:

Frequency		Modulation	Rated Power dBm		Rated Power Watts	
Block Edges	Low, Middle, High		Uplink	Downlin k	Uplink	Downlink
1851.23	---	CDMA	25	---	0.3	---
1908.77	---	CDMA	25	---	0.3	---
---	1855.00	CDMA	25	---	0.3	---
---	1875.00	CDMA	25	---	0.3	---
---	1905.00	CDMA	25	---	0.3	---
1931.23	---	CDMA	---	15	---	0.03
1988.77	---	CDMA	---	15	---	0.03
---	1935.00	CDMA	---	15	---	0.03
---	1955.00	CDMA	---	15	---	0.03
---	1985.00	CDMA	---	15	---	0.03

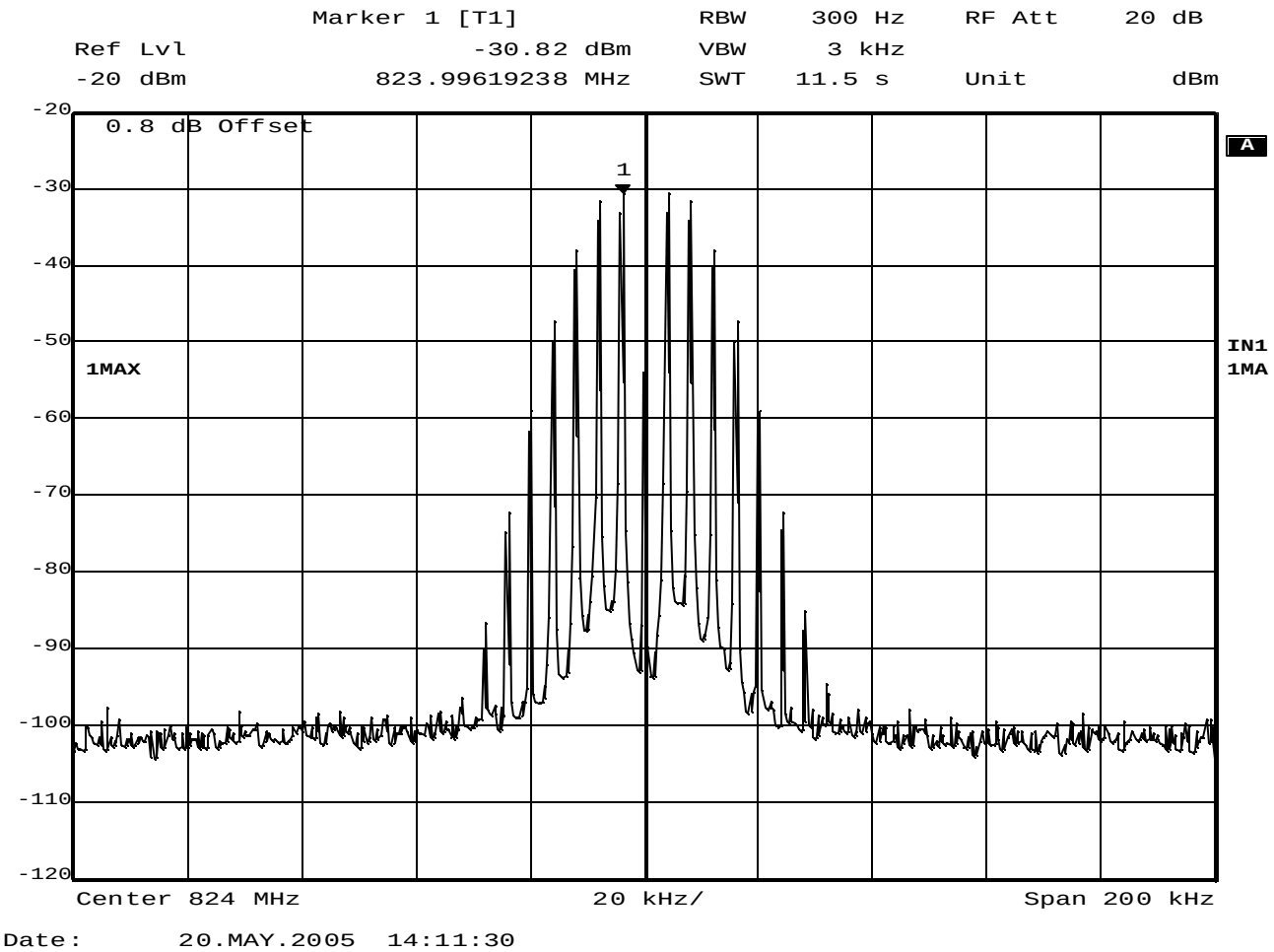
MANUFACTURER : RES Limited
MODEL : B8001900-1
S/N : 010003 and 010005
SPECIFICATION : FCC- 24 RF Power Output
NOTES : GSM & TDMA Modulations
:

Frequency		Modulation	Rated Power dBm		Rated Power Watts	
Block Edges	Low, Middle, High		Uplink	Downlink	Uplink	Downlink
1850.30	---	GSM	27	---	0.5	---
1909.70	---	GSM	27	---	0.5	---
---	1855.00	GSM	27	---	0.5	---
---	1875.00	GSM	27	---	0.5	---
---	1905.00	GSM	27	---	0.5	---
1930.30	---	GSM	---	15	---	0.03
1989.70	---	GSM	---	15	---	0.03
---	1935.00	GSM	---	15	---	0.03
---	1955.00	GSM	---	15	---	0.03
---	1985.00	GSM	---	15	---	0.03
1850.03	---	TDMA	27	---	0.5	---
1909.97	---	TDMA	27	---	0.5	---
---	1855.00	TDMA	27	---	0.5	---
---	1875.00	TDMA	27	---	0.5	---
---	1905.00	TDMA	27	---	0.5	---
1930.03	---	TDMA	---	15	---	0.03
1989.97	---	TDMA	---	15	---	0.03
---	1935.00	TDMA	---	15	---	0.03
---	1955.00	TDMA	---	15	---	0.03
---	1985.00	TDMA	---	15	---	0.03

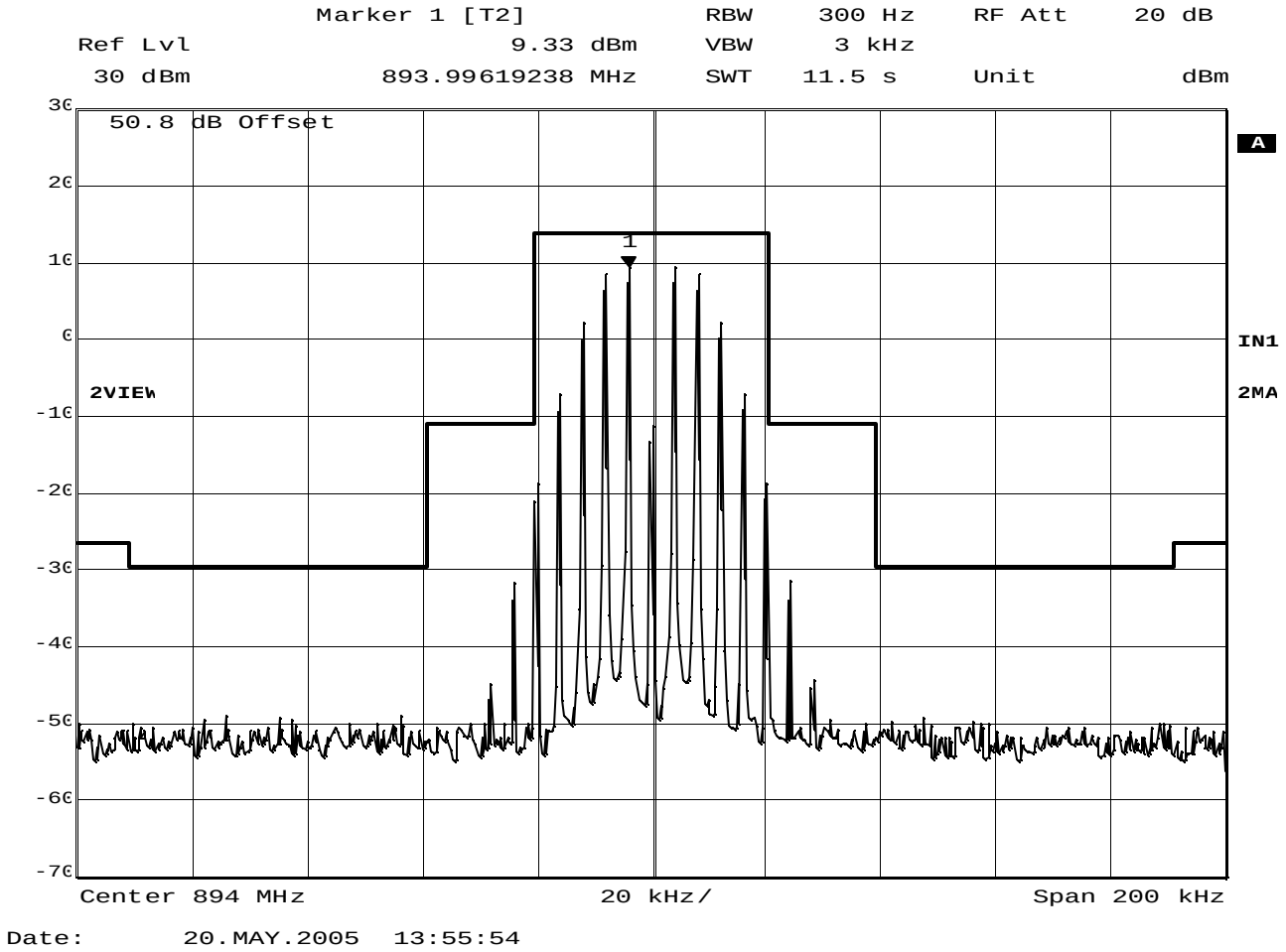

Marker 1 [T2]
RBW 300 Hz
RF Att 20 dB
Ref Lvl
21.13 dBm
VBW 3 kHz
35 dBm
823.99619238 MHz
SWT 11.5 s
Unit dBm
50.8 dB Offset
A
IN1
2MA
2VIEW
Center 824 MHz
20 kHz/
Span 200 kHz
Date: 20.MAY.2005 13:36:38



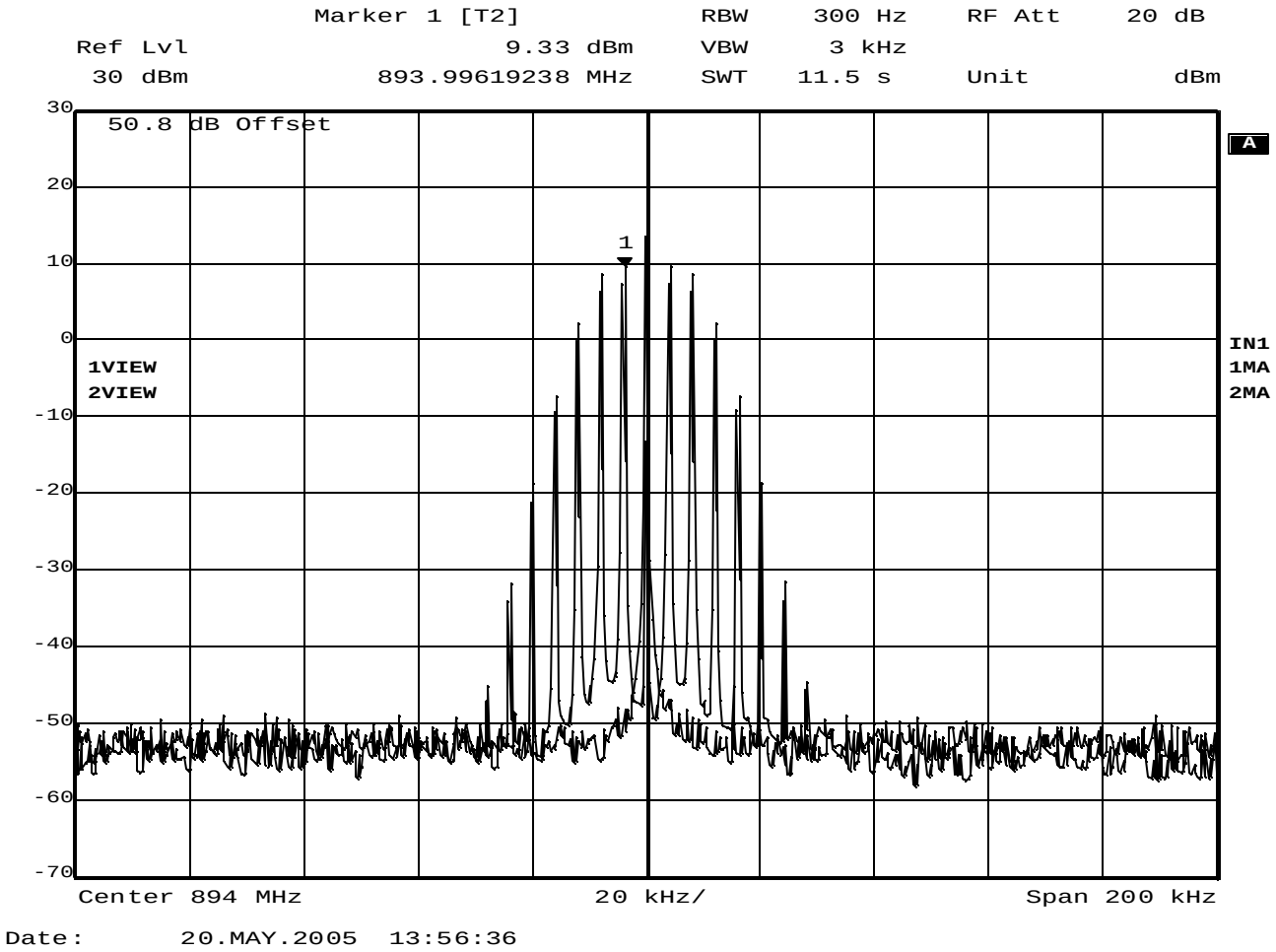
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz AMPS
Date	:	May 20, 2005
Notes	:	Output CW Vs Mod (50dB External Pads)



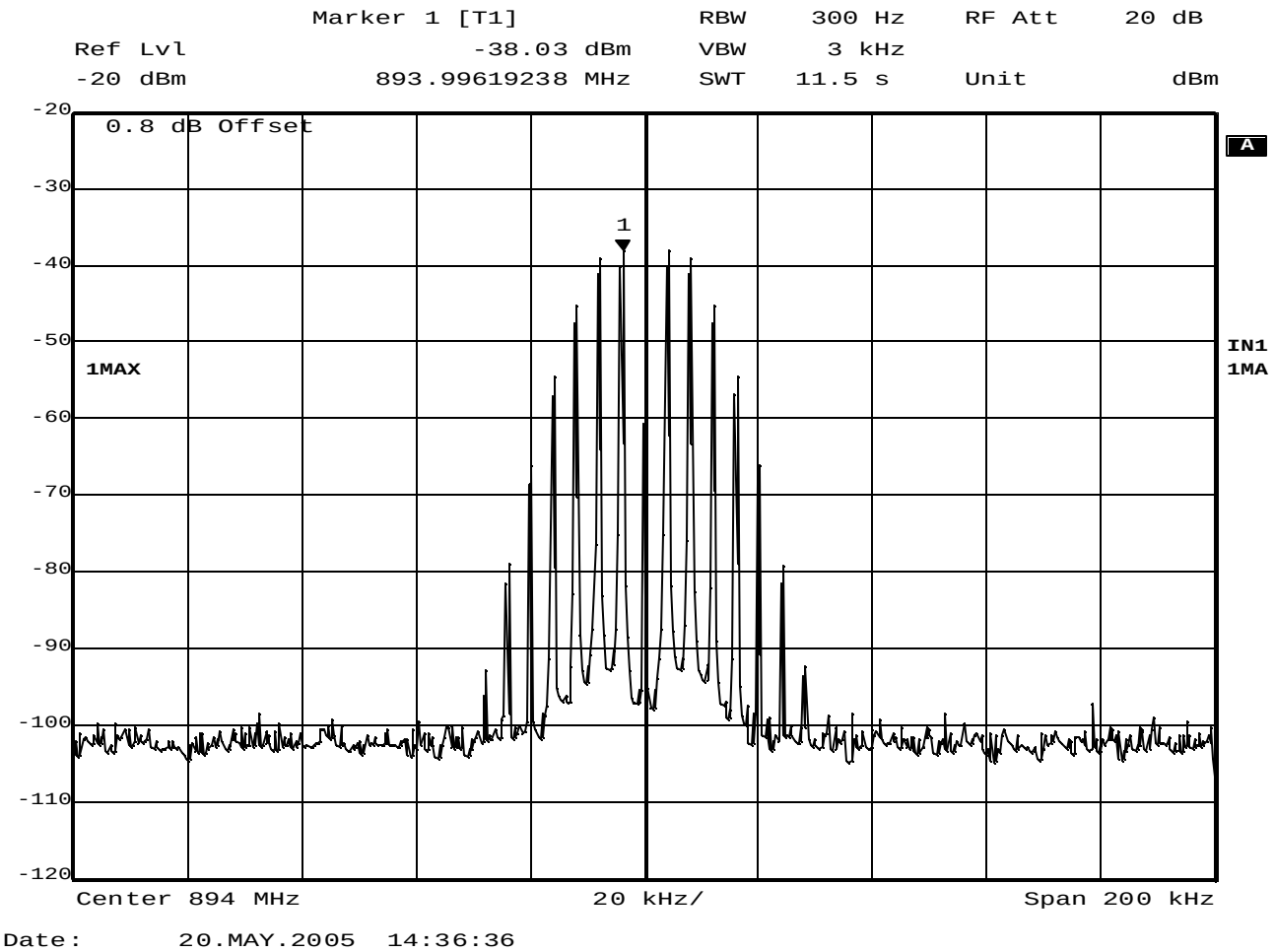
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz AMPS
Date	:	May 20, 2005
Notes	:	Input



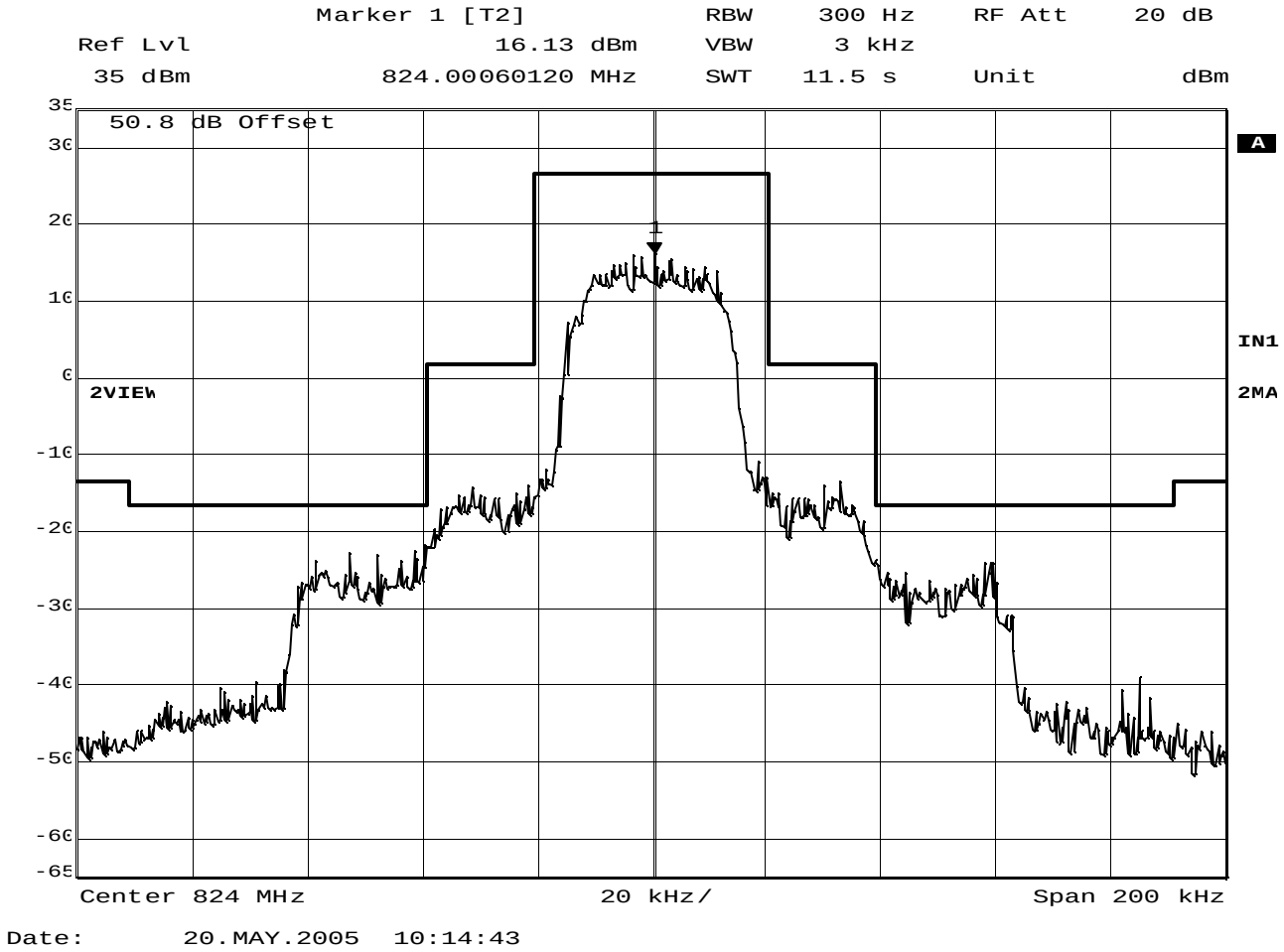
0 DQXIDFWLHU 5) (QJLQHHULQJ 6RCXWRQV/ WG
0 RGHO1 R % &HOOXODU6LJQDO(QKDQFHU
6HULDO1 R
7HVW) && 2 FFXSLHG%DQGZLGWK
7HVWRGH 7[# 0 +] $0 36
' DWH 0 D
1 RWHV 2 XWSXW G%([WHUQD3DGV



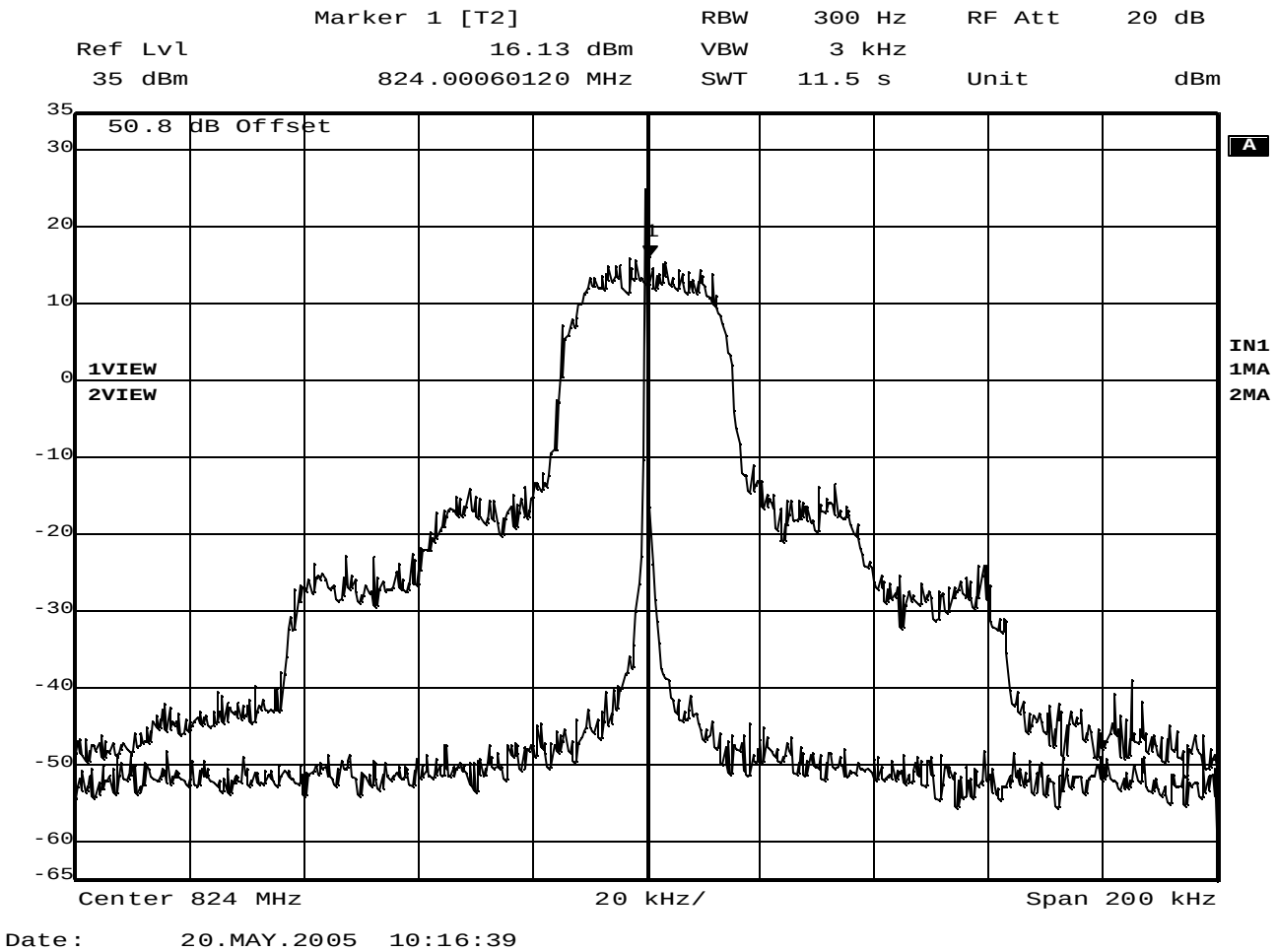
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz AMPS
Date	:	May 20, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



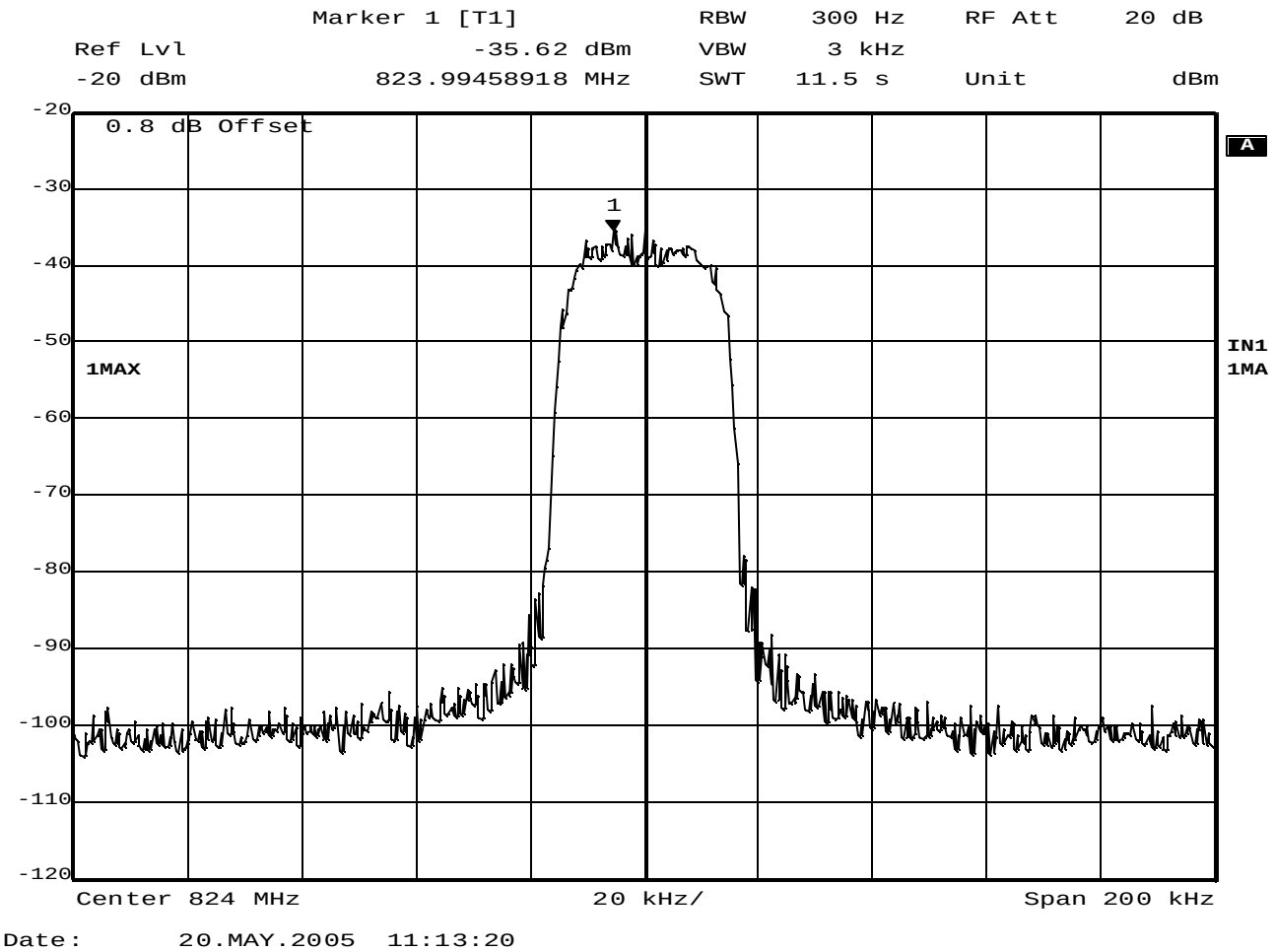
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz AMPS
Date	:	May 20, 2005
Notes	:	Input



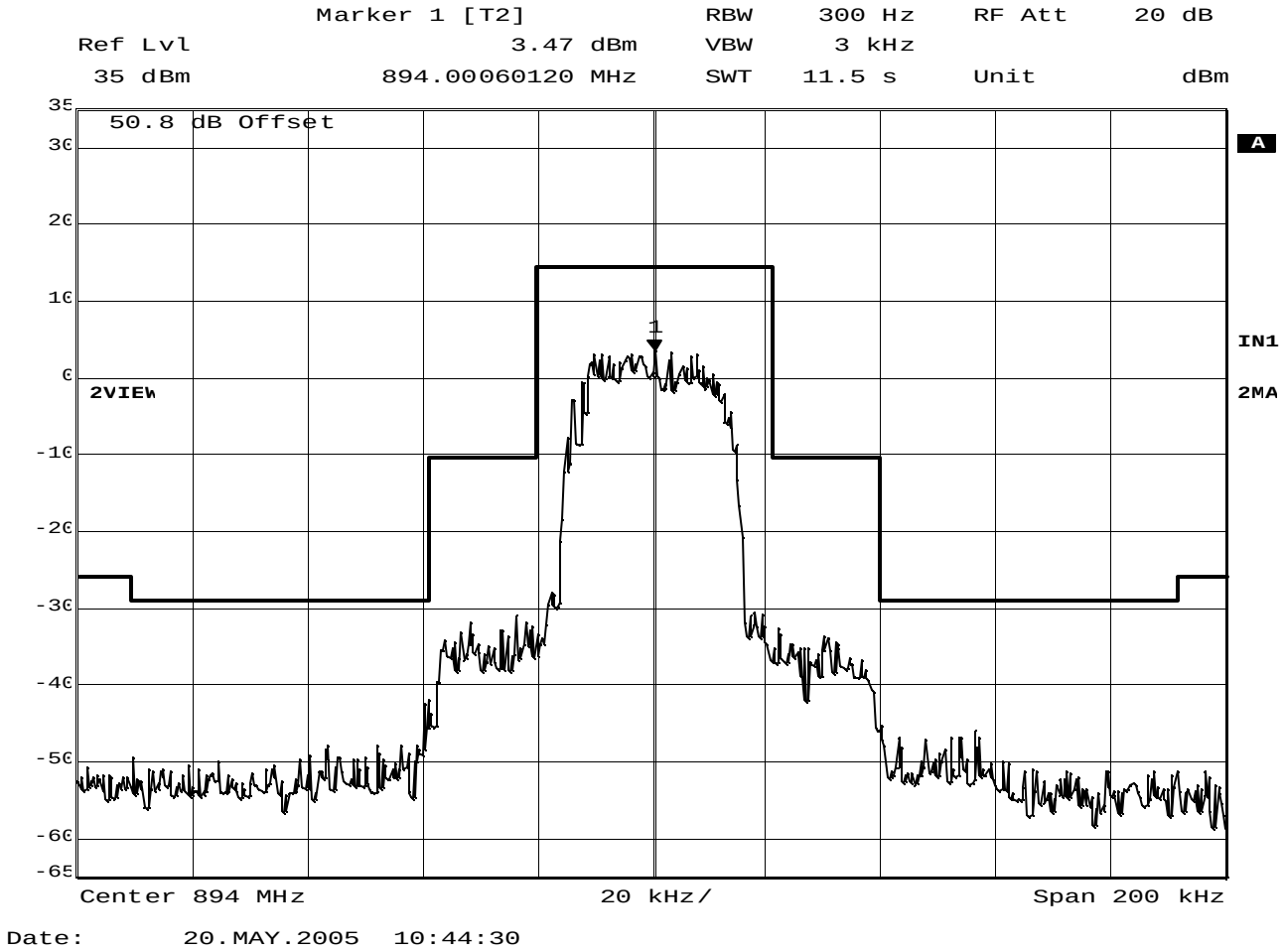
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz TDMA
Date	:	May 20, 2005
Notes	:	Output (50dB External Pads)



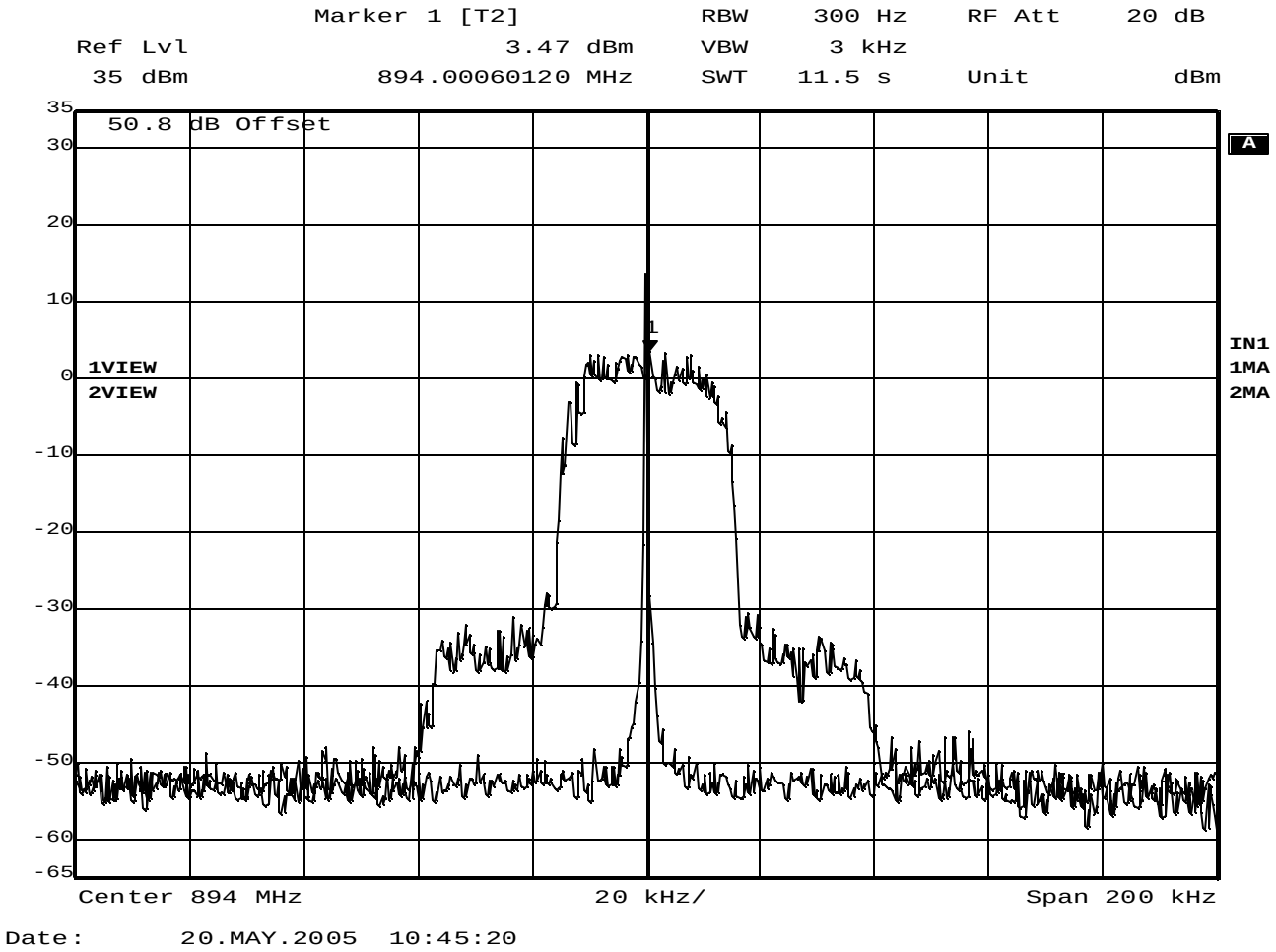
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz TDMA
Date	:	May 20, 2005
Notes	:	Output CW Vs Mod (50dB External Pads)



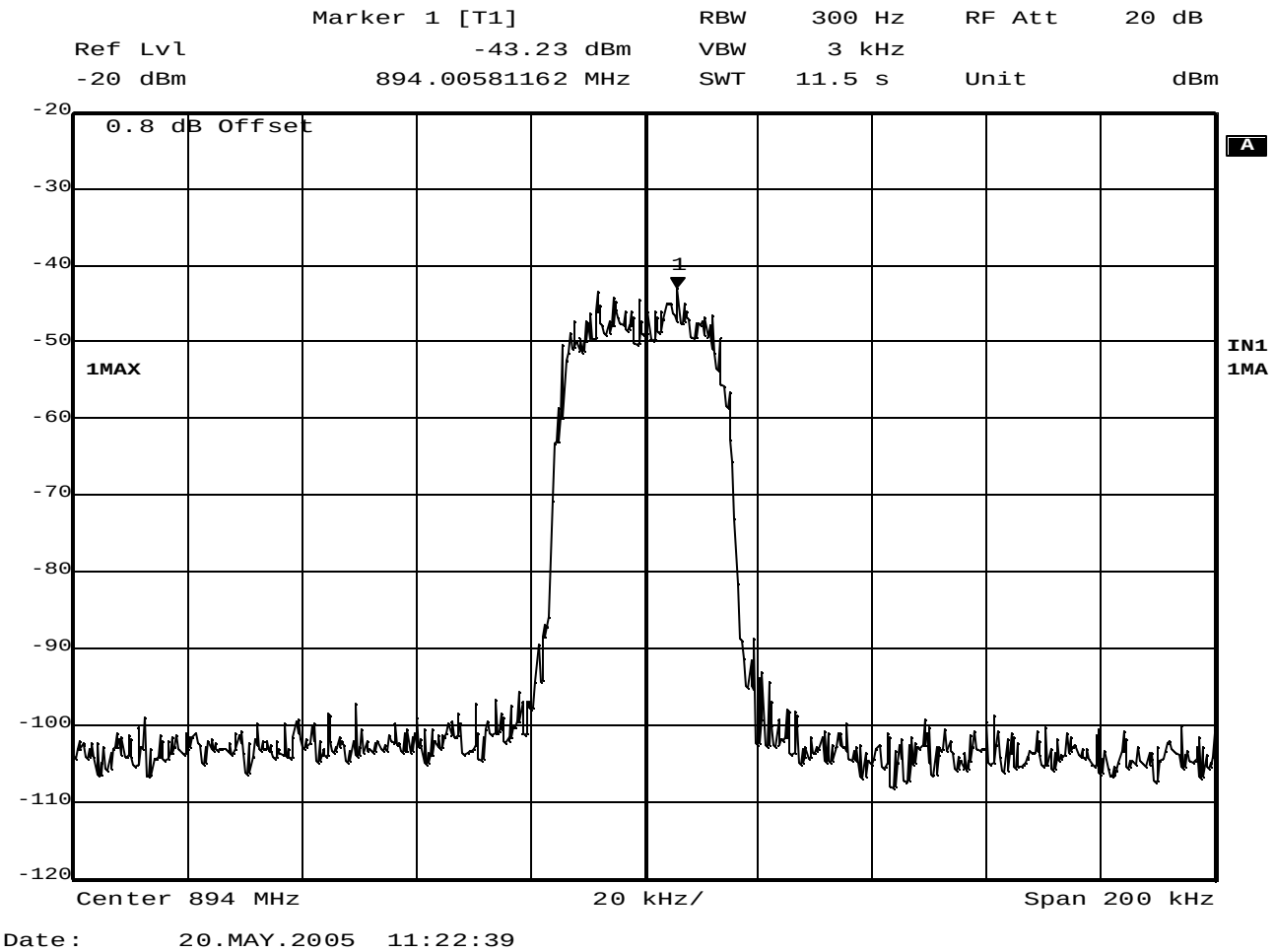
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz TDMA
Date	:	May 20, 2005
Notes	:	Input



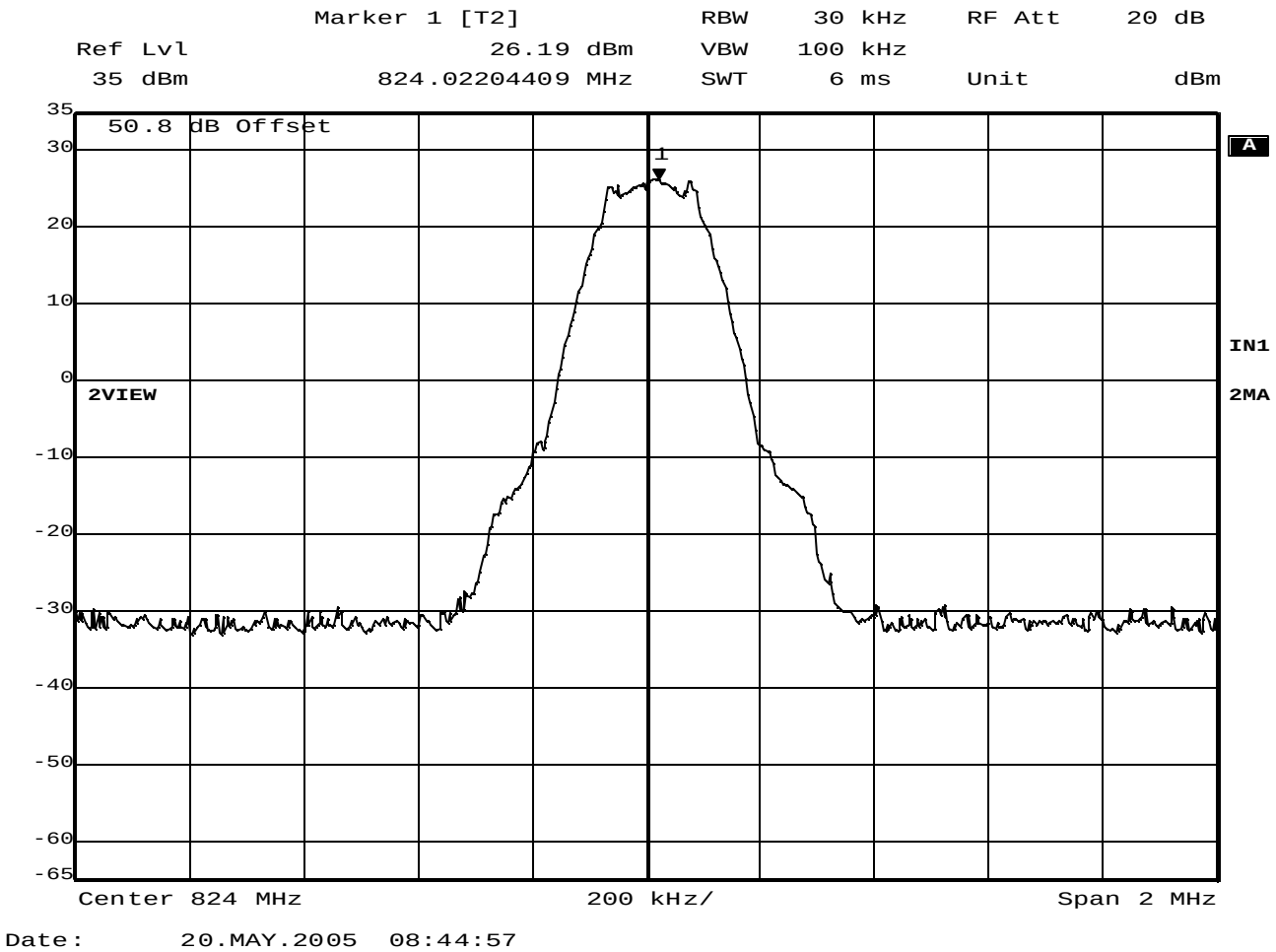
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz TDMA
Date	:	May 20, 2005
Notes	:	Output (50dB External Pads)



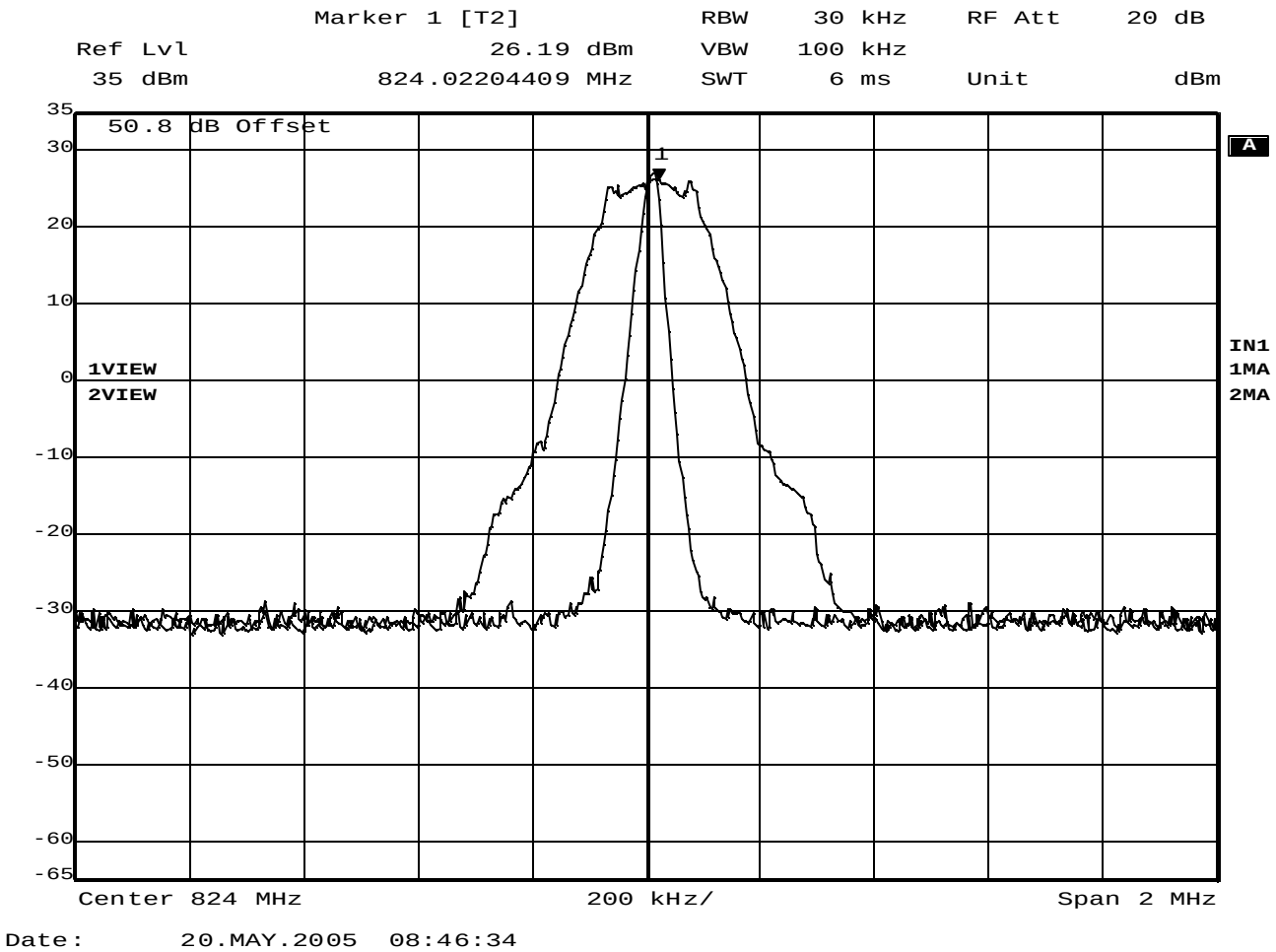
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz TDMA
Date	:	May 20, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



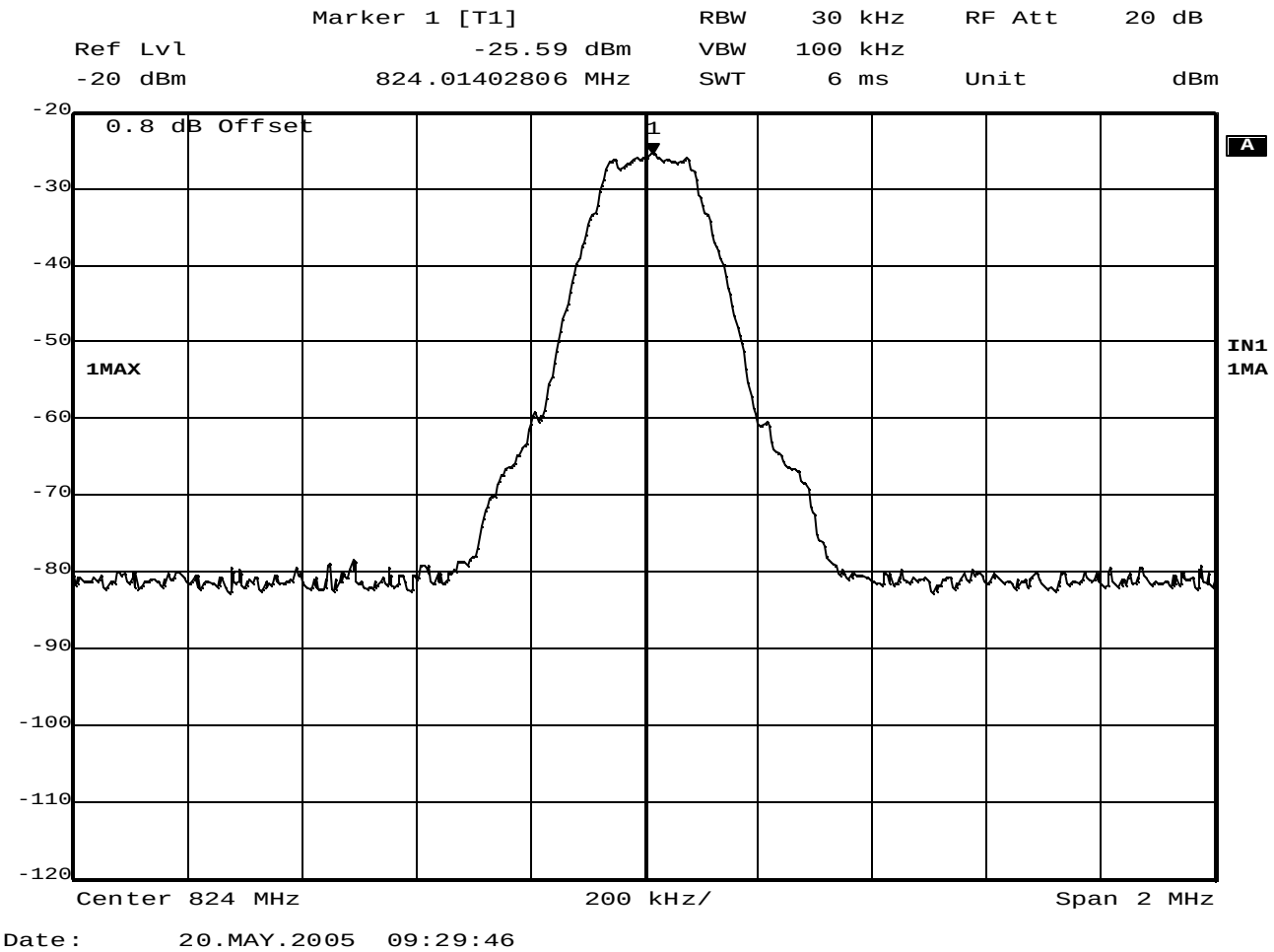
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz TDMA
Date	:	May 20, 2005
Notes	:	Input



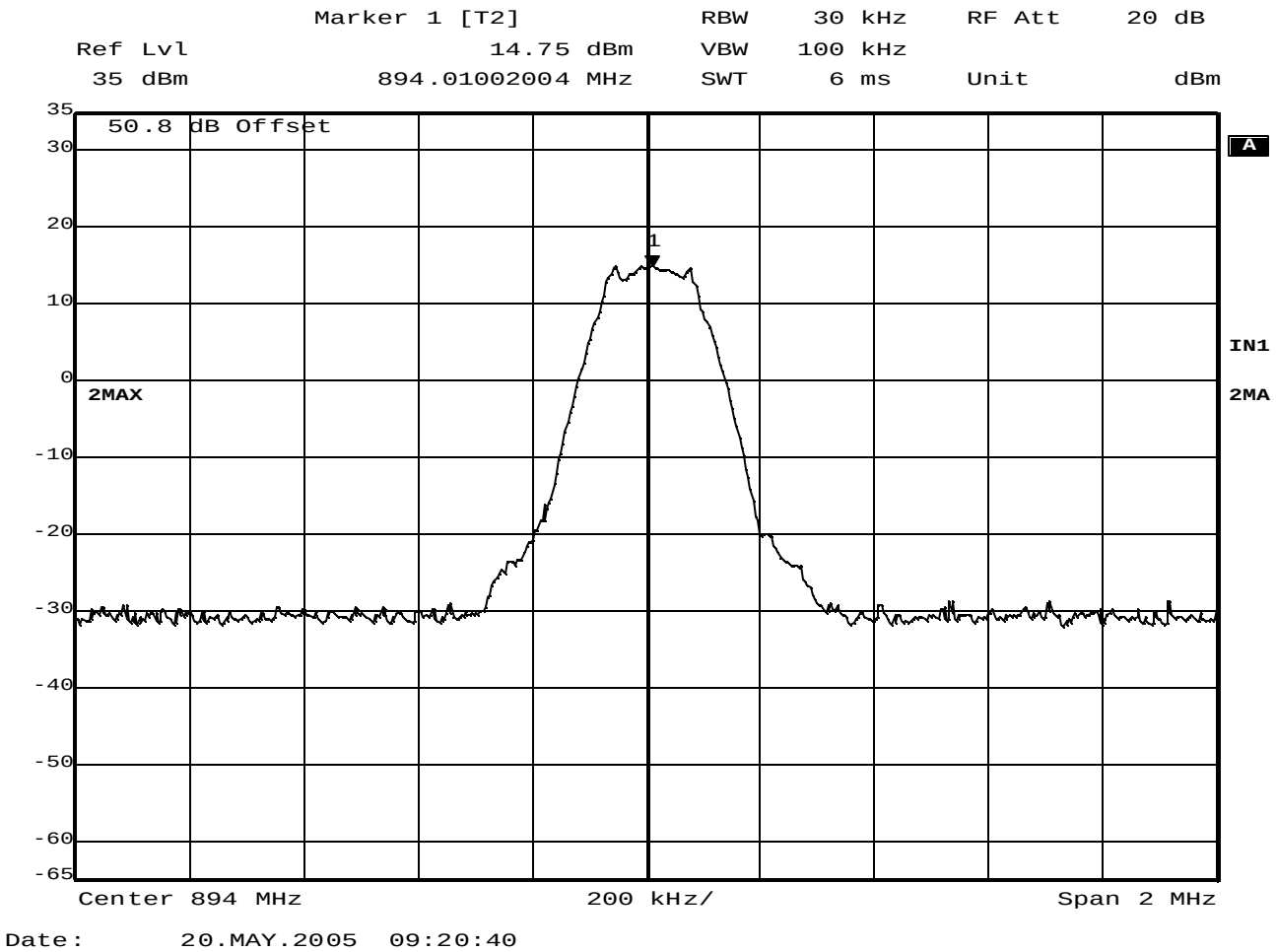
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz GSM
Date	:	May 20, 2005
Notes	:	Output (50dB External Pads)



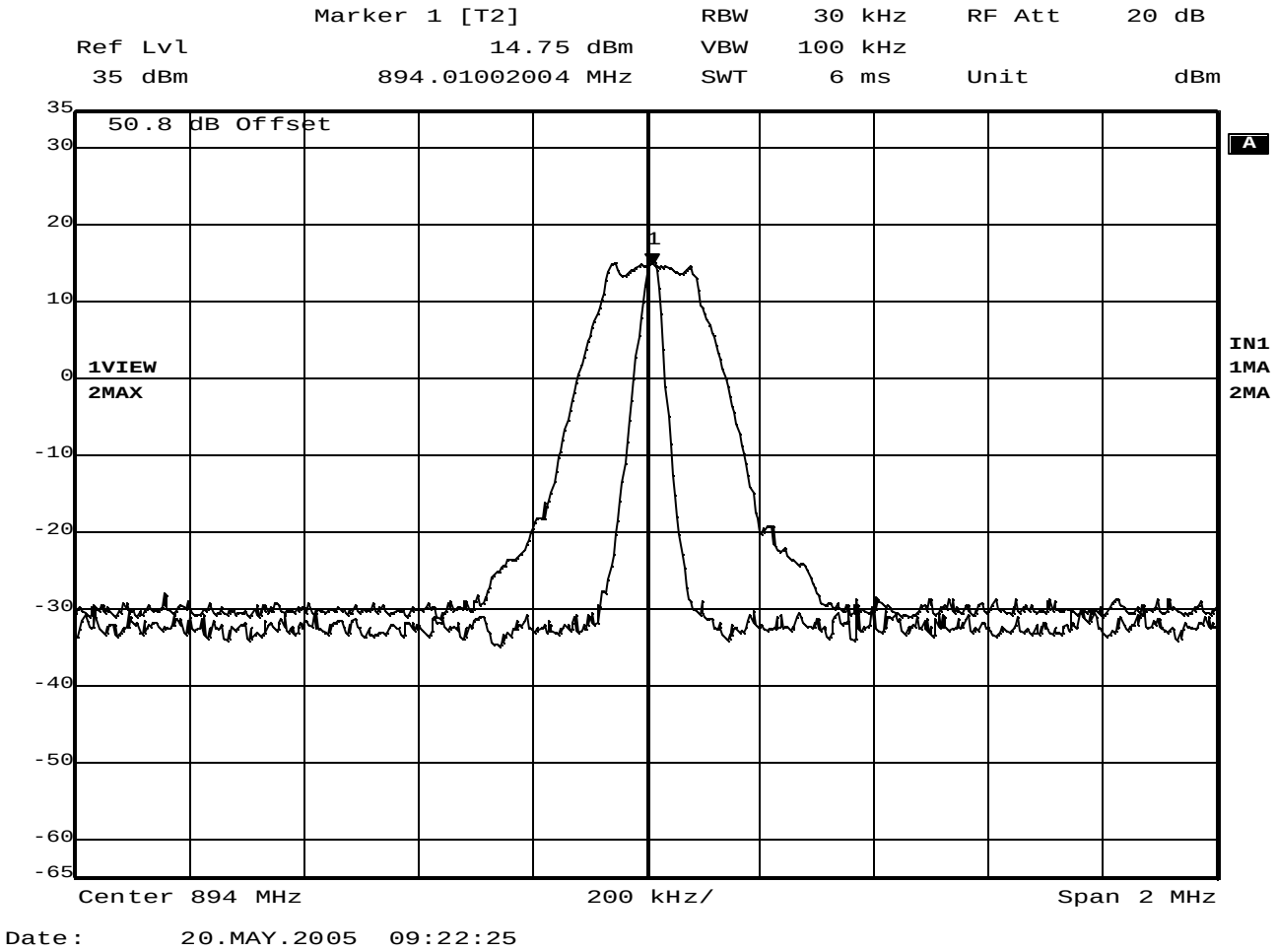
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz GSM
Date	:	May 20, 2005
Notes	:	Output CW Vs Mod (50dB External Pads)



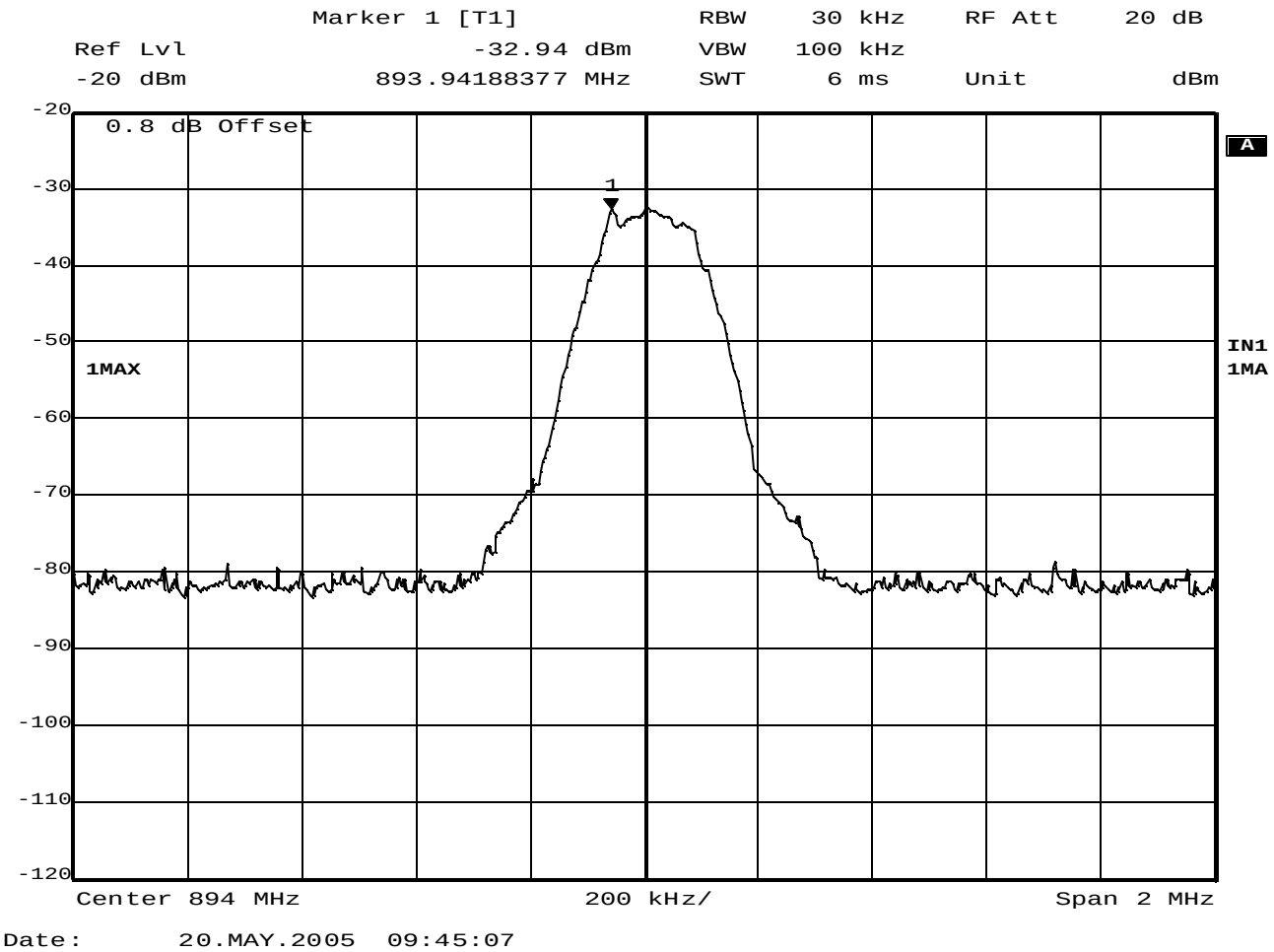
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz GSM
Date	:	May 20, 2005
Notes	:	Input



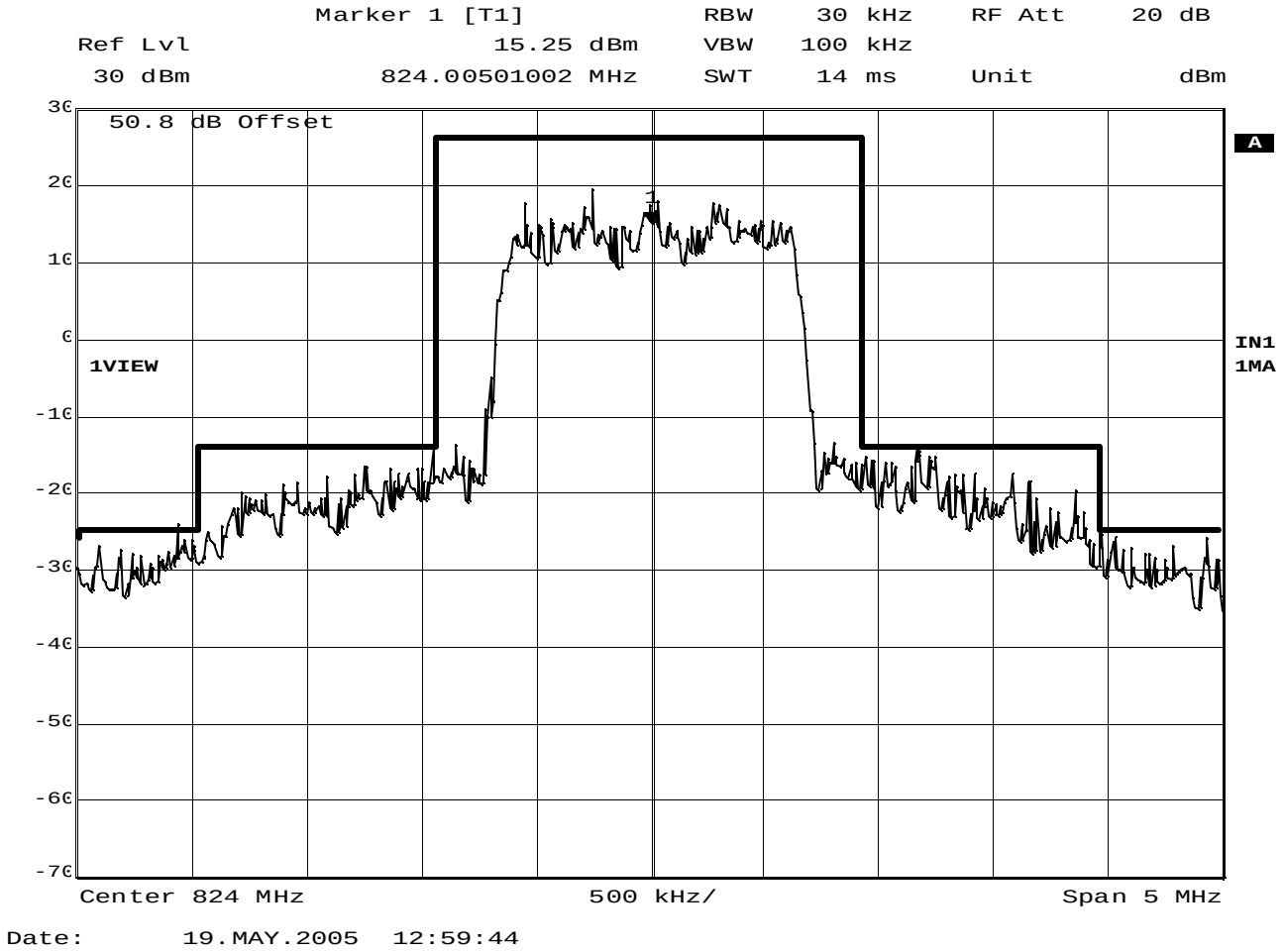
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz GSM
Date	:	May 20, 2005
Notes	:	Output (50dB External Pads)

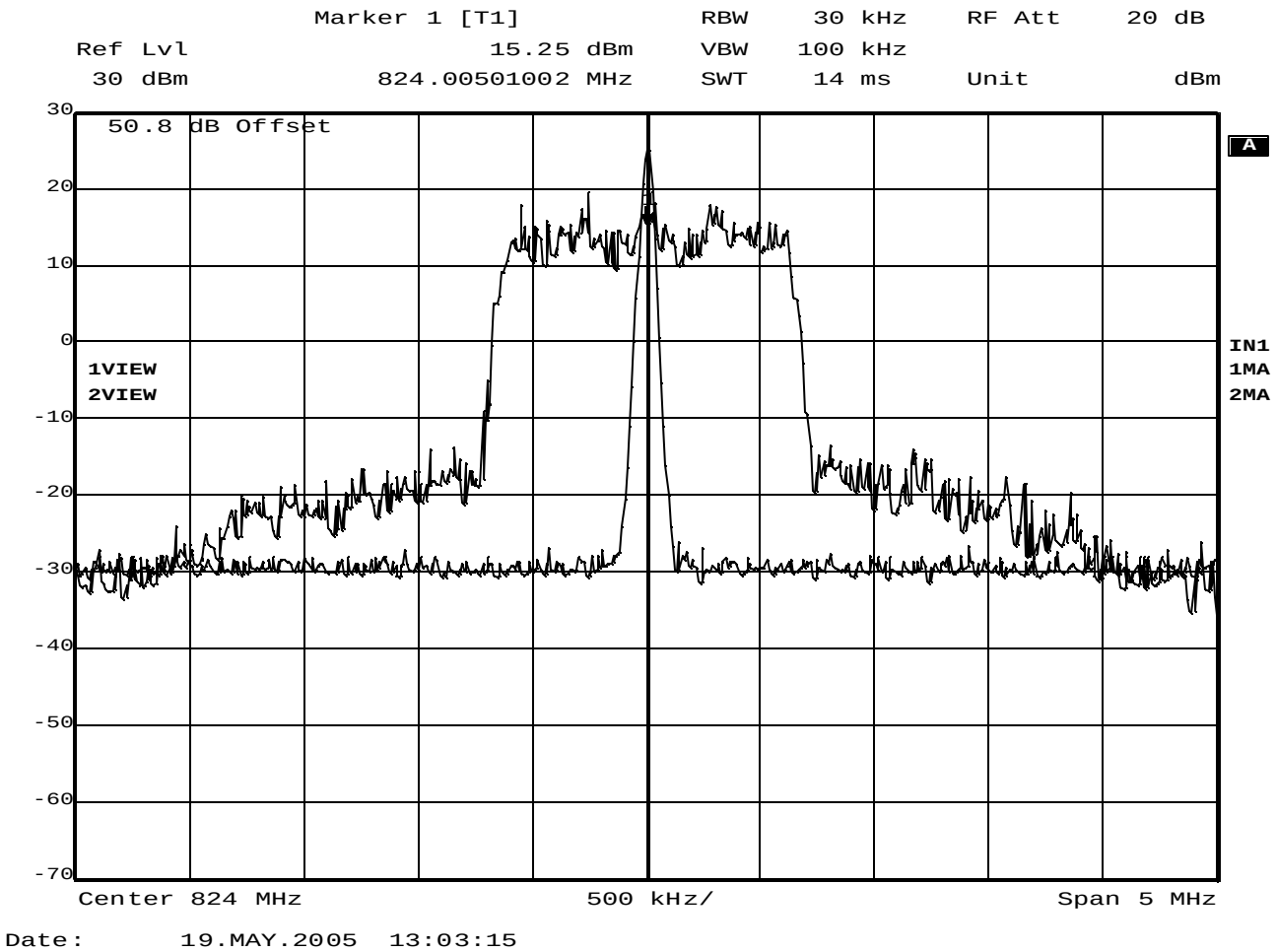


Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz GSM
Date	:	May 20, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)

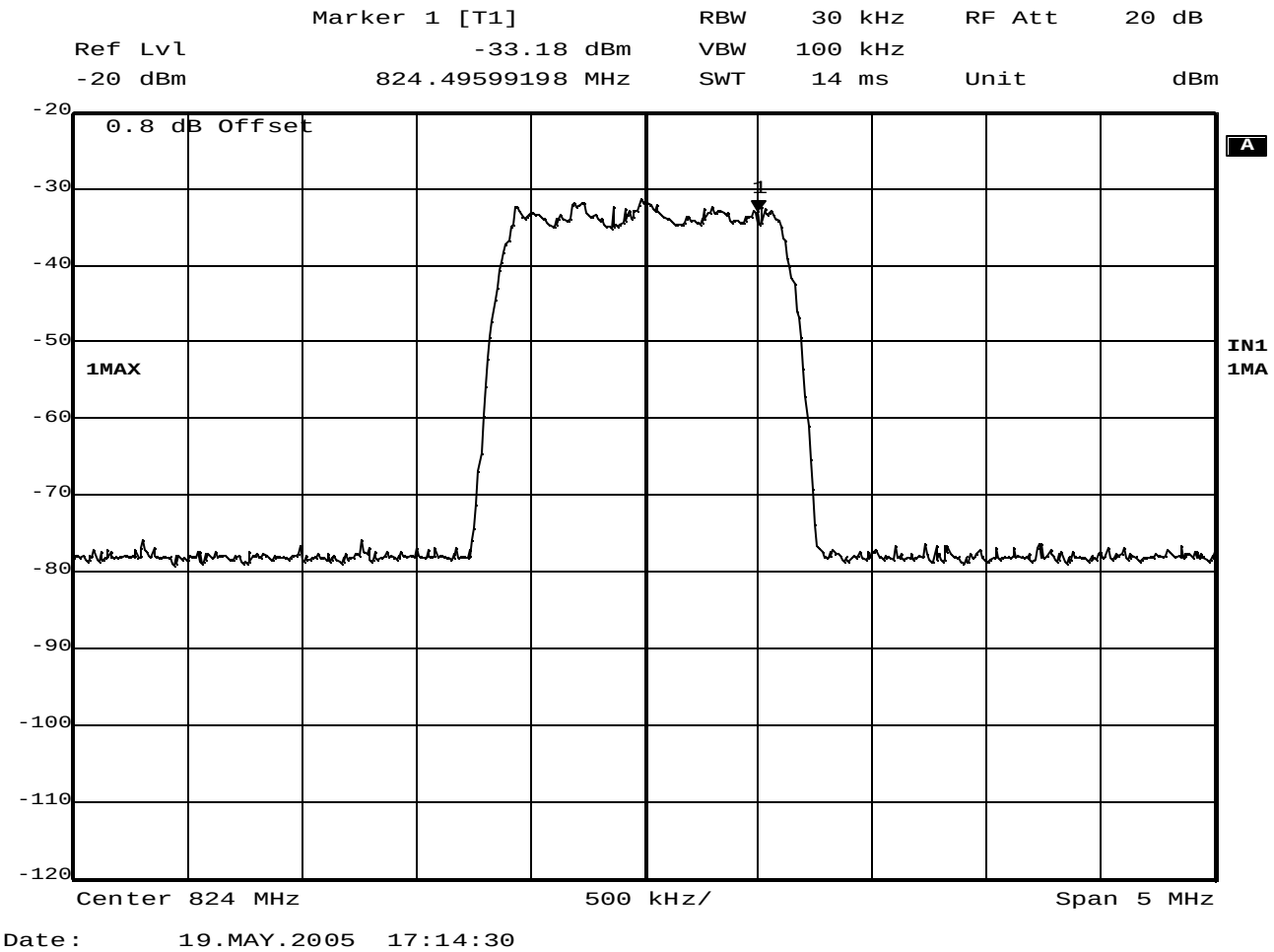


Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz GSM
Date	:	May 20, 2005
Notes	:	Input

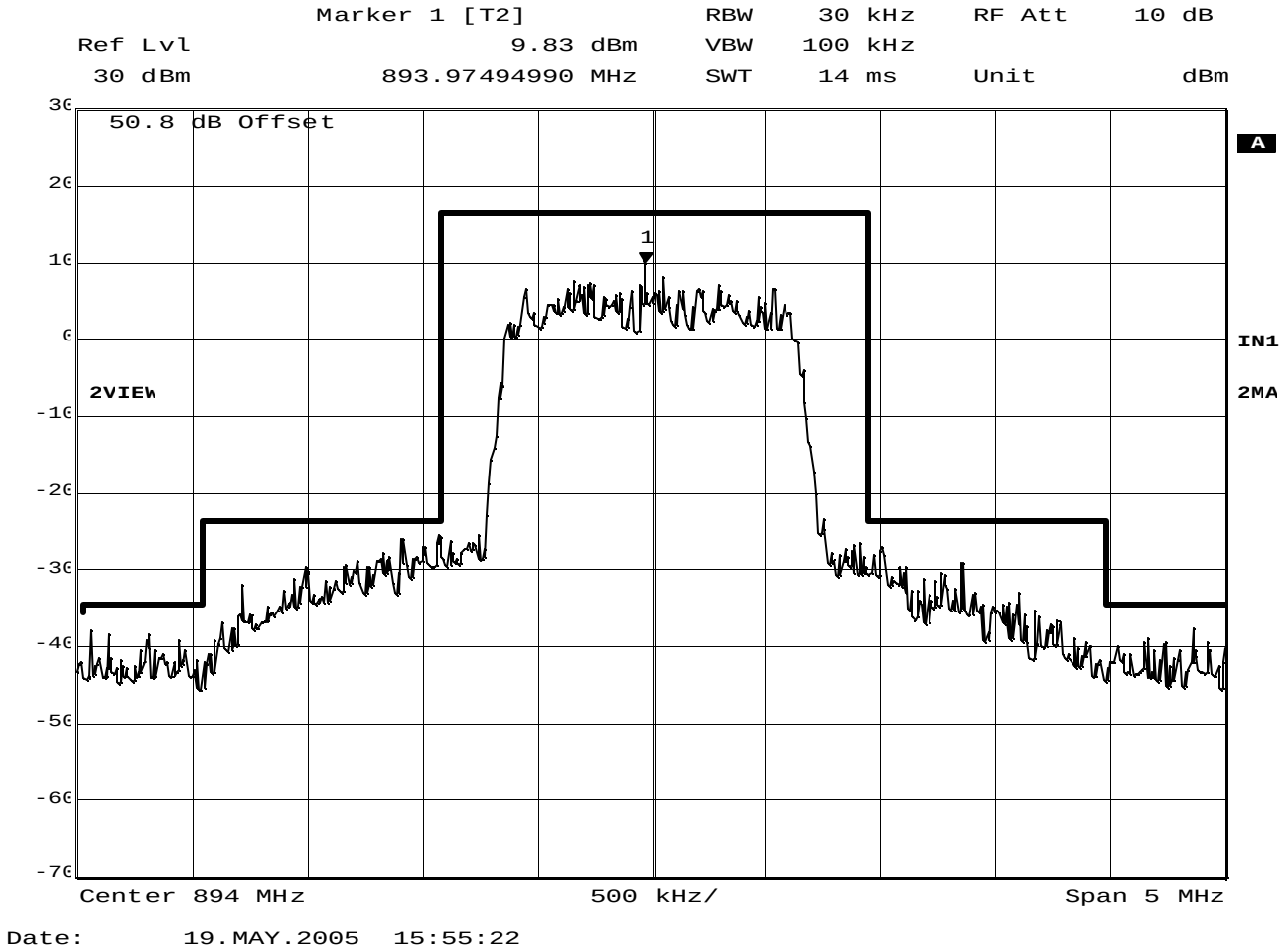

Marker 1 [T1]
RBW 30 kHz
RF Att 20 dB
Ref Lvl
15.25 dBm
VBW 100 kHz
30 dBm
824.00501002 MHz
SWT 14 ms
Unit dBm
50.8 dB Offset
A
1VIEW
IN1
1MA
Center 824 MHz
500 kHz/
Span 5 MHz
Date: 19.MAY.2005 12:59:44



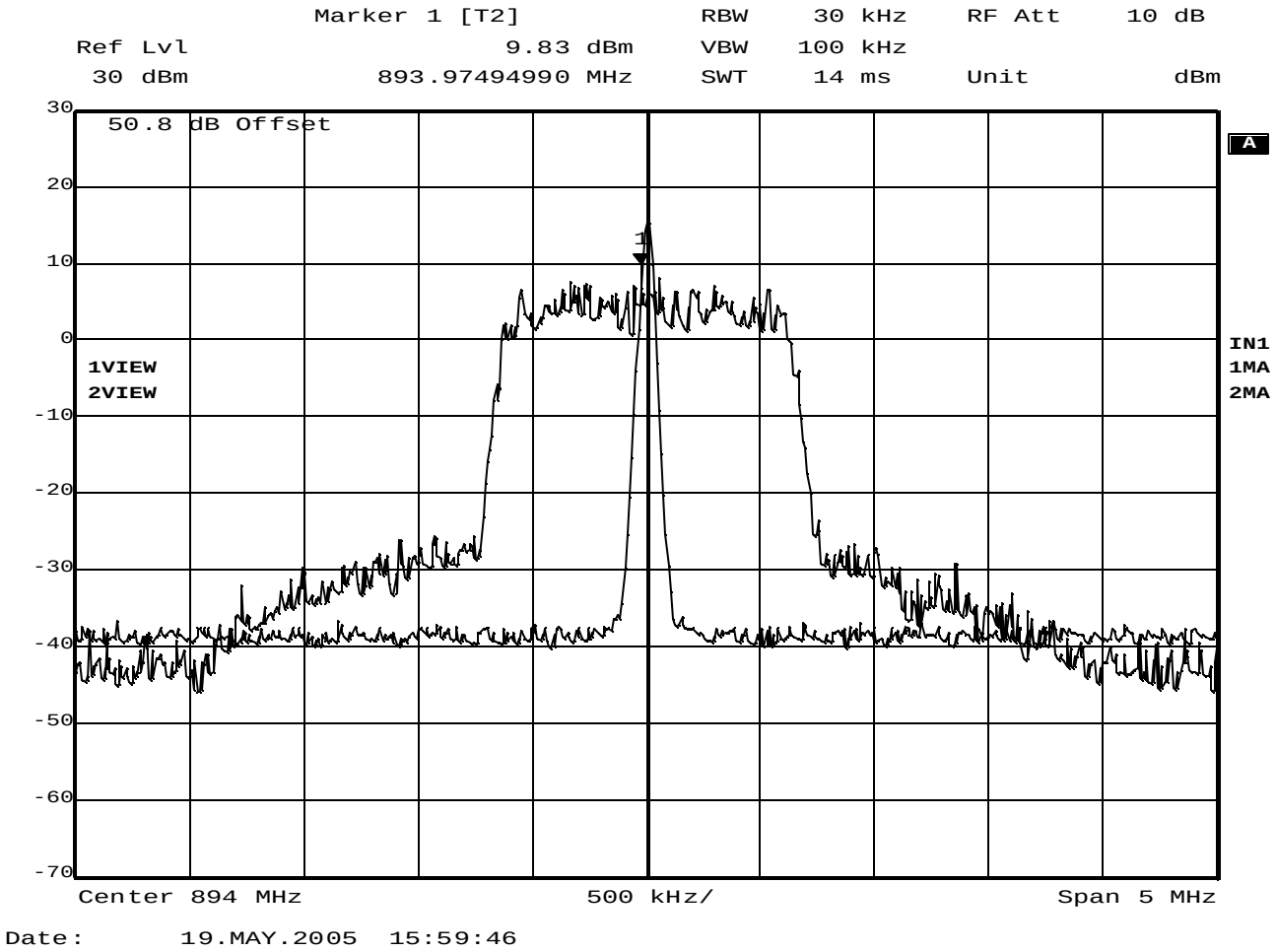
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz CDMA
Date	:	May 19, 2005
Notes	:	Output CW Vs Mod (50dB External Pads)



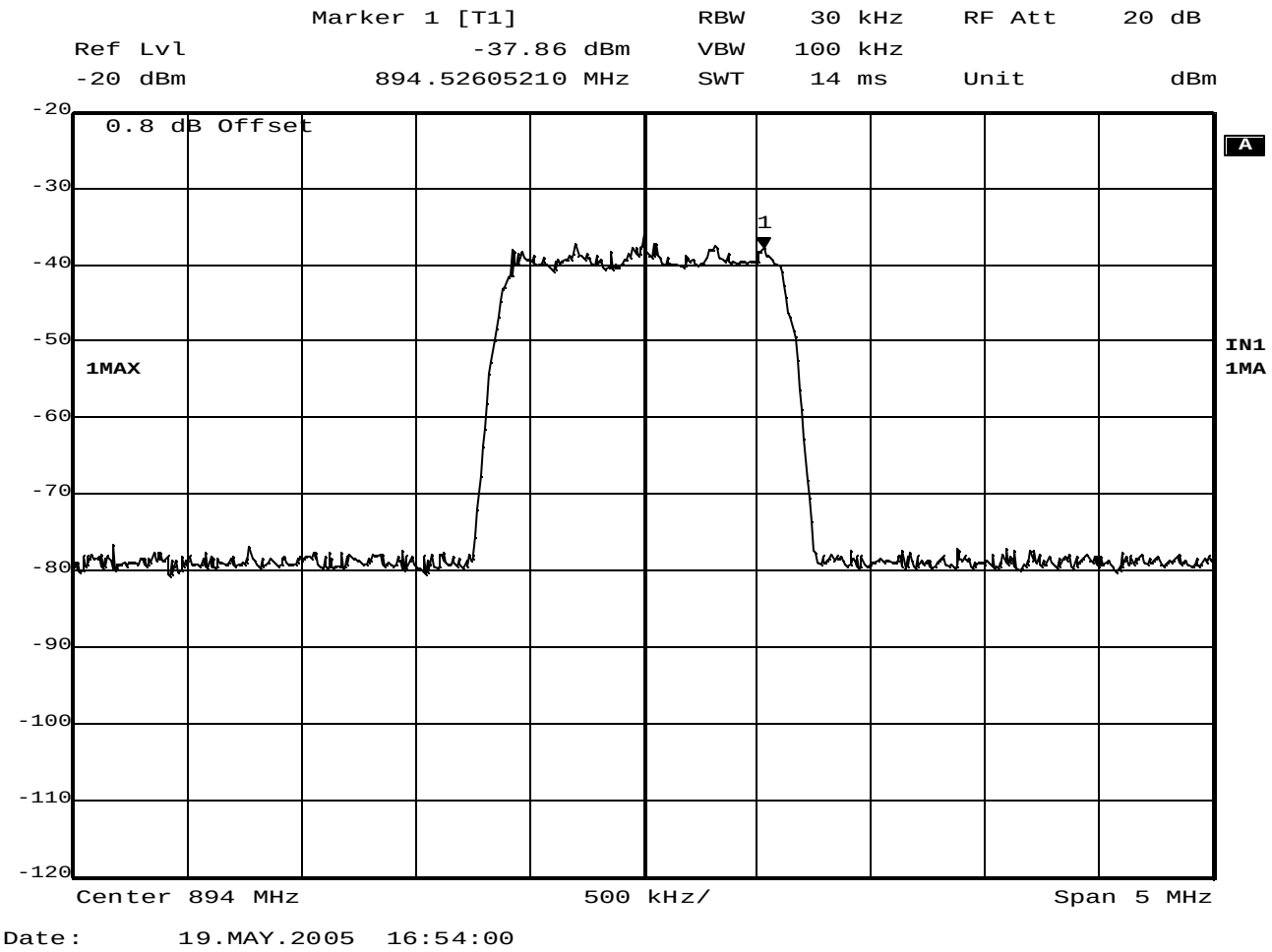
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 824 MHz CDMA
Date	:	May 19, 2005
Notes	:	Input



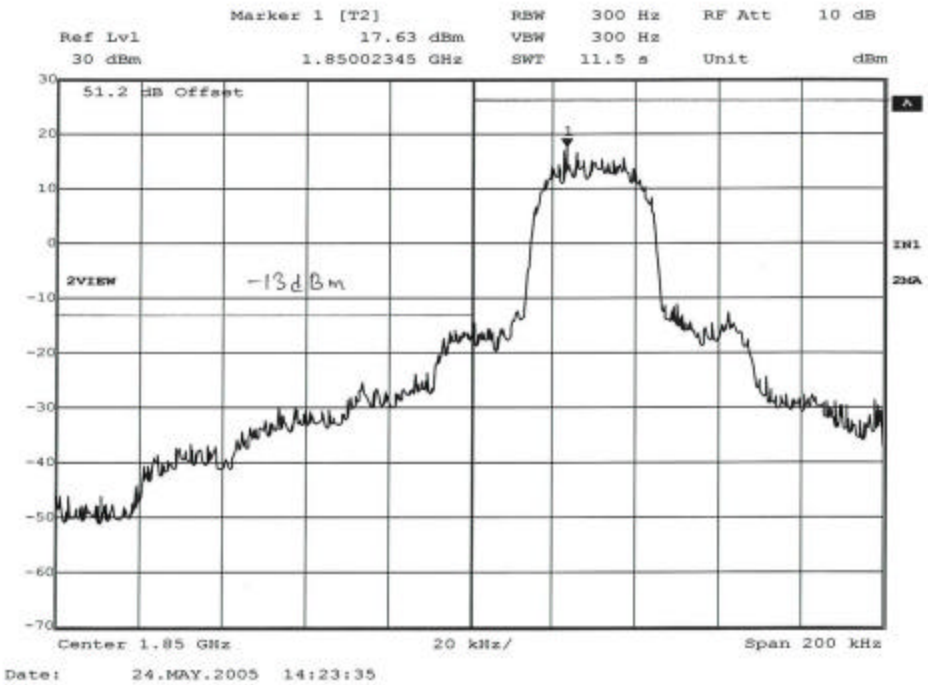
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz CDMA
Date	:	May 19, 2005
Notes	:	Output (50dB External Pads)



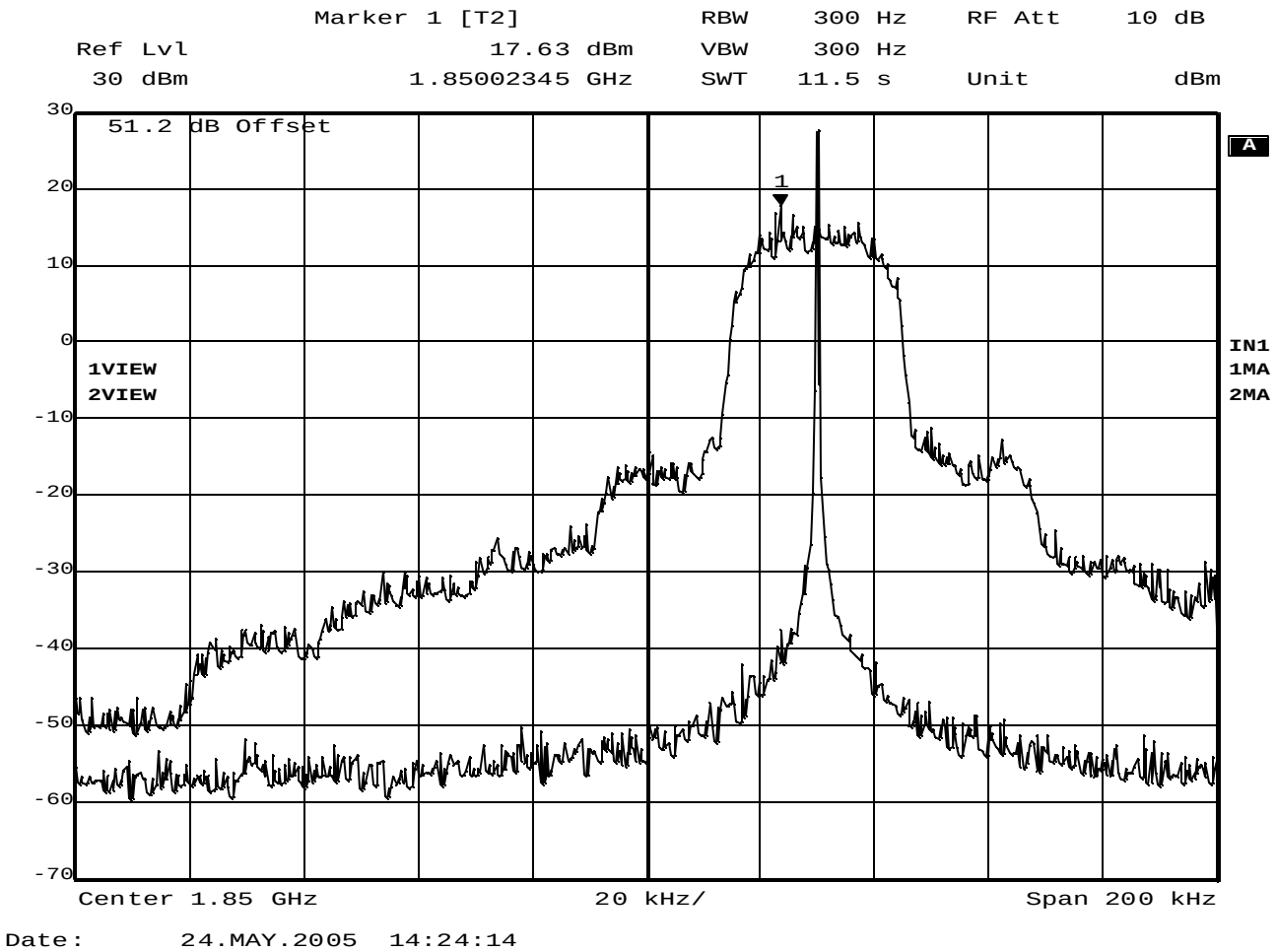
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz CDMA
Date	:	May 19, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



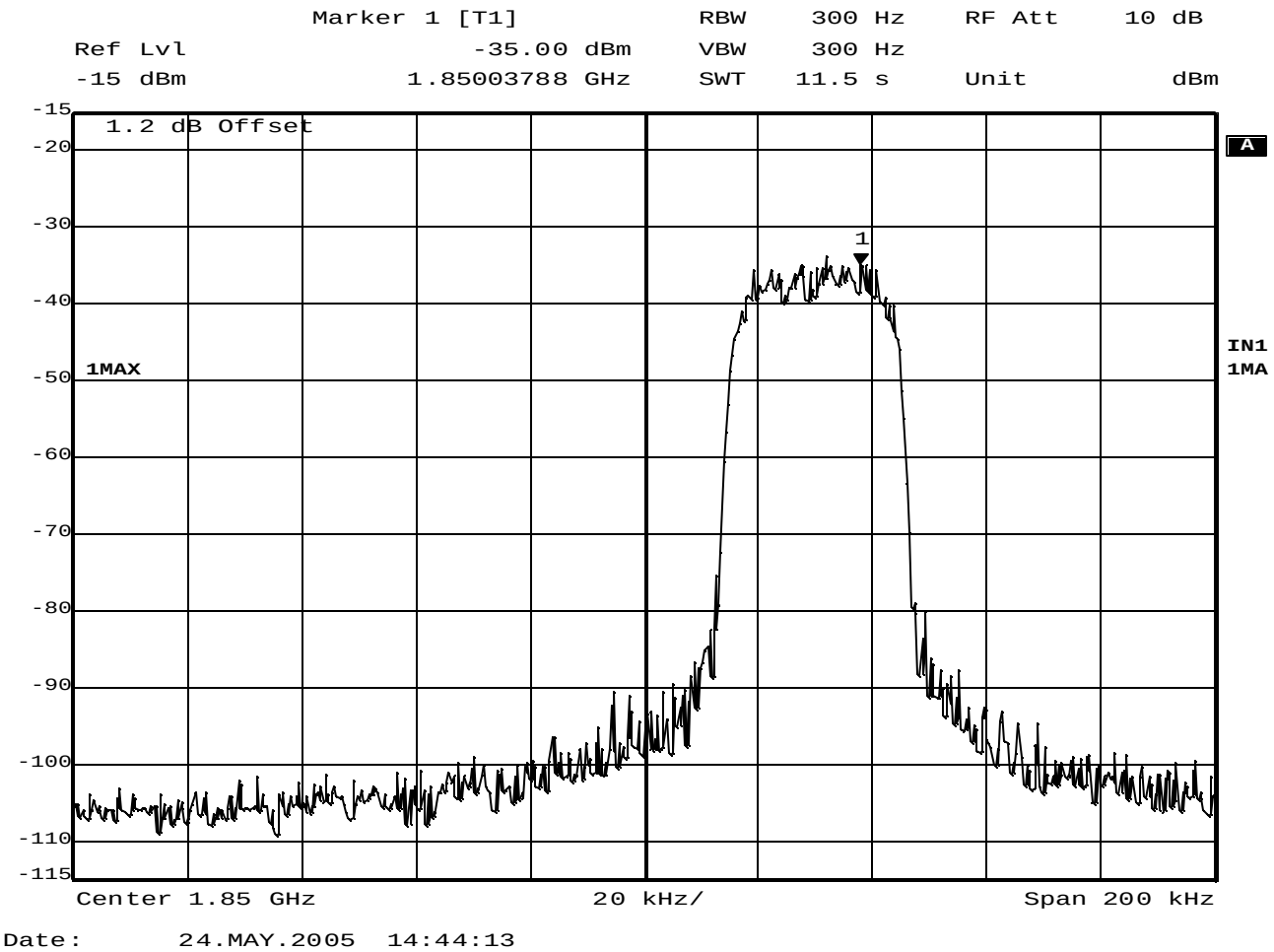
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Occupied Bandwidth
Test Mode	:	Tx @ 894 MHz CDMA
Date	:	May 19, 2005
Notes	:	Input



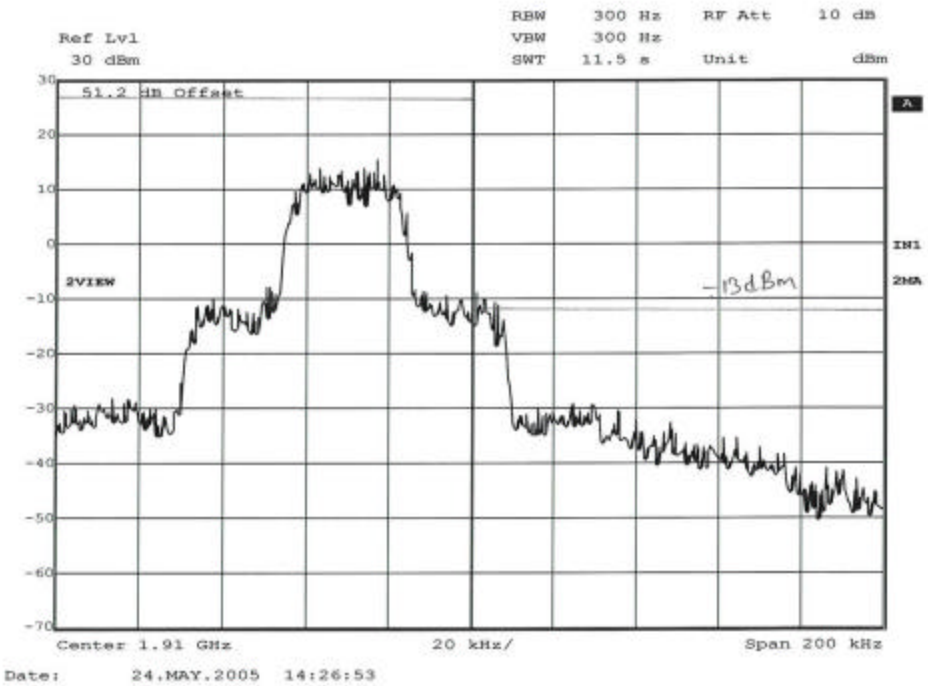
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1850.03MHz TDMA
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



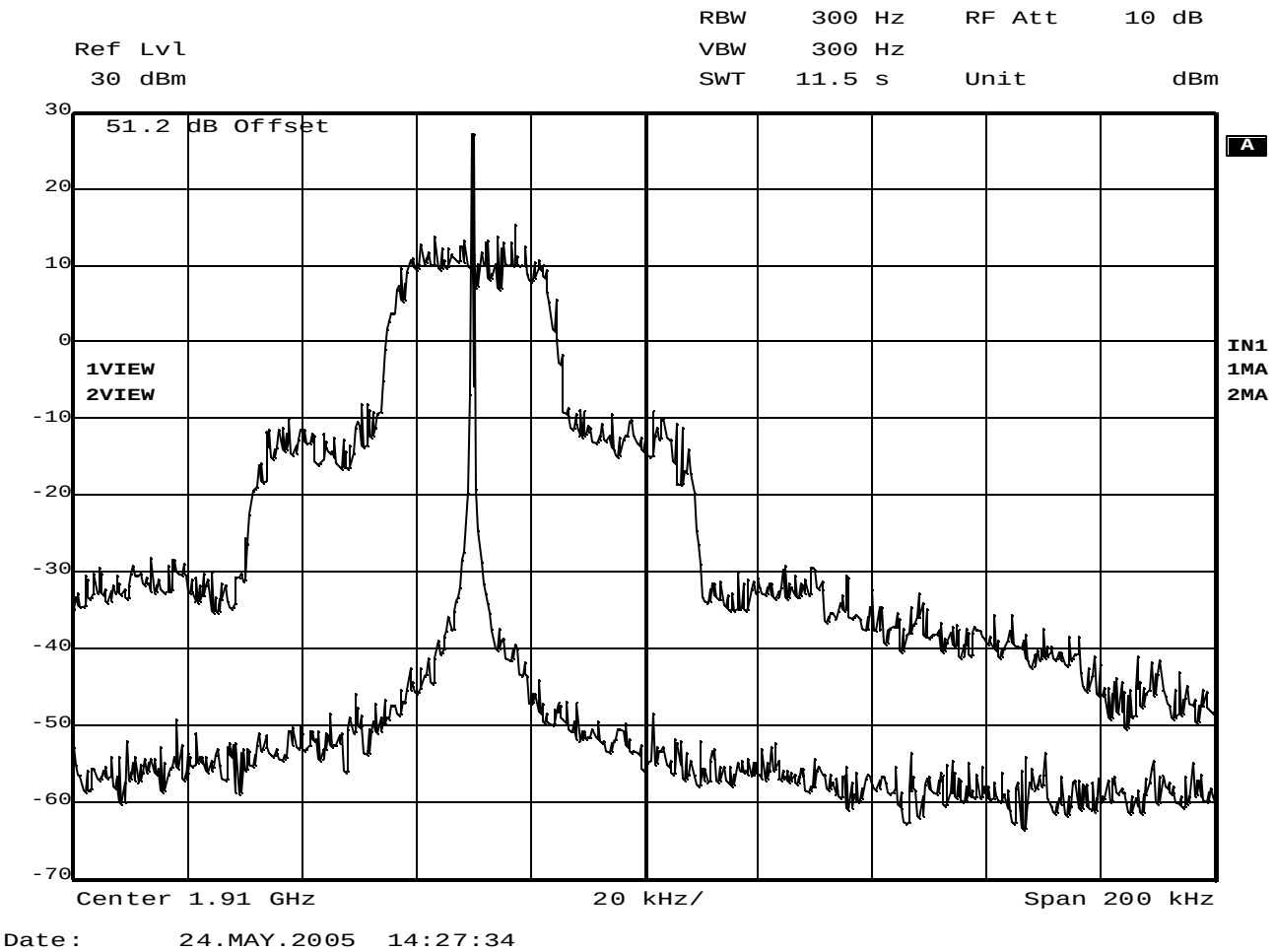
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1850.03MHz TDMA
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



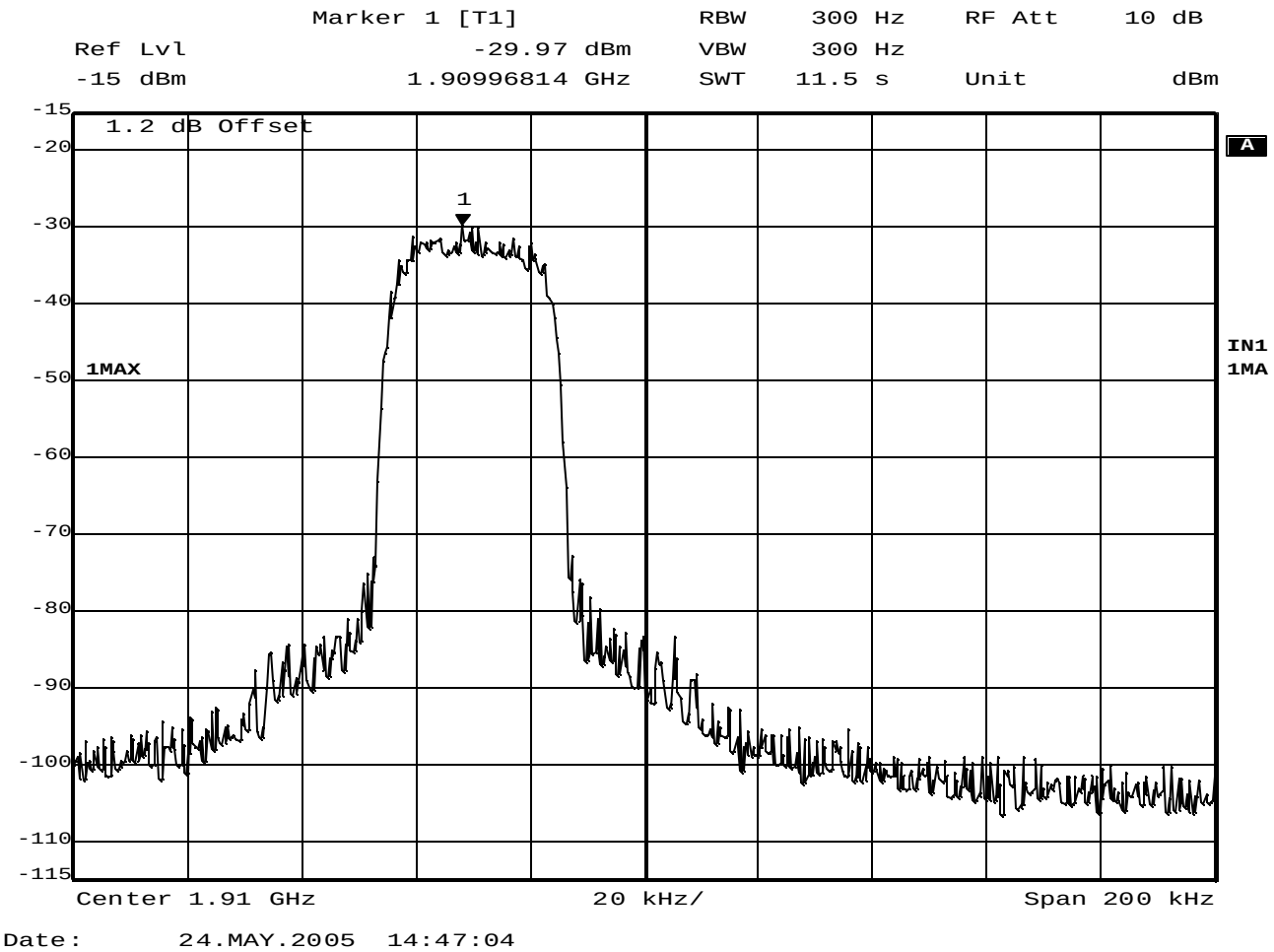
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1850.03MHz TDMA
Date	:	May 24, 2005
Notes	:	Input



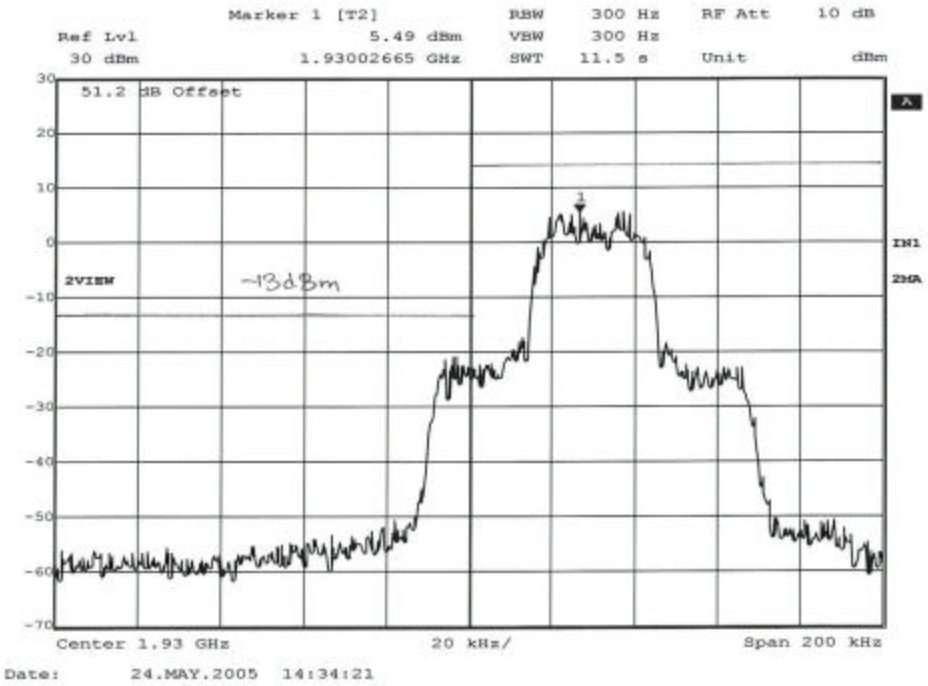
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1909.97MHz TDMA
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



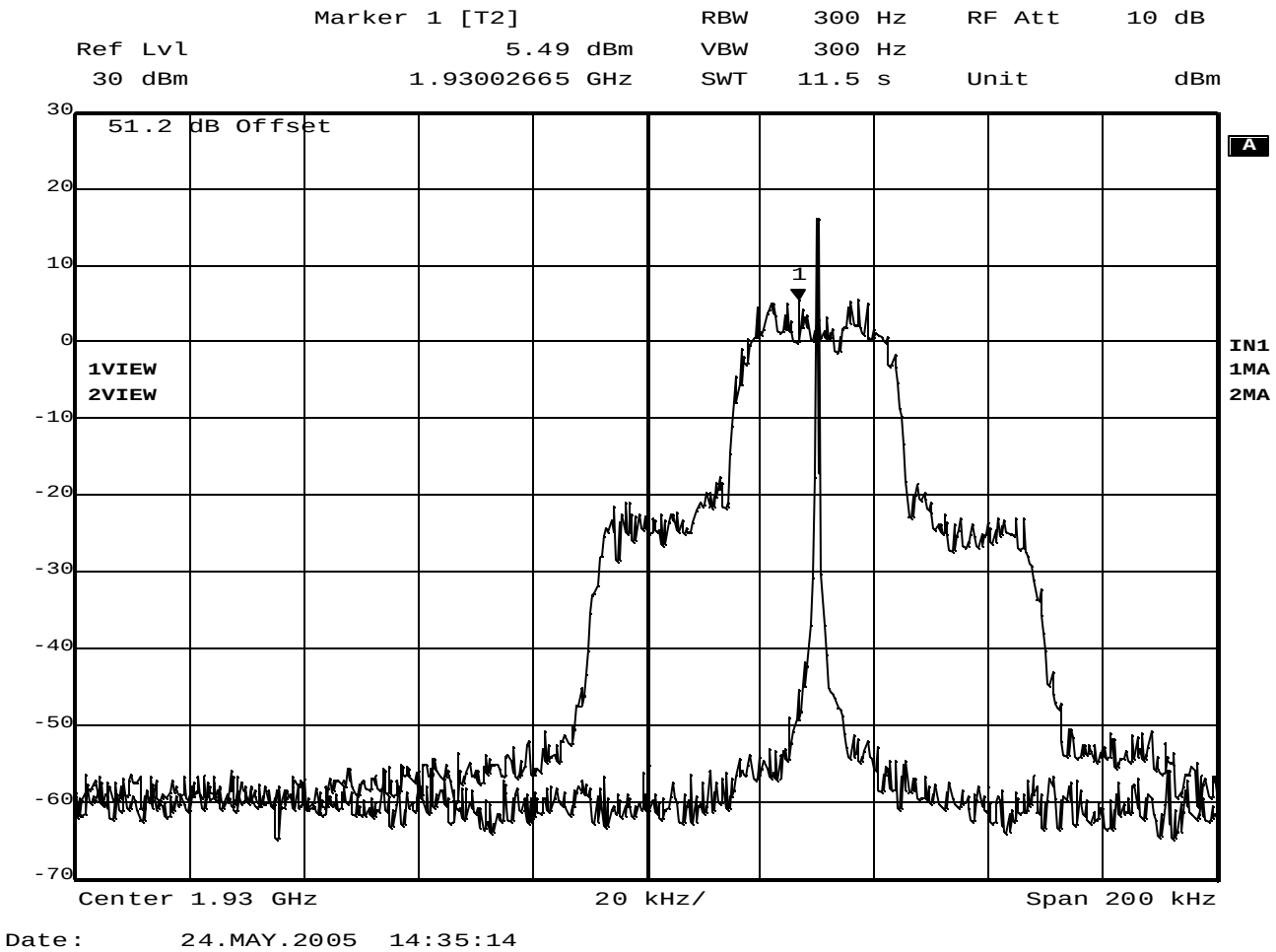
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1909.97MHz TDMA
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



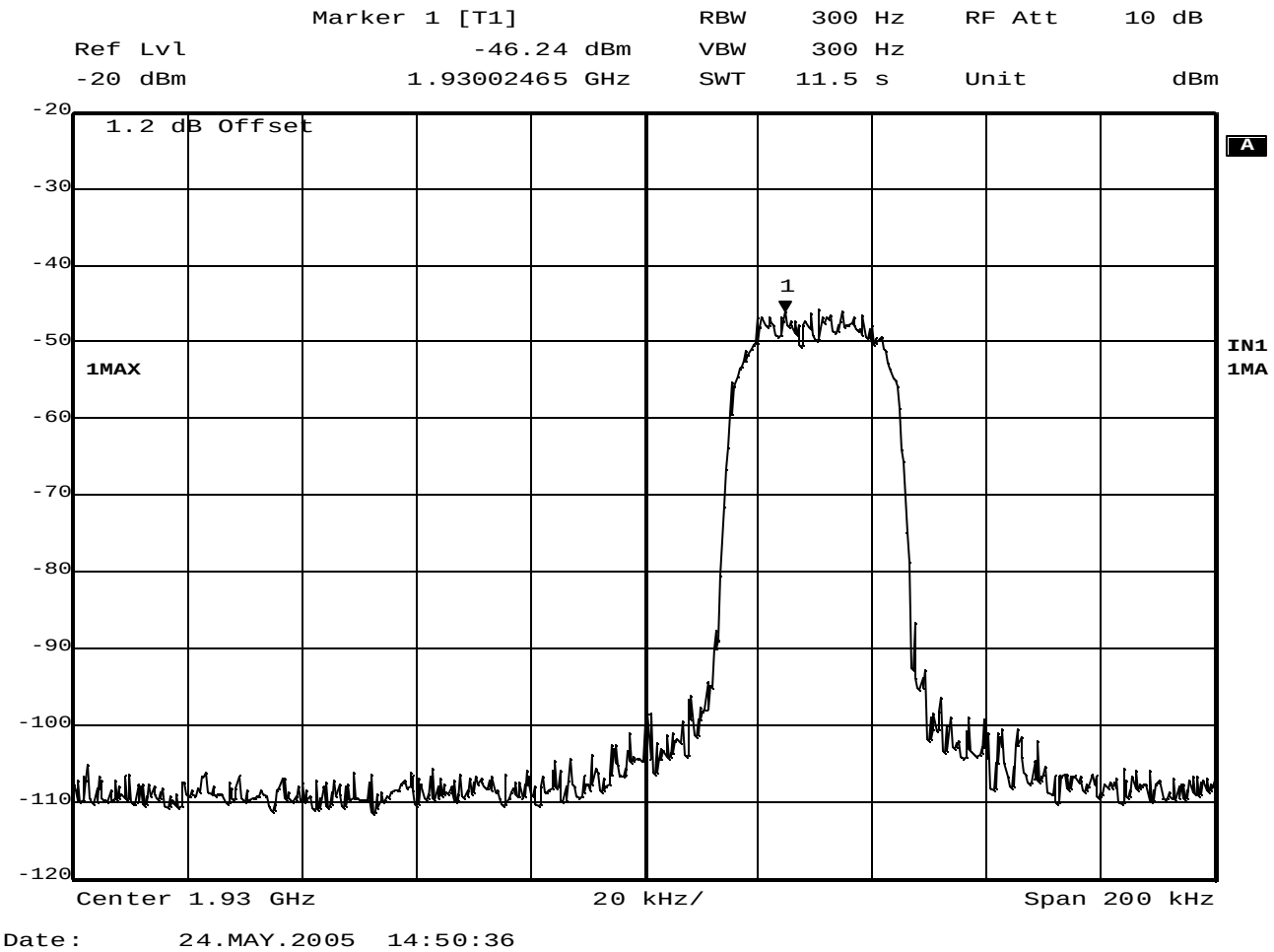
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1909.97MHz TDMA
Date	:	May 24, 2005
Notes	:	Input



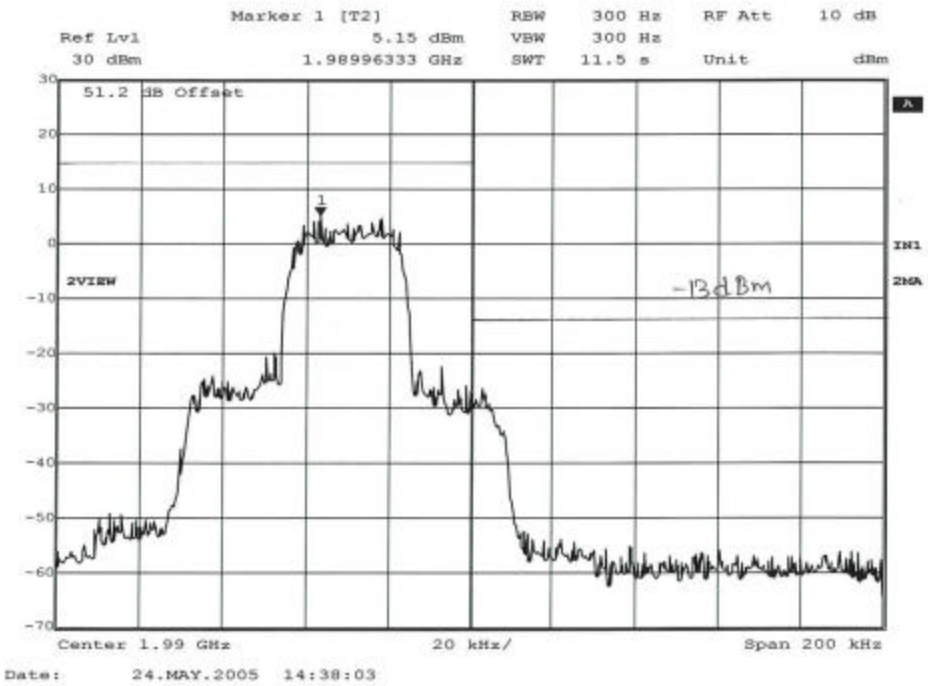
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1930.03MHz TDMA
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



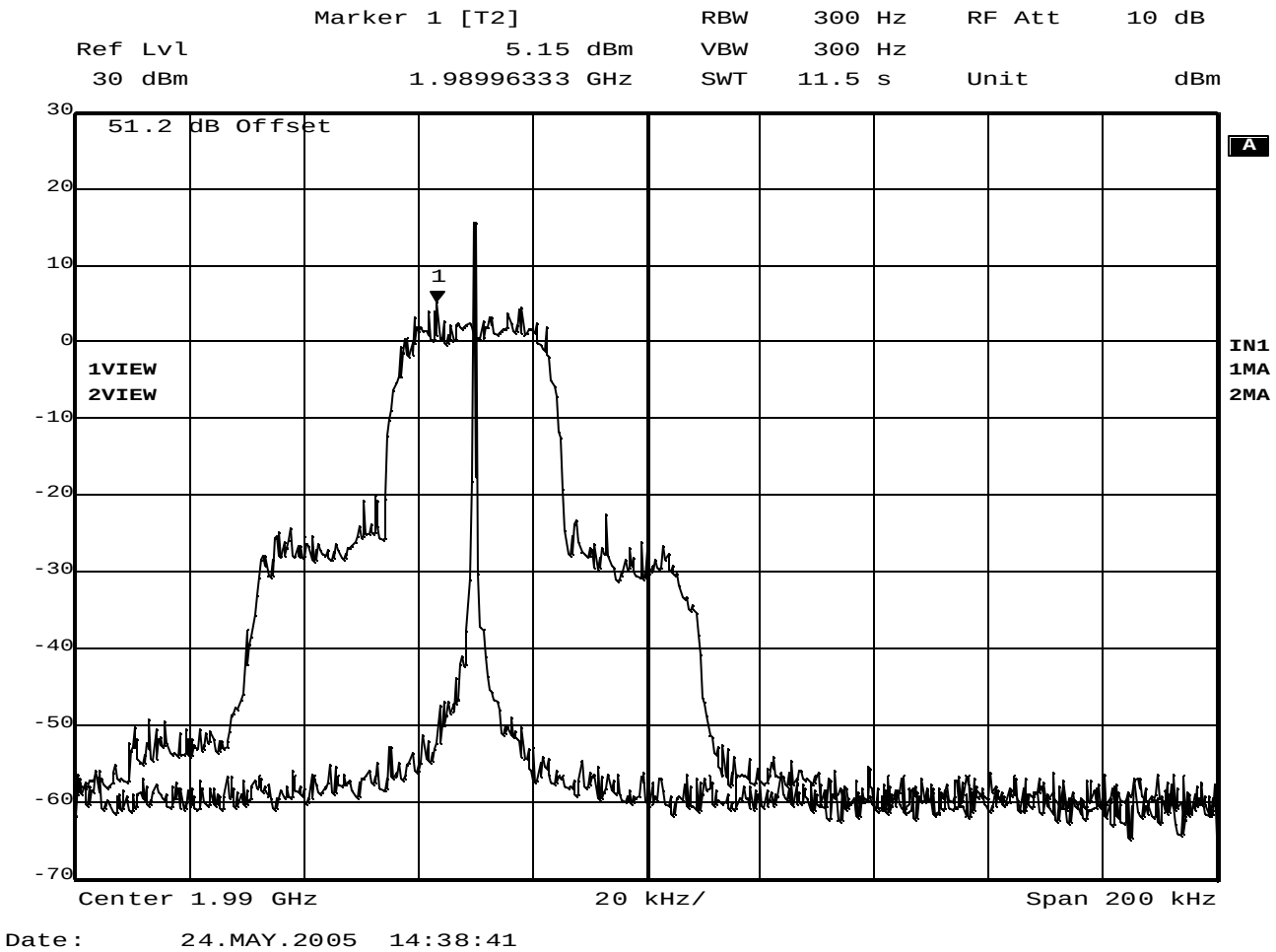
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1930.03MHz TDMA
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



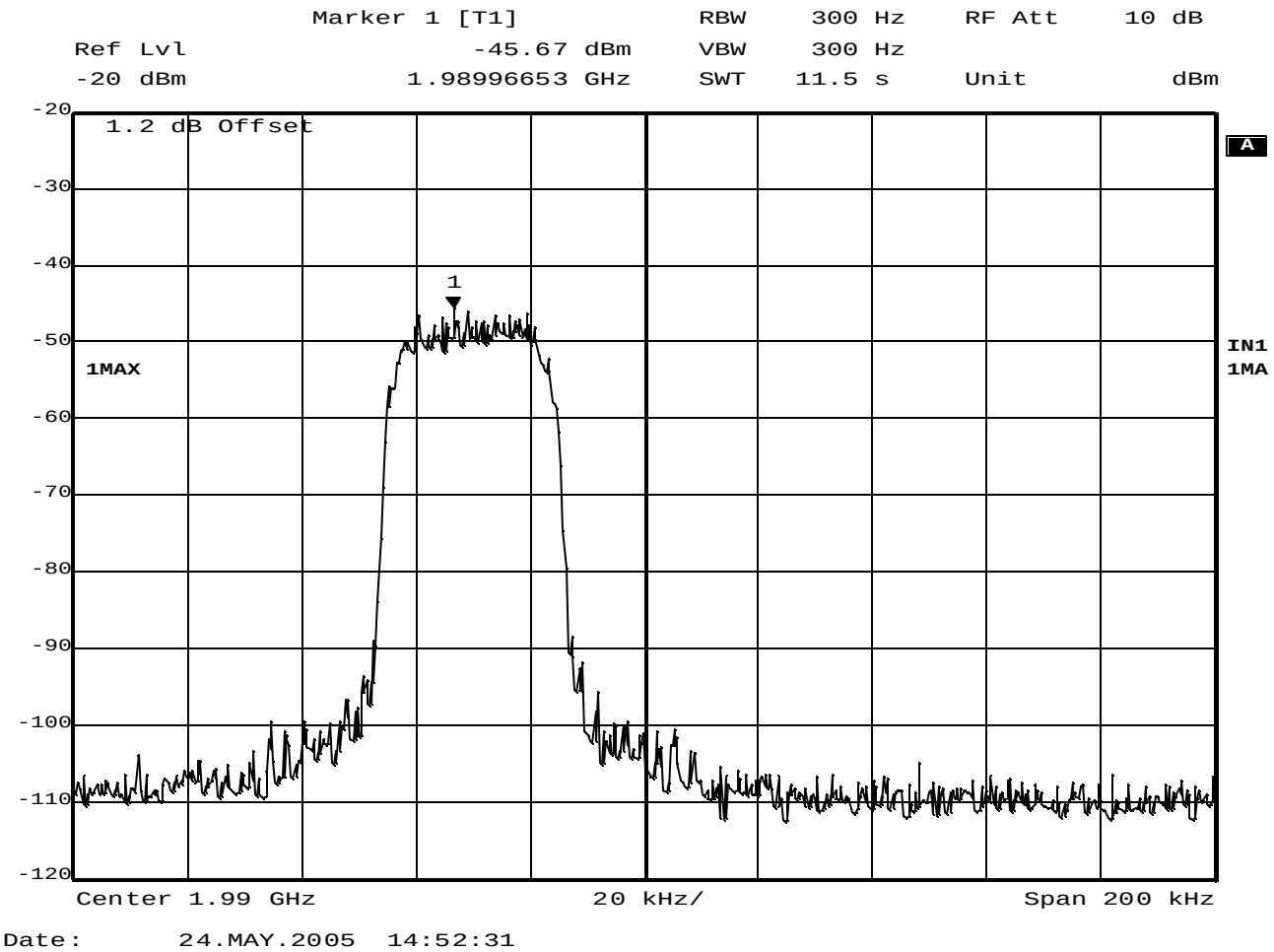
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1930.03MHz TDMA
Date	:	May 24, 2005
Notes	:	Input



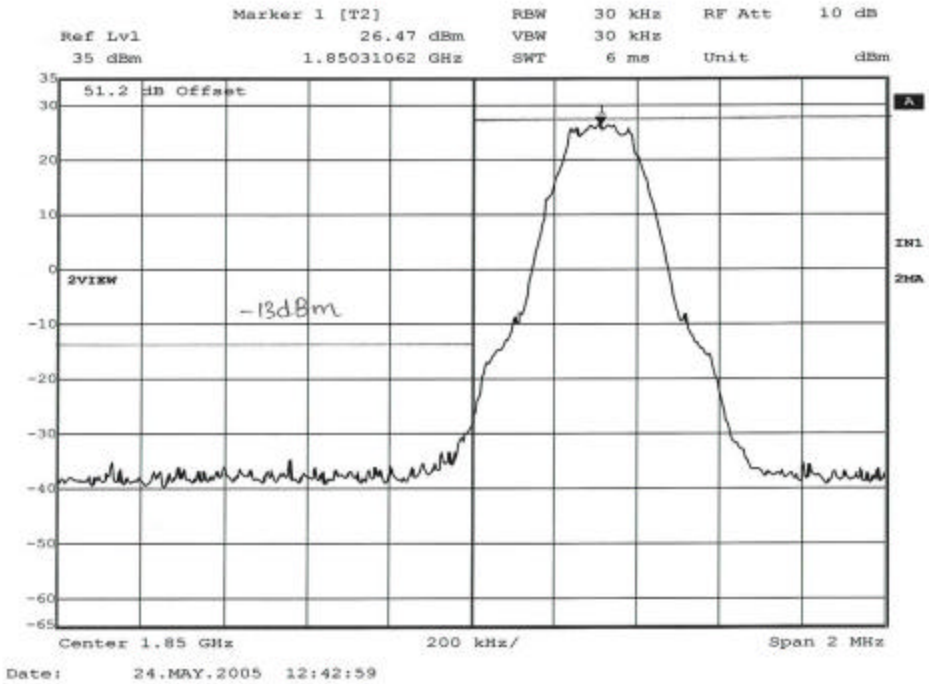
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1989.97MHz TDMA
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



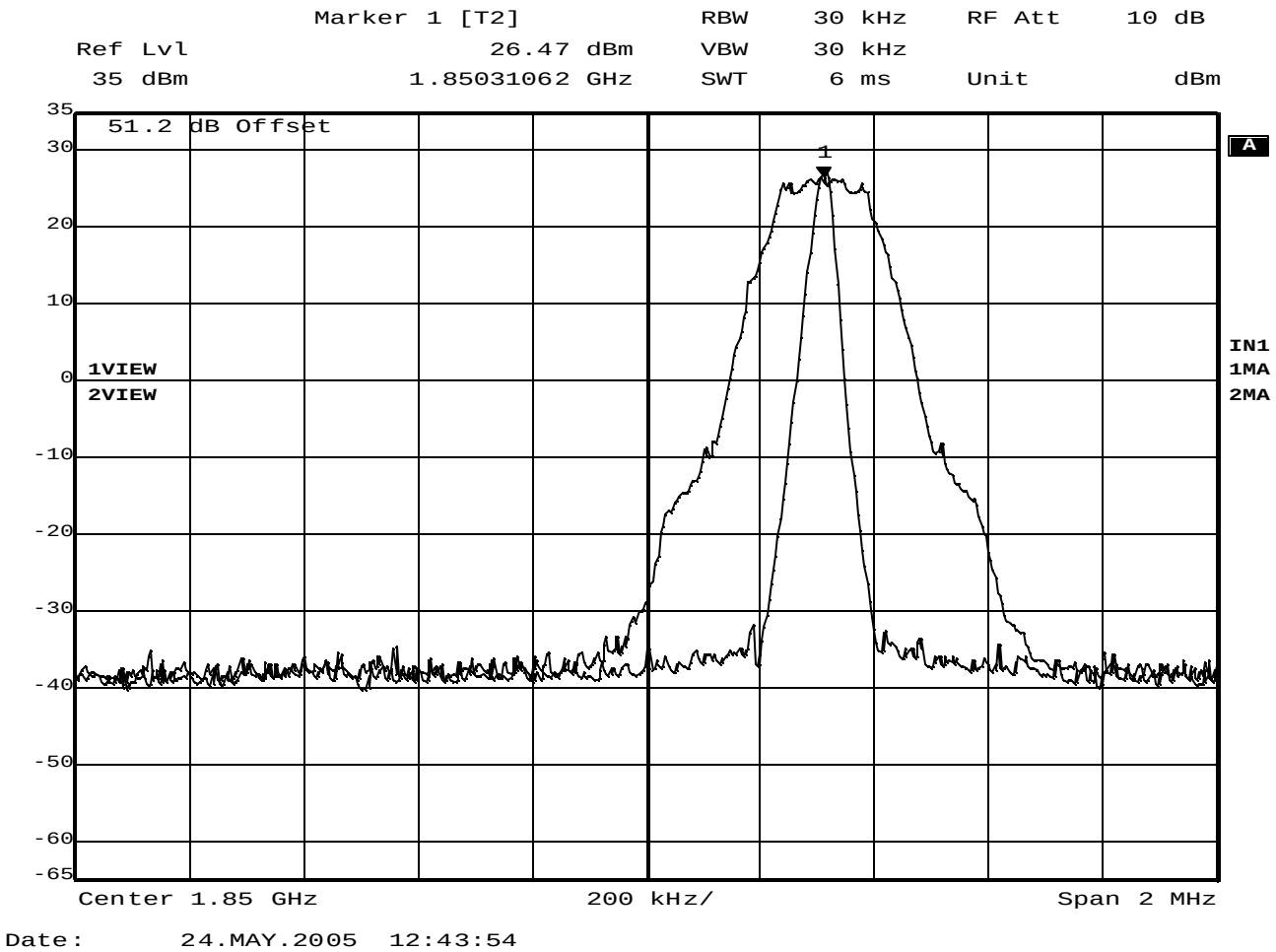
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1989.97MHz TDMA
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



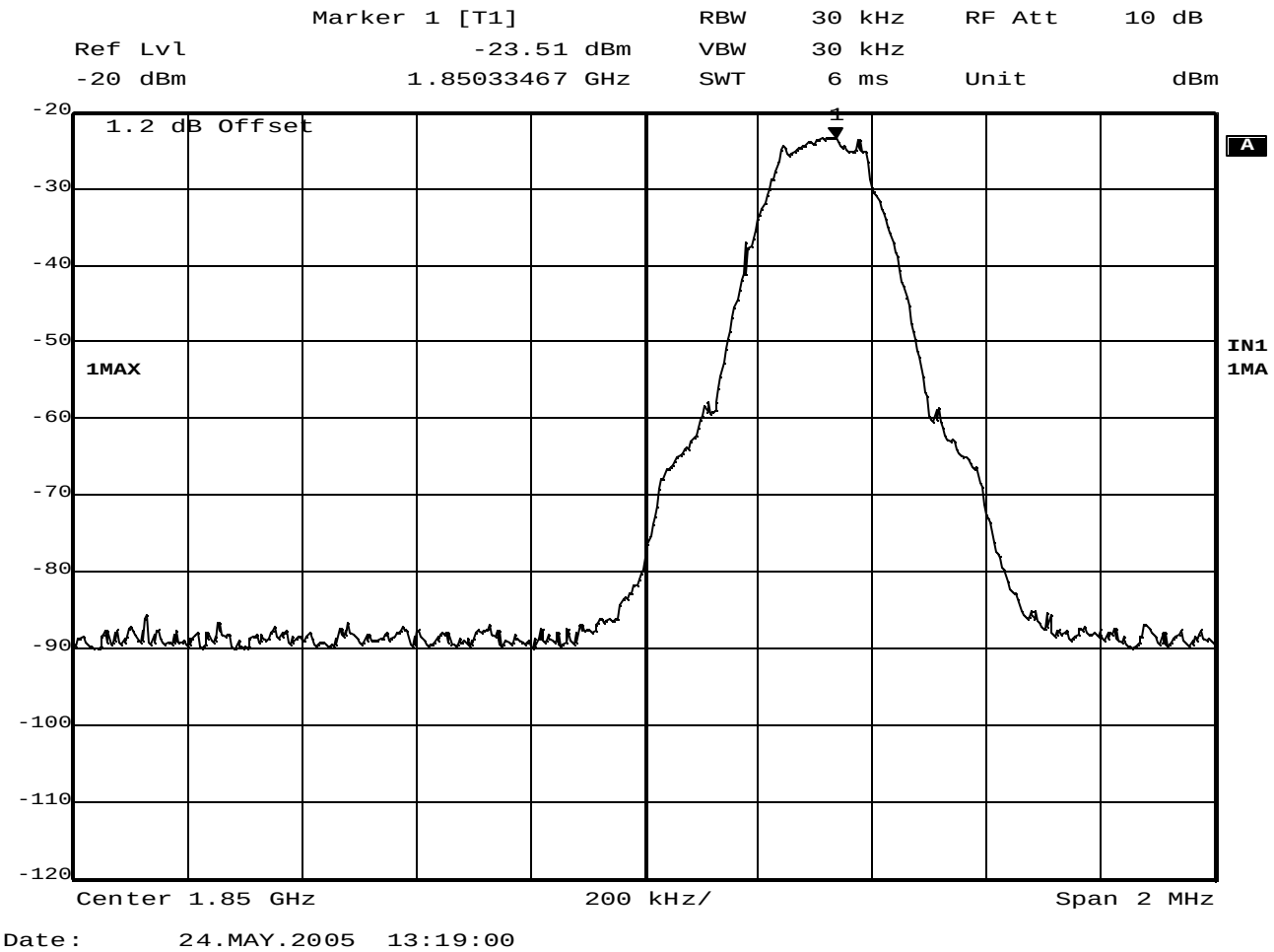
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1989.97MHz TDMA
Date	:	May 24, 2005
Notes	:	Input



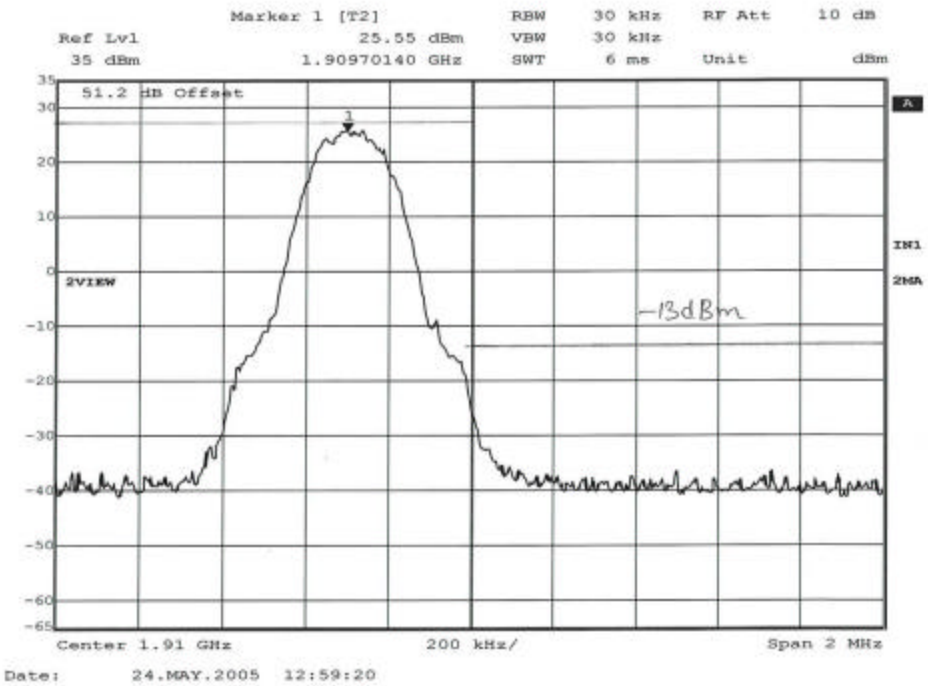
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1850.3MHz GSM
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



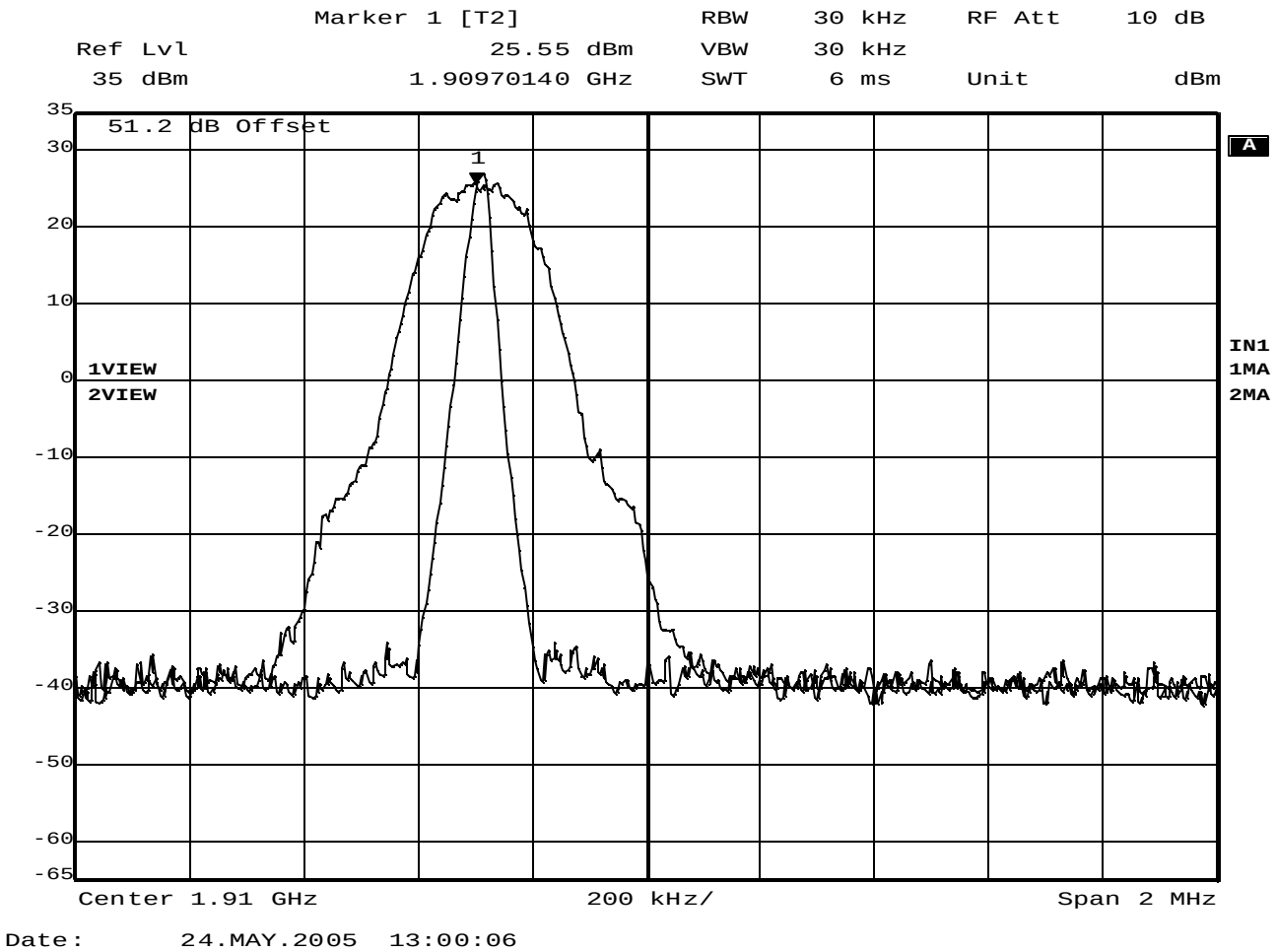
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1850.3MHz GSM
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



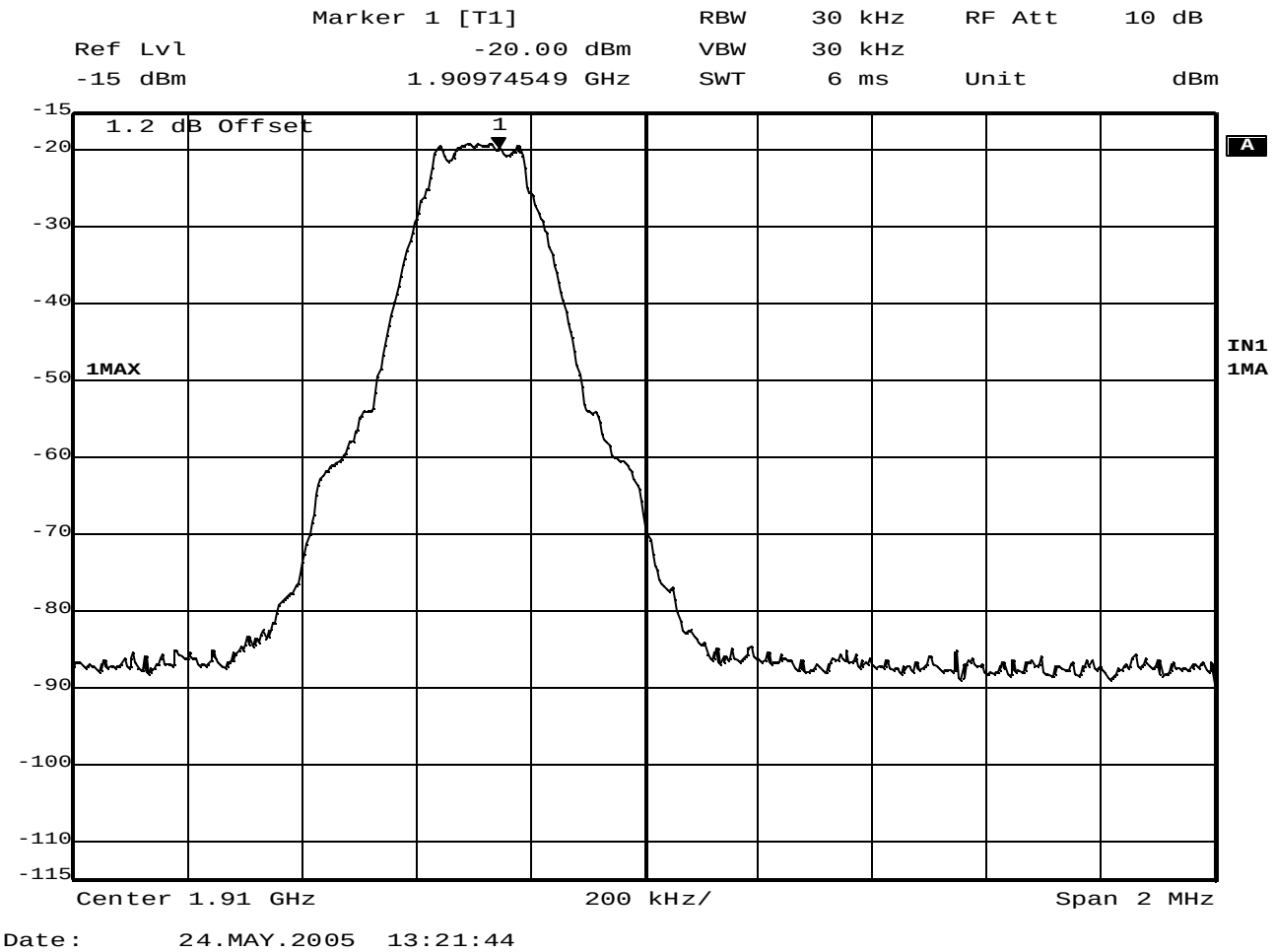
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1850.MHz GSM
Date	:	May 24, 2005
Notes	:	Input



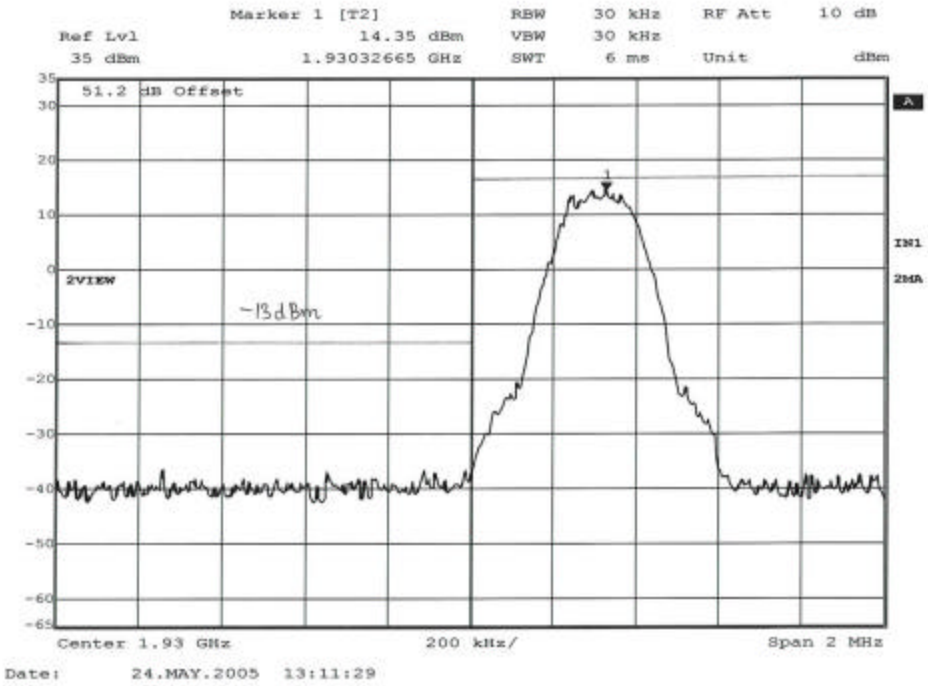
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1909.7MHz GSM
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



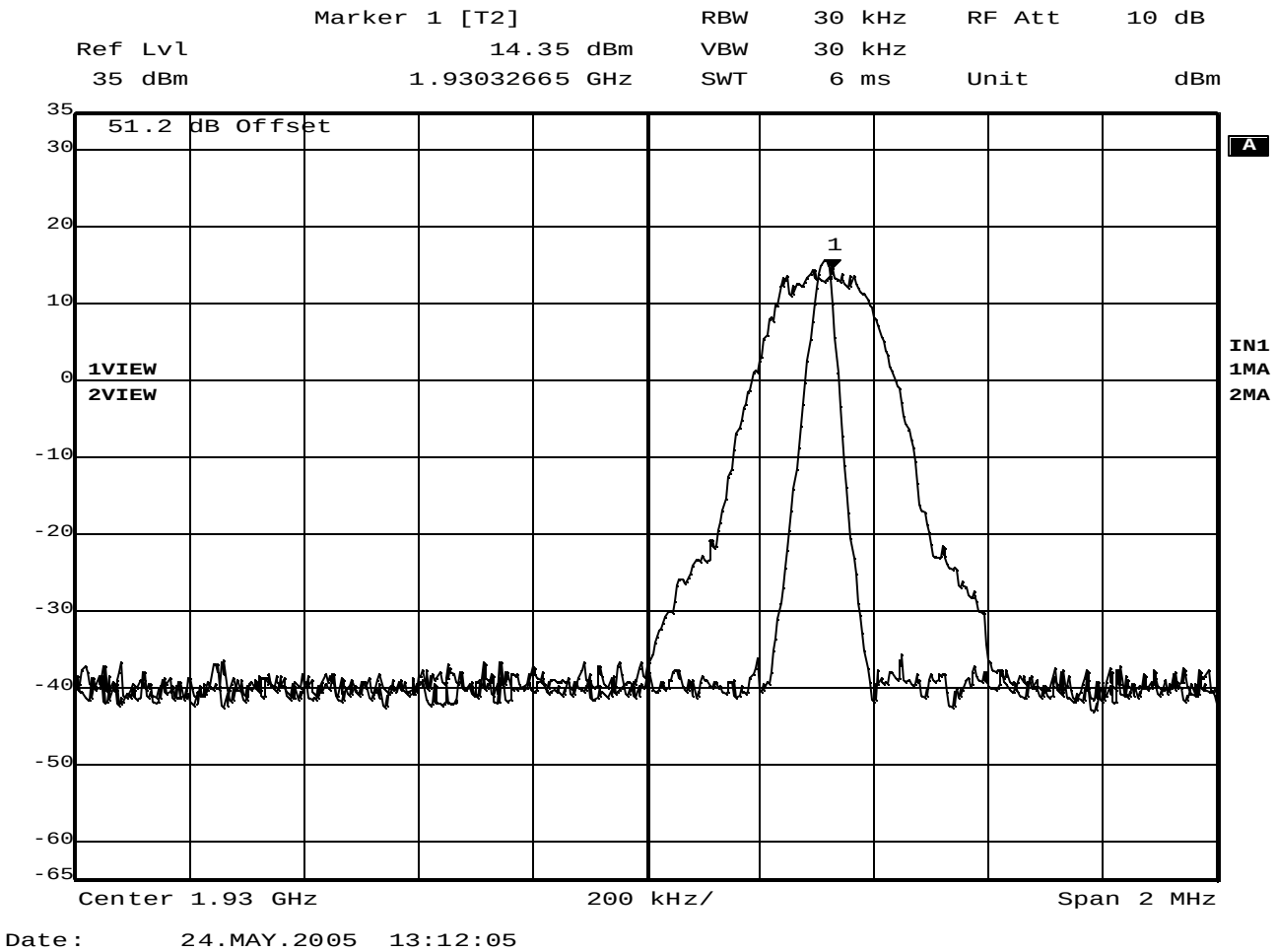
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1909.7MHz GSM
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



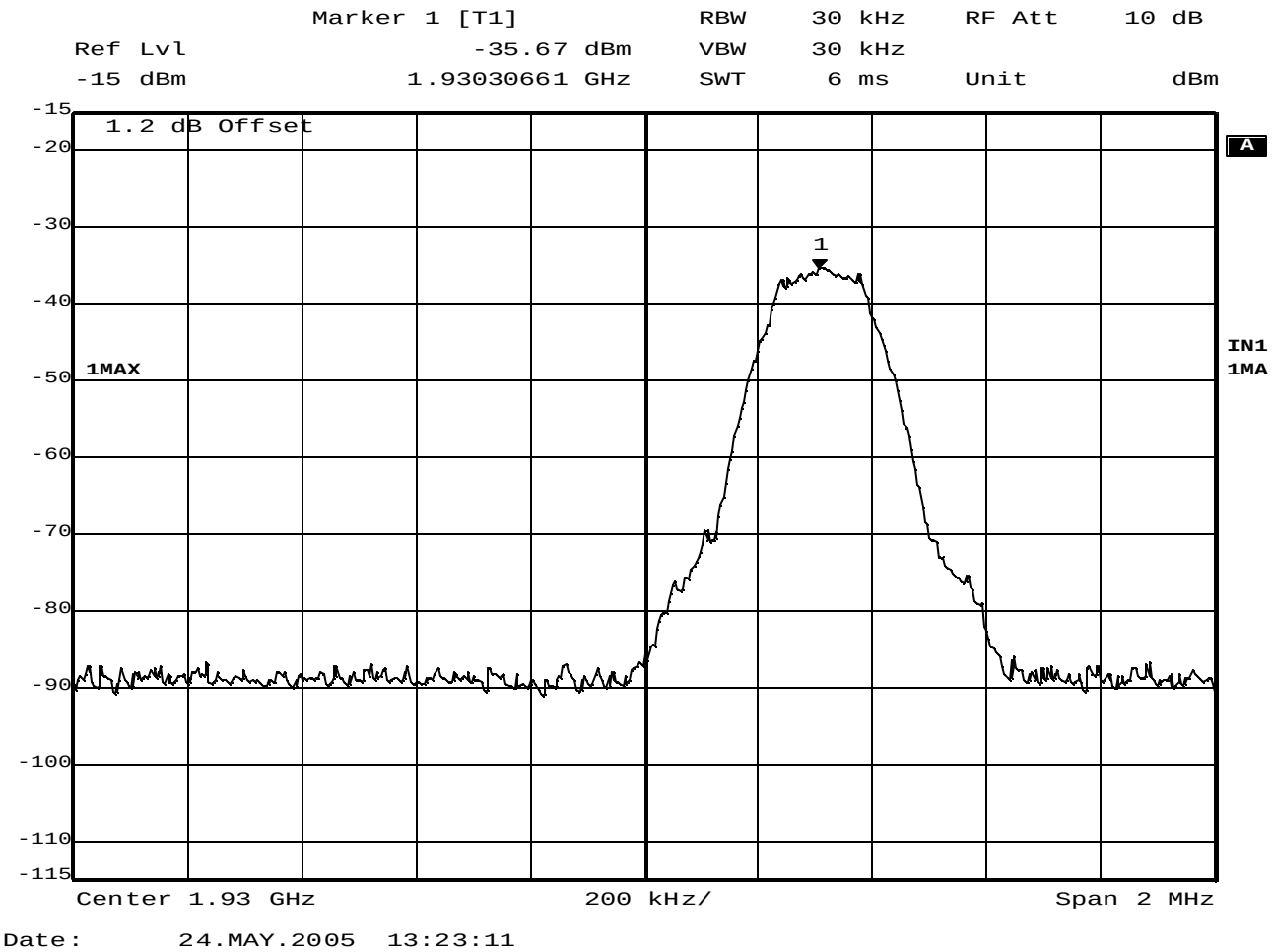
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1909.7MHz GSM
Date	:	May 24, 2005
Notes	:	Input (50dB External Pads)



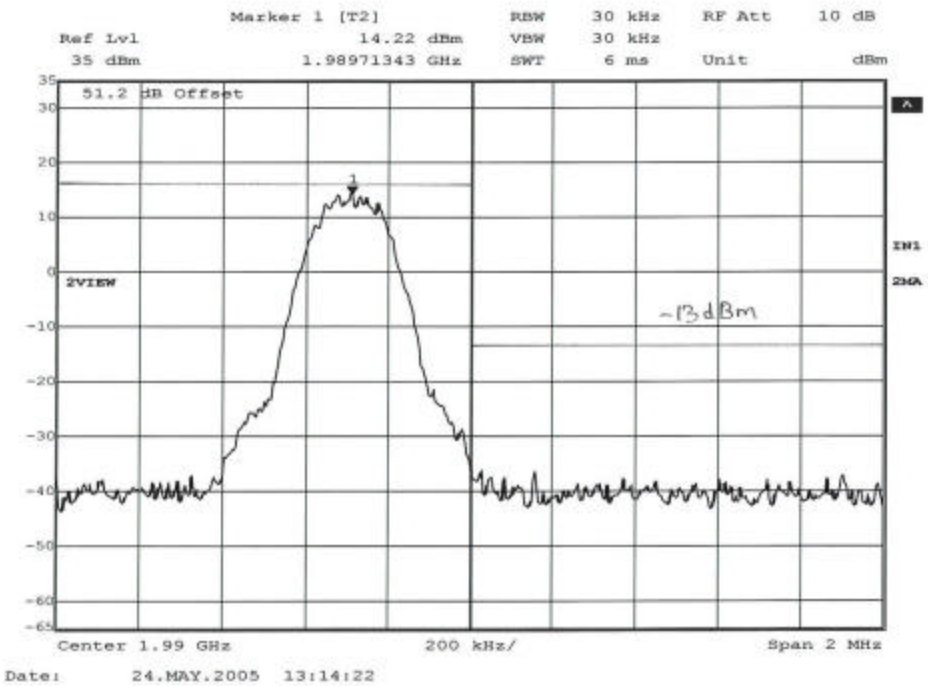
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1930.3MHz GSM
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



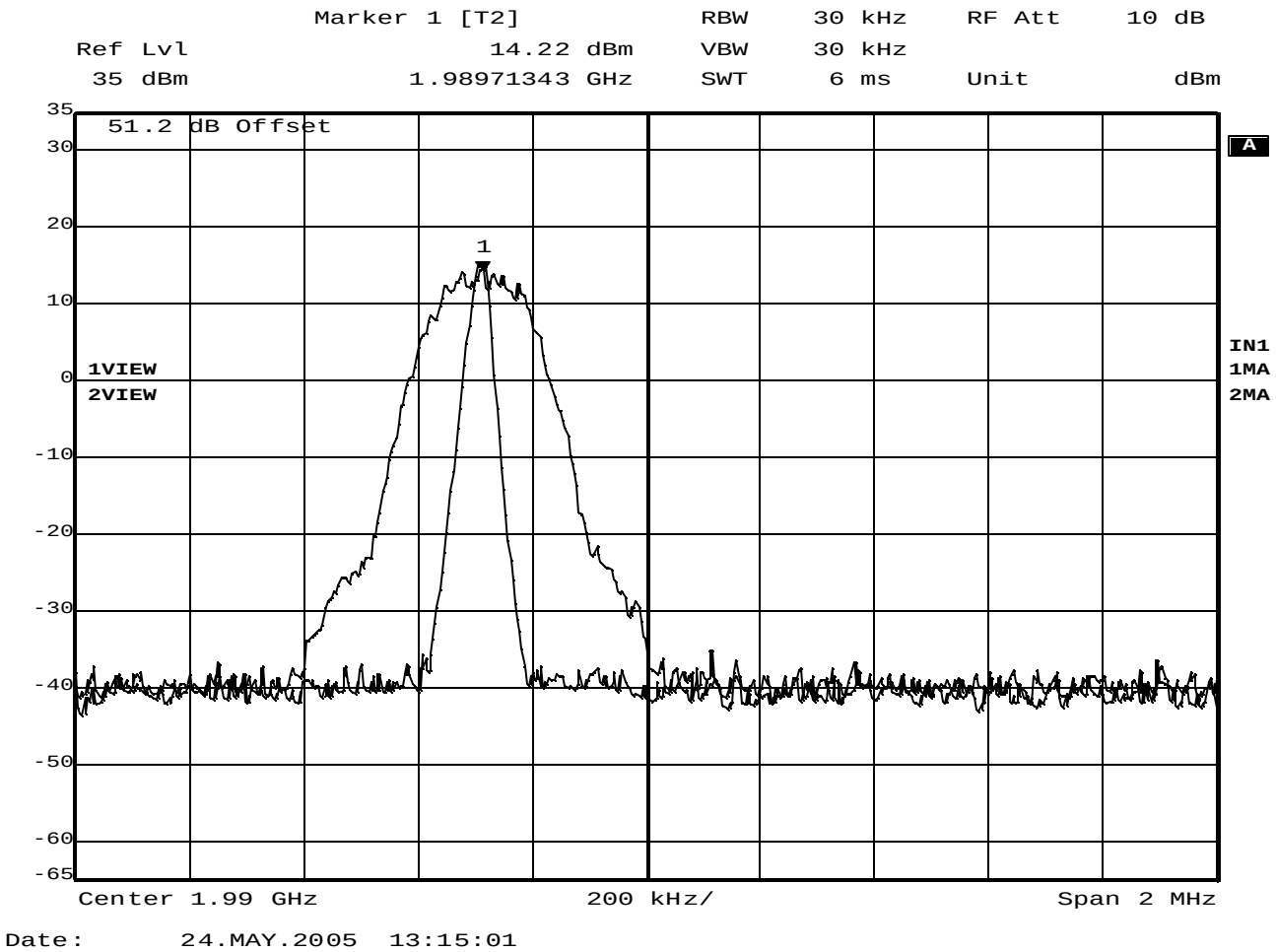
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1930.3MHz GSM
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



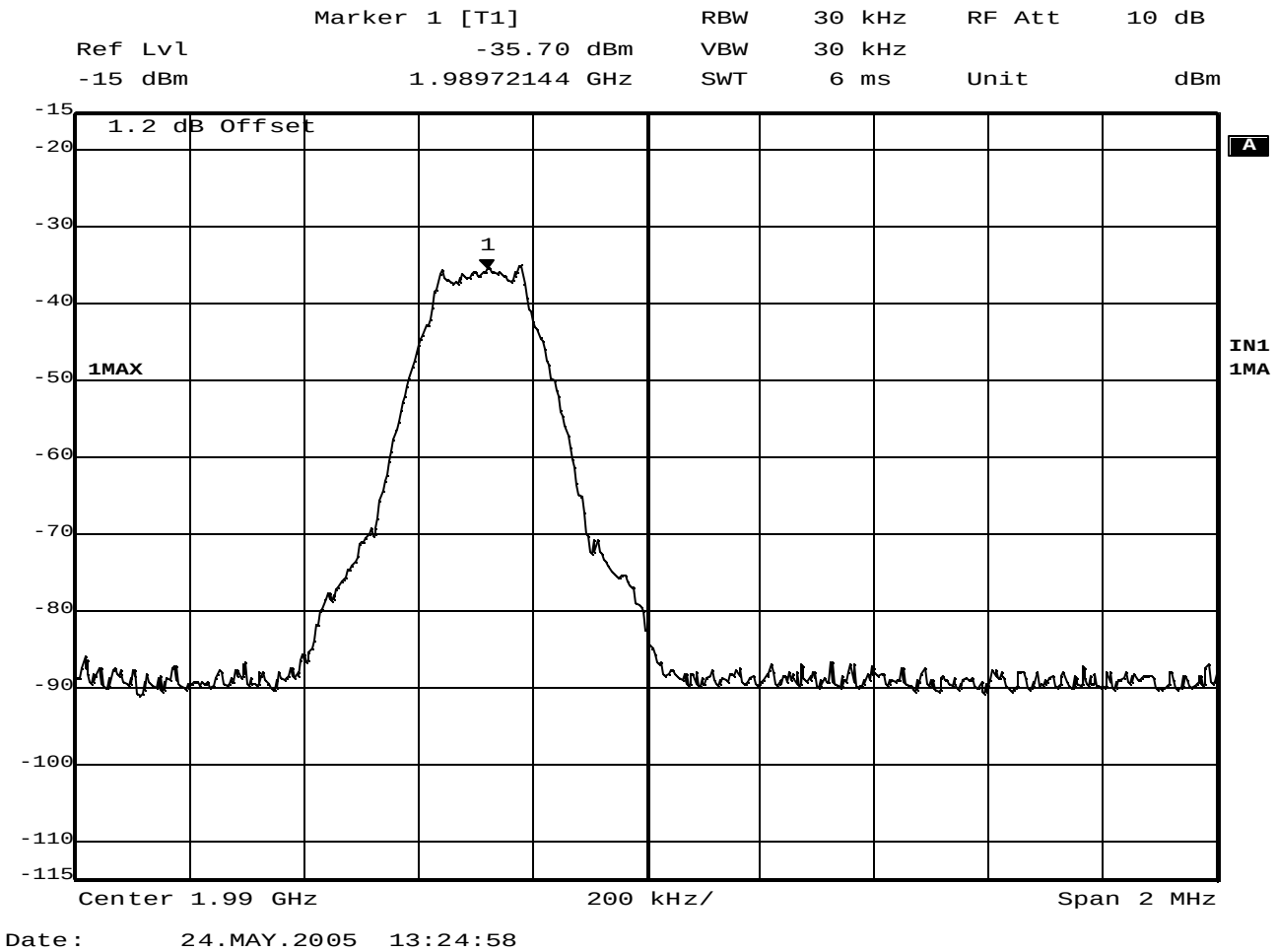
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1930.3MHz GSM
Date	:	May 24, 2005
Notes	:	Input



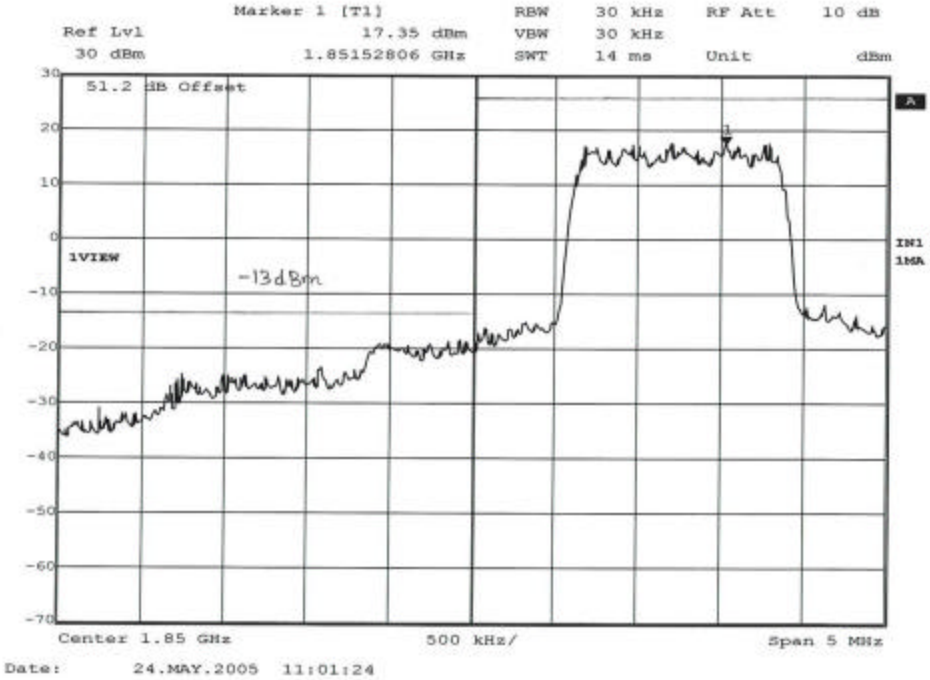
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1989.7MHz GSM
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



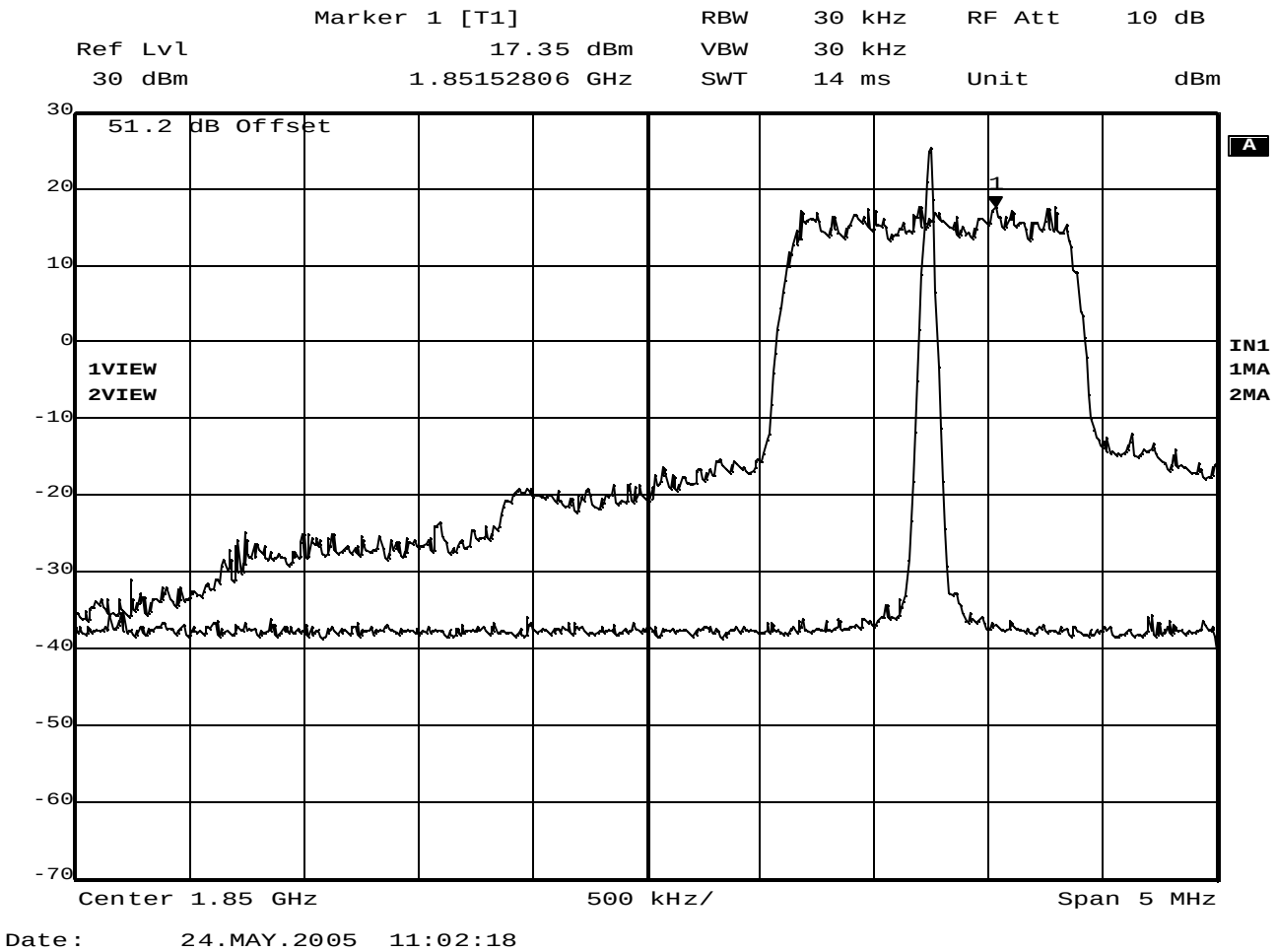
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1989.7MHz GSM
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



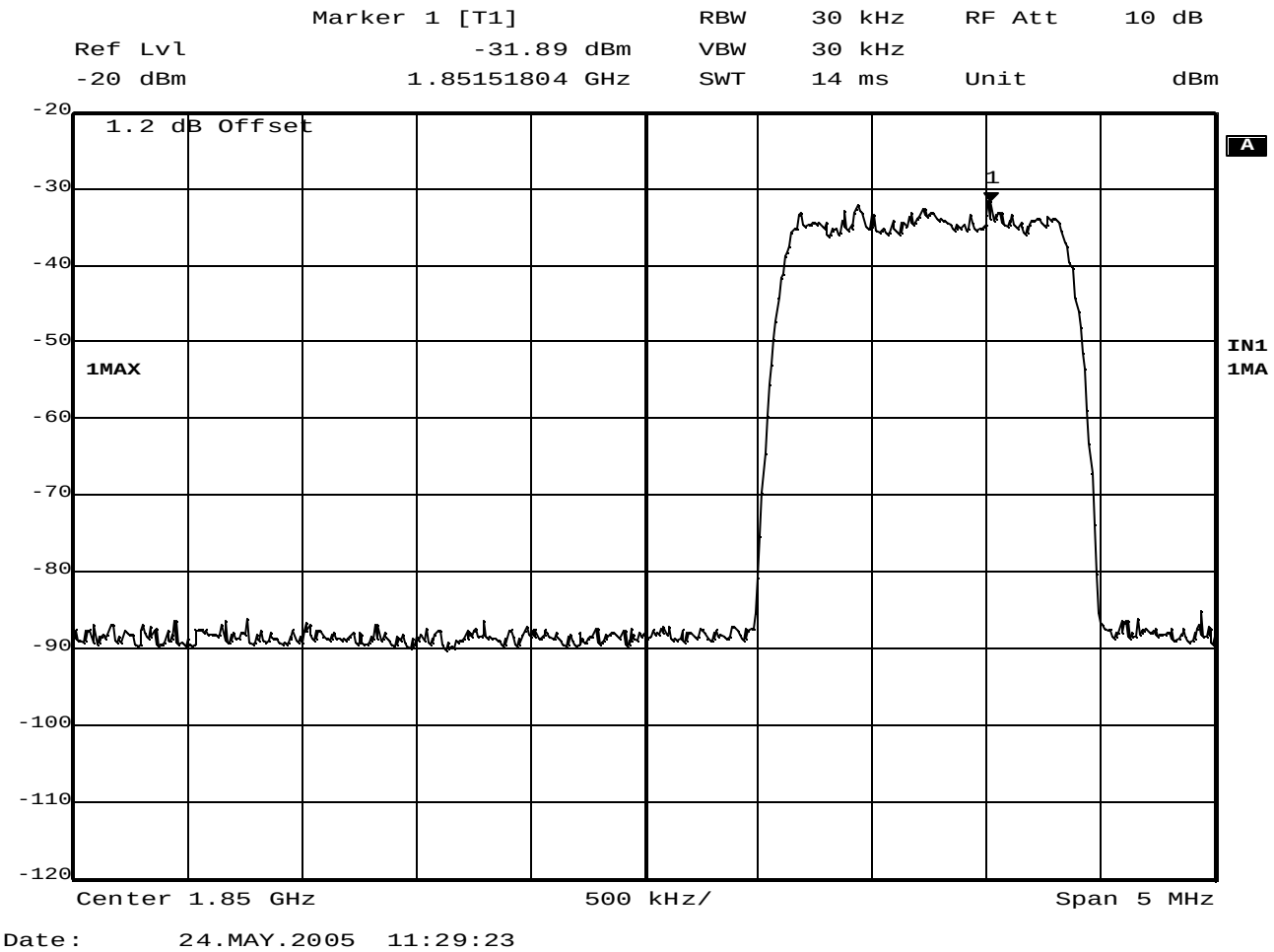
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1989.7MHz GSM
Date	:	May 24, 2005
Notes	:	Input



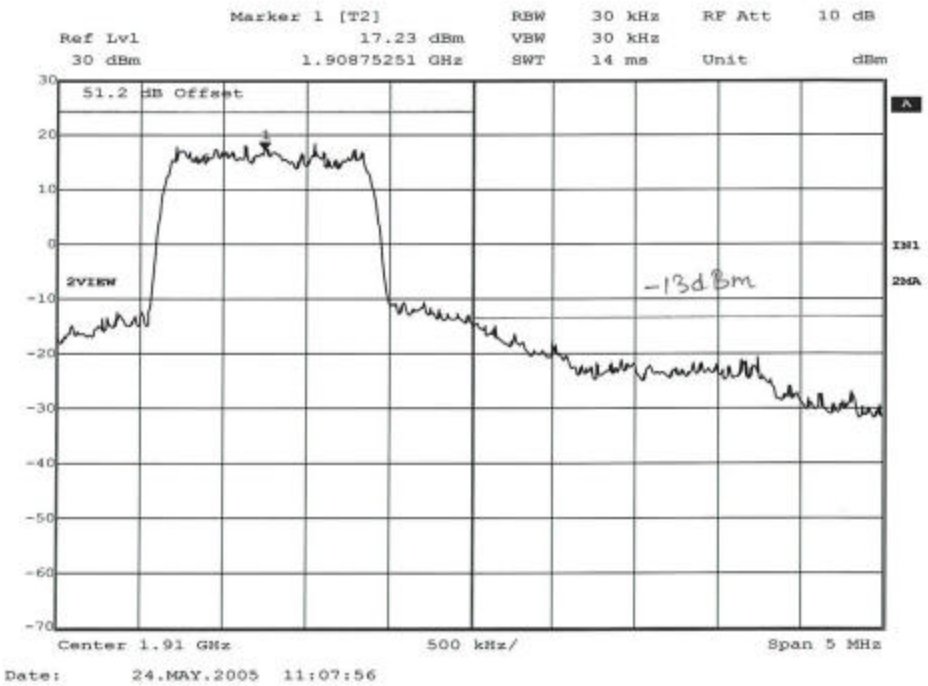
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1851.23MHz CDMA
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



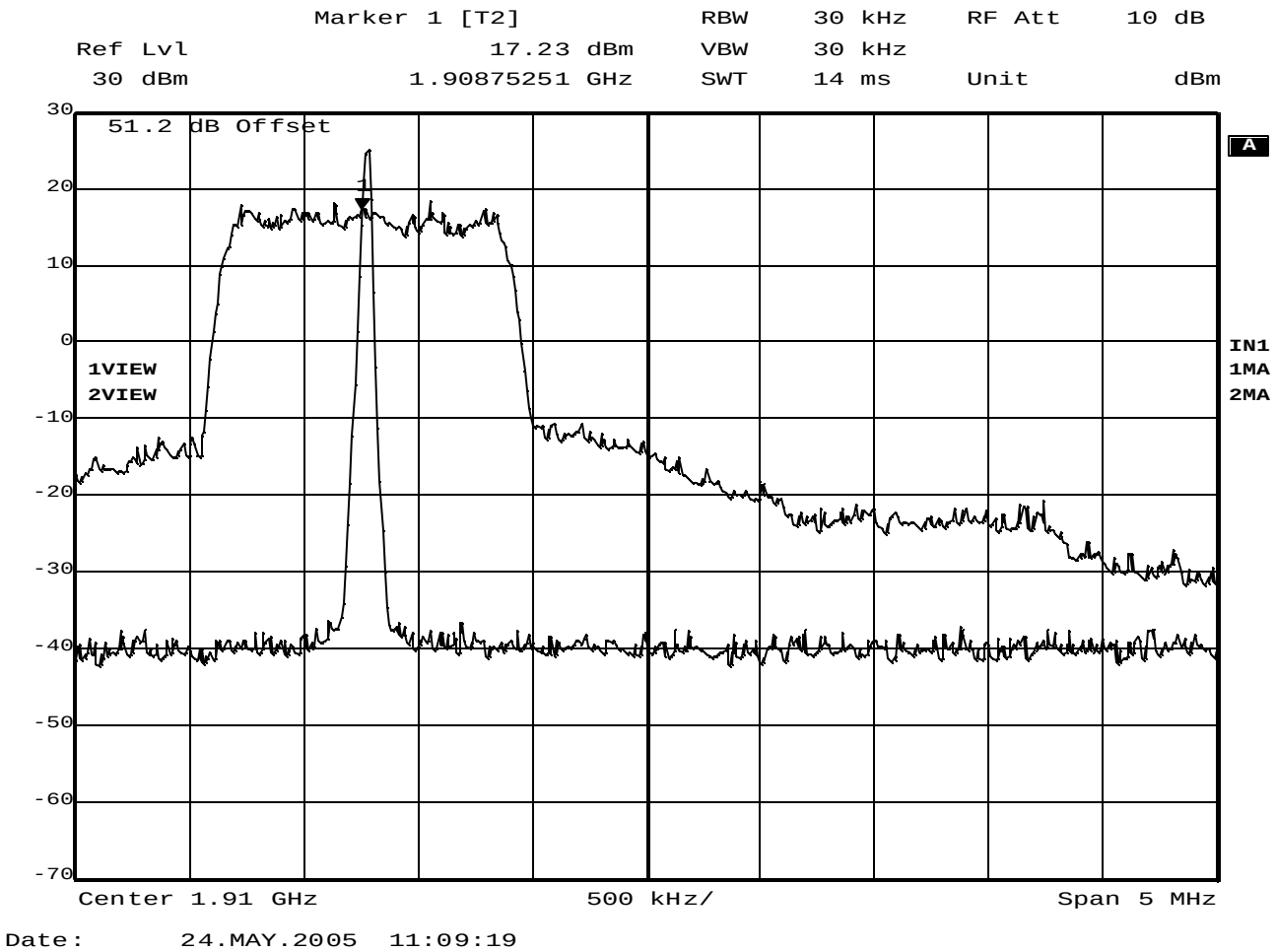
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1851.23MHz CDMA
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



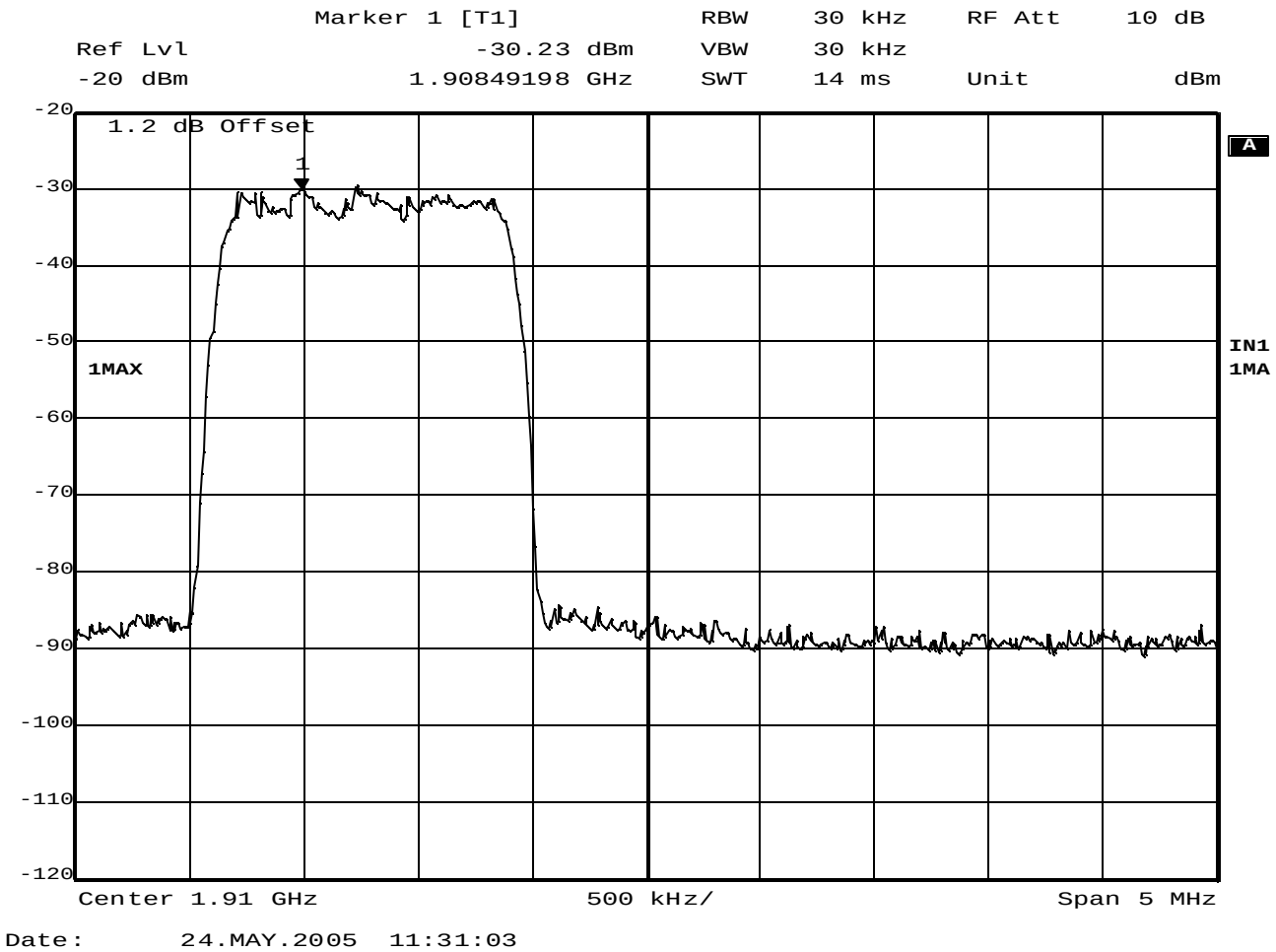
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1851.23MHz CDMA
Date	:	May 24, 2005
Notes	:	Input



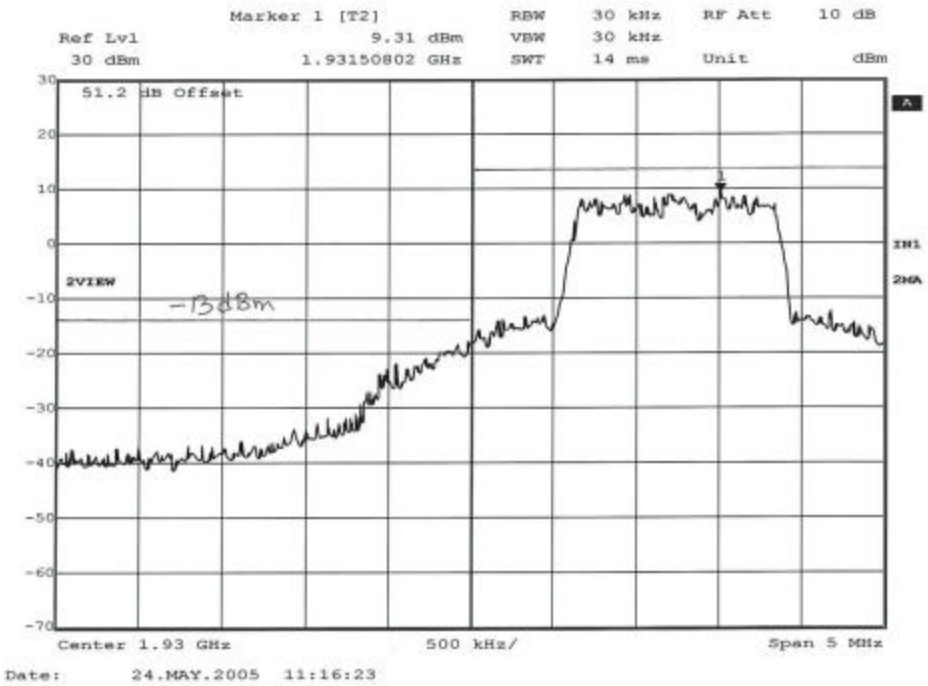
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1908.77MHz CDMA
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



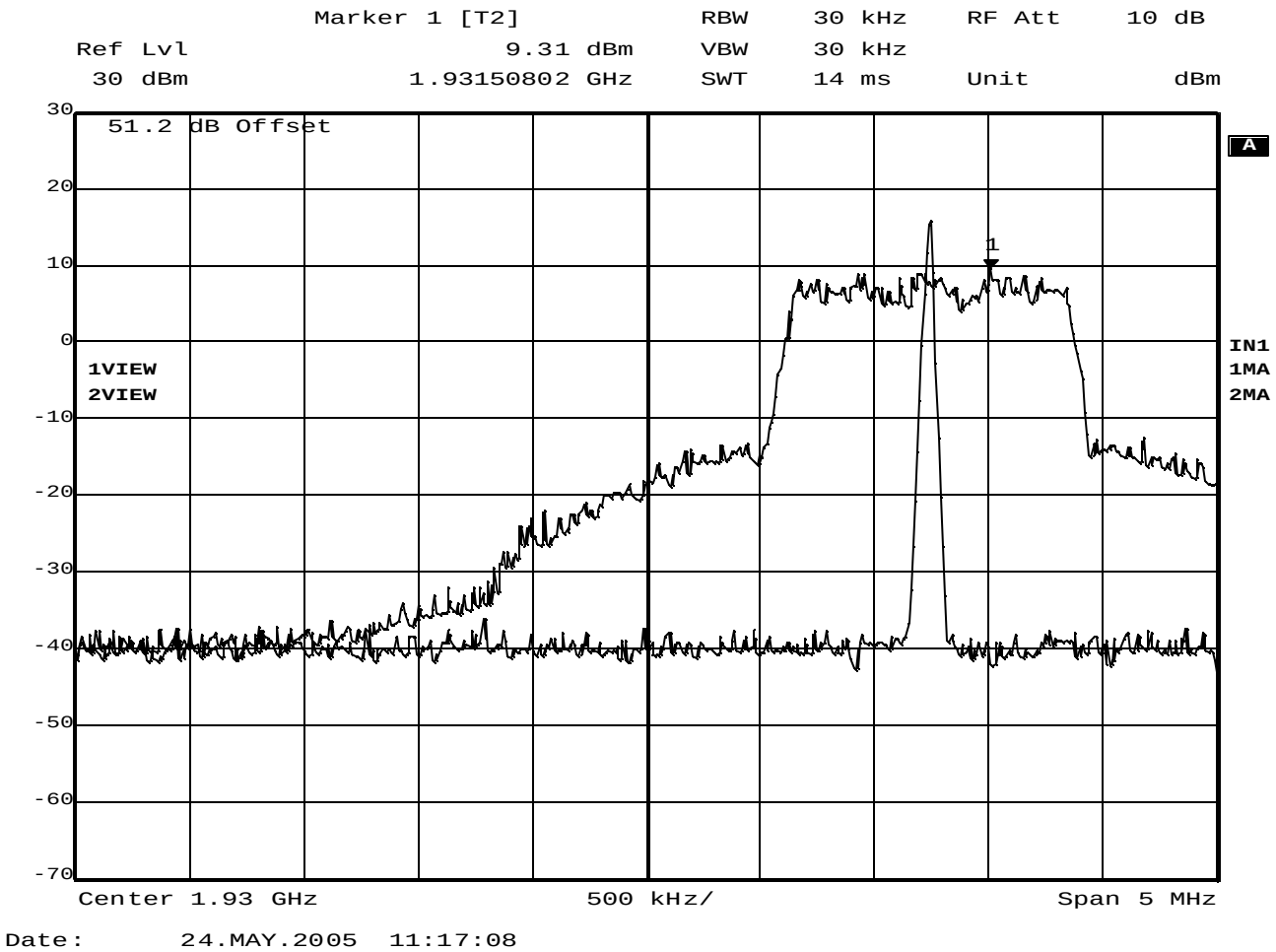
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1908.77MHz CDMA
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



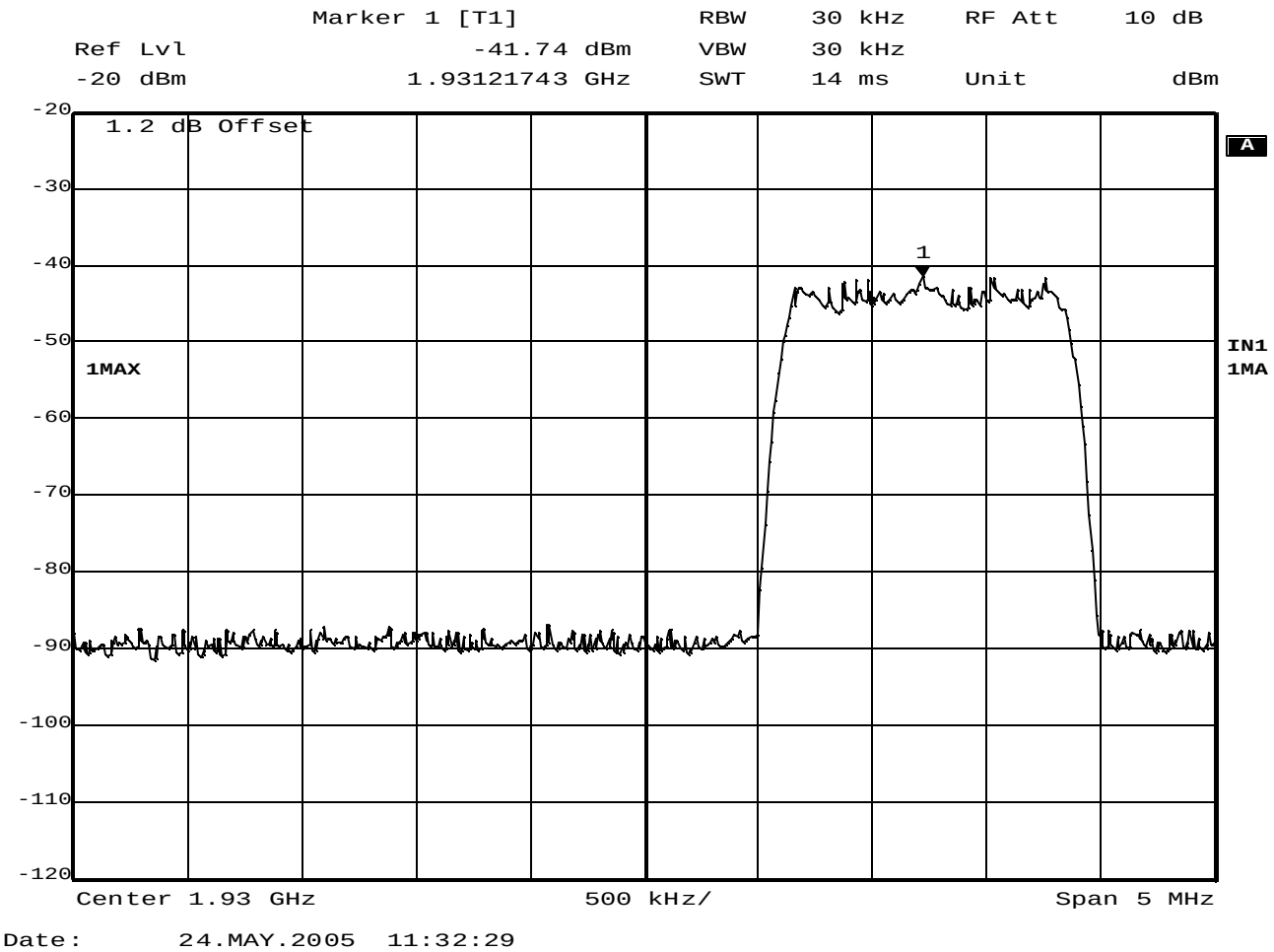
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010005
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1908.77MHz CDMA
Date	:	May 24, 2005
Notes	:	Input



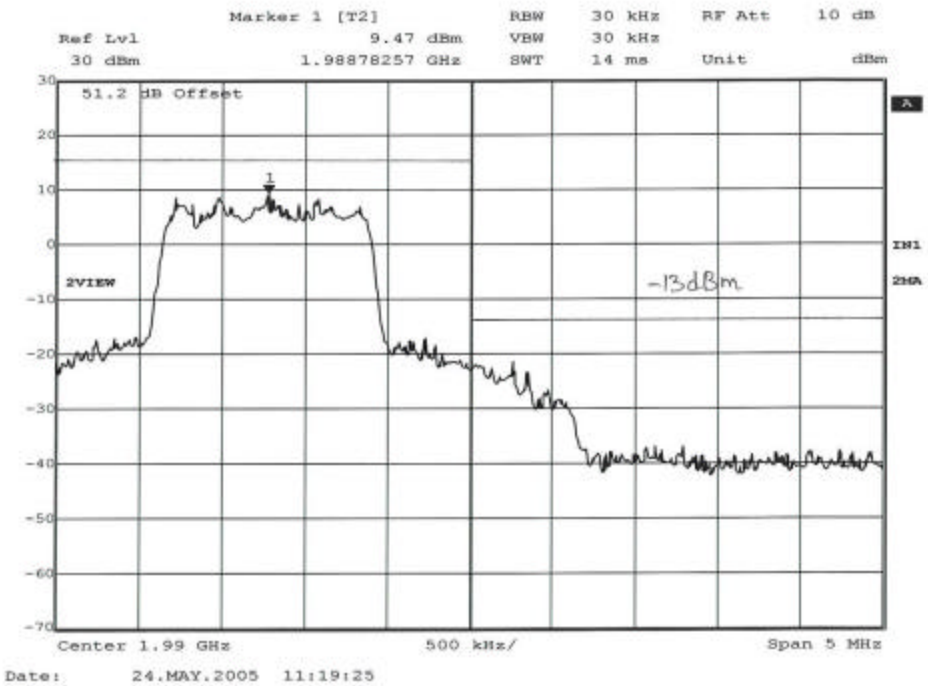
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1931.23MHz CDMA
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



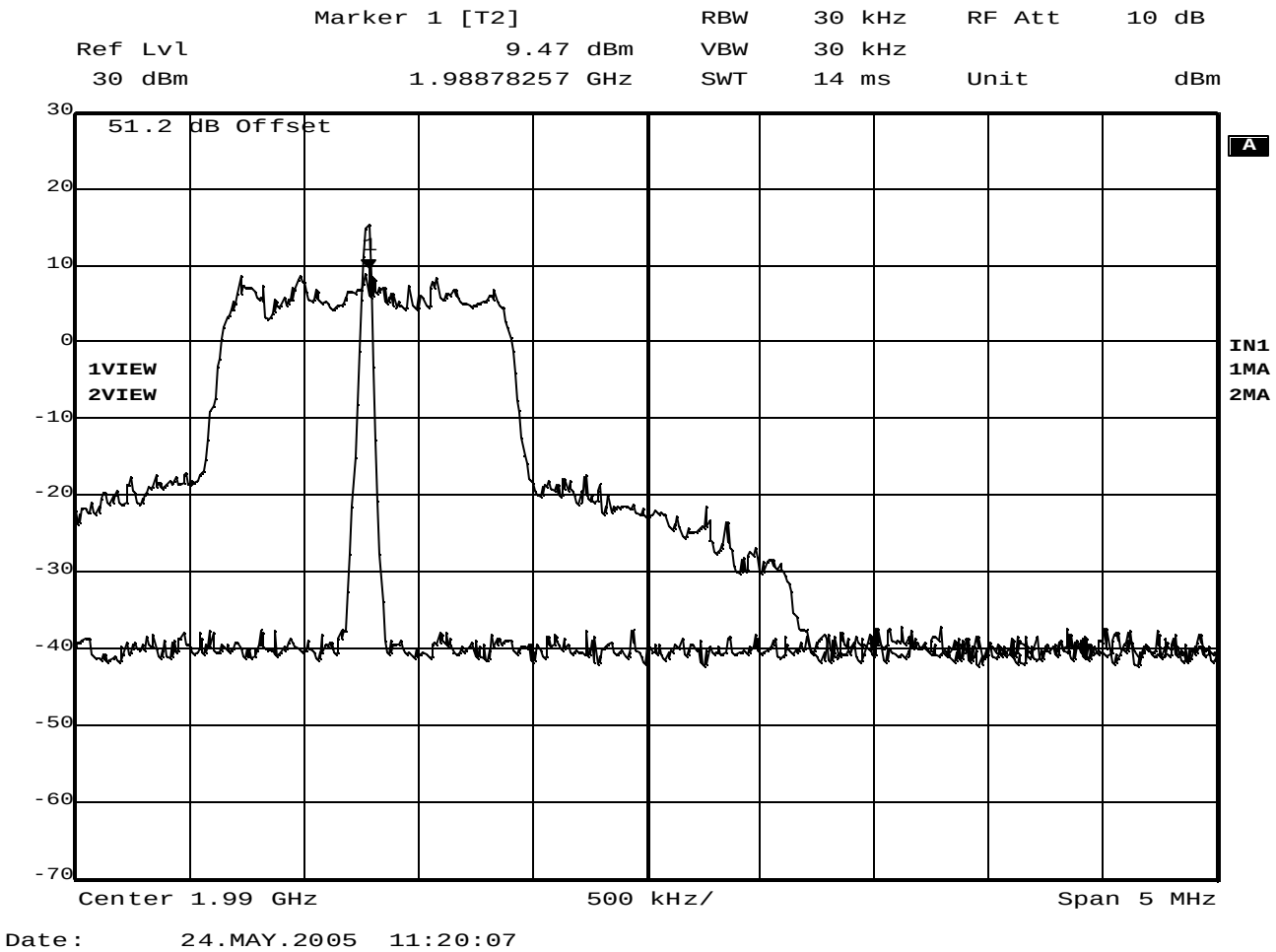
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1931.23MHz CDMA
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



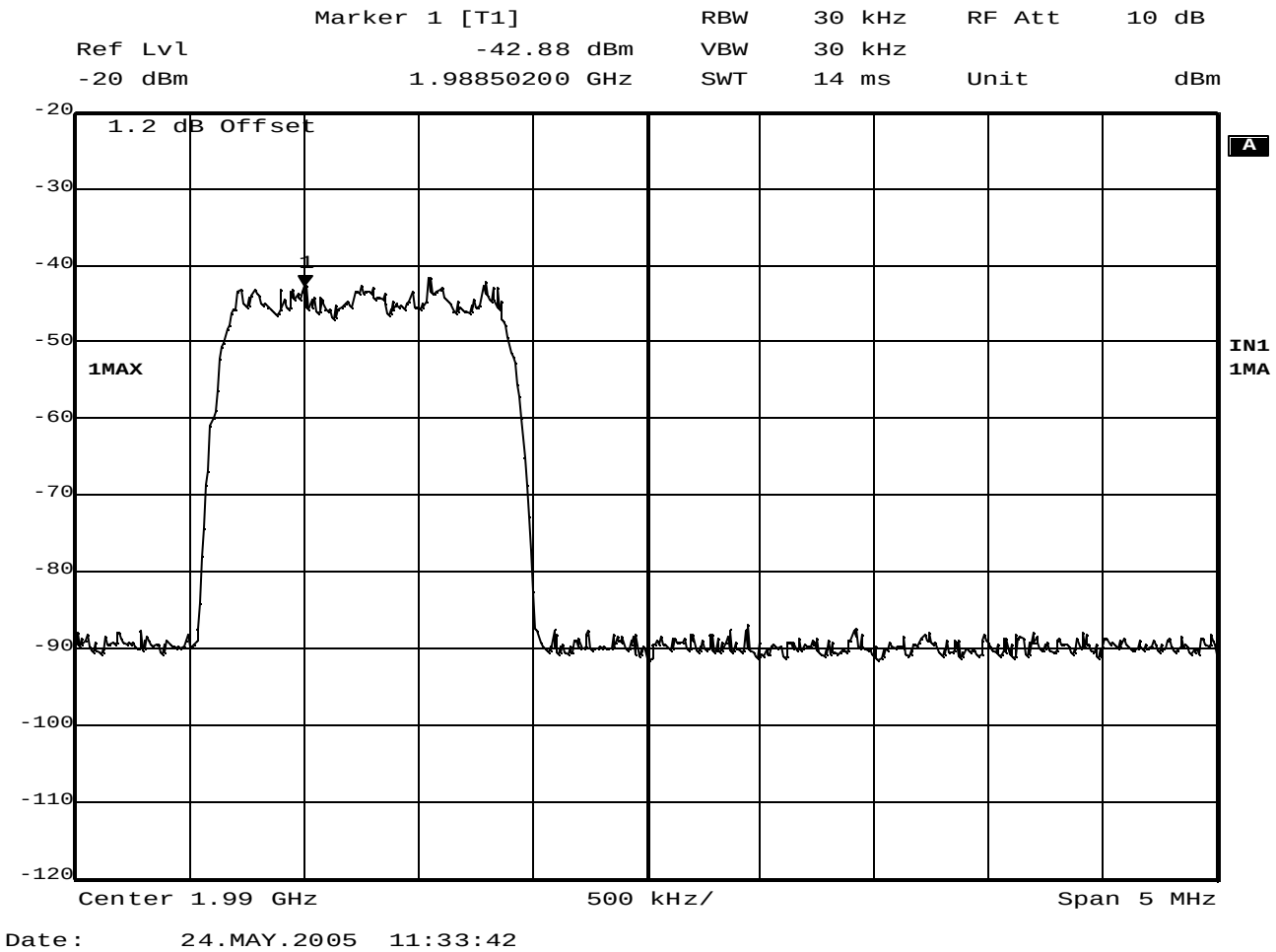
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1931.23MHz CDMA
Date	:	May 24, 2005
Notes	:	Input



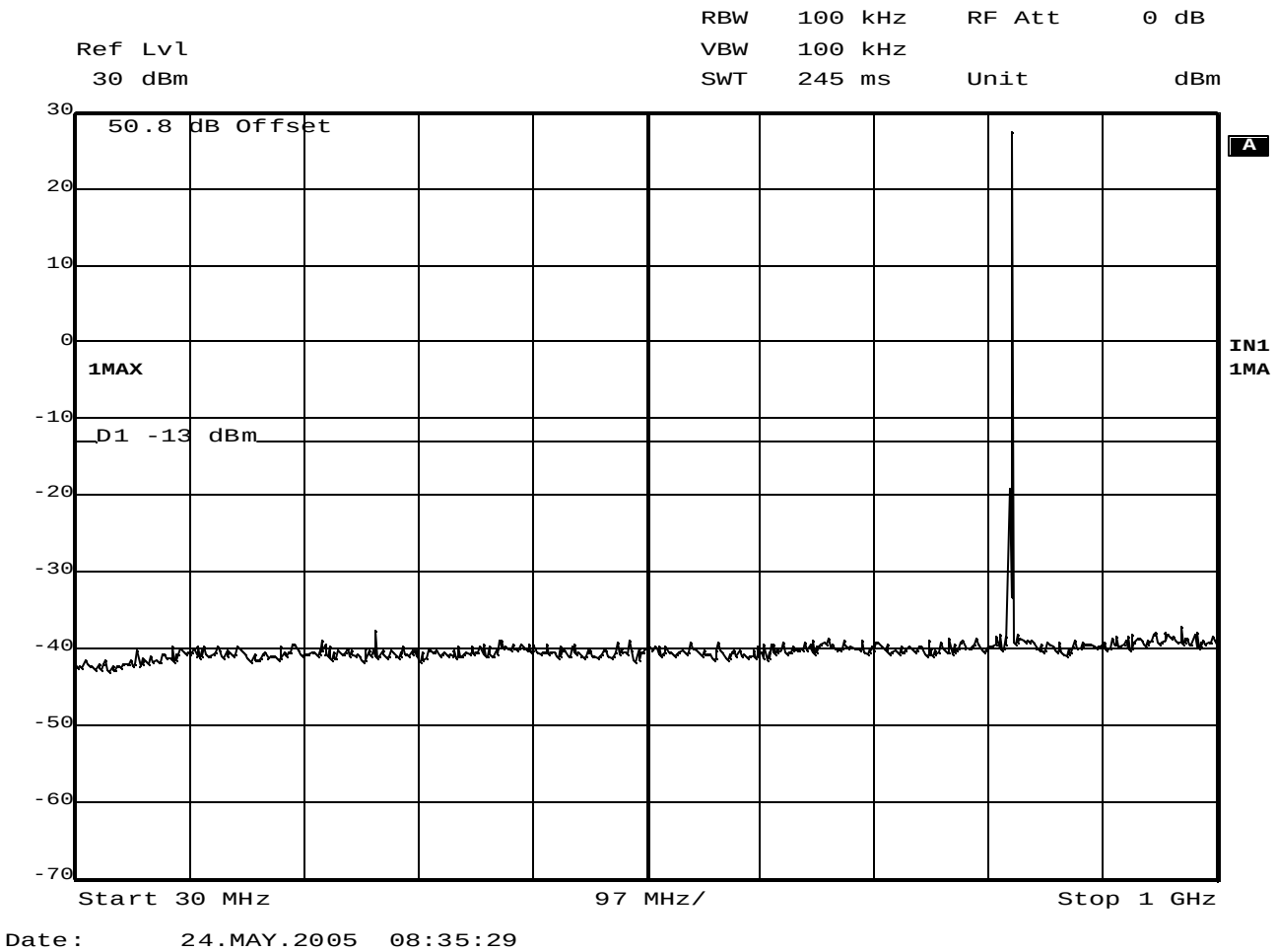
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1988.77MHz CDMA
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



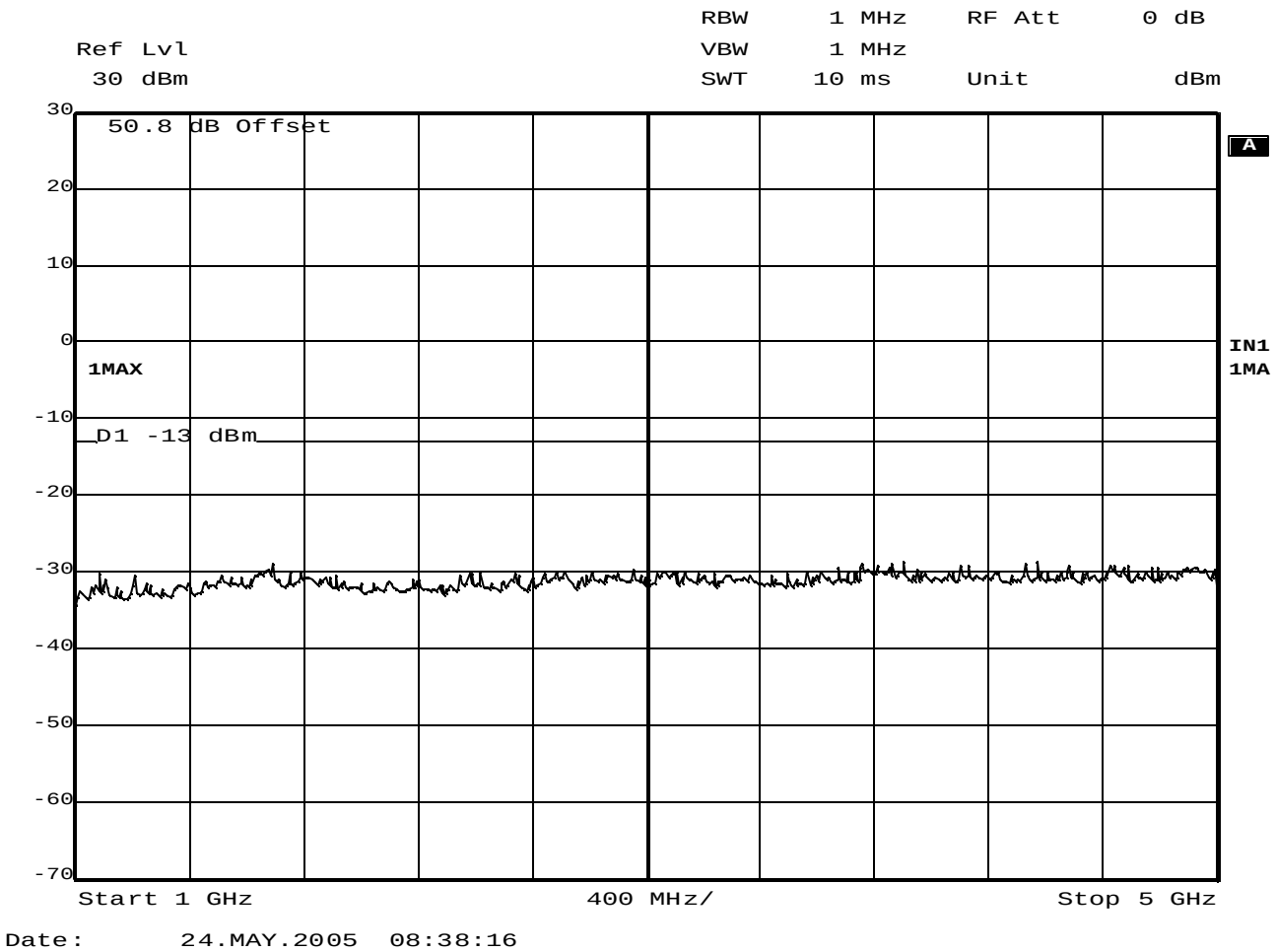
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1988.77MHz CDMA
Date	:	May 24, 2005
Notes	:	Output CW vs. Mod (50dB External Pads)



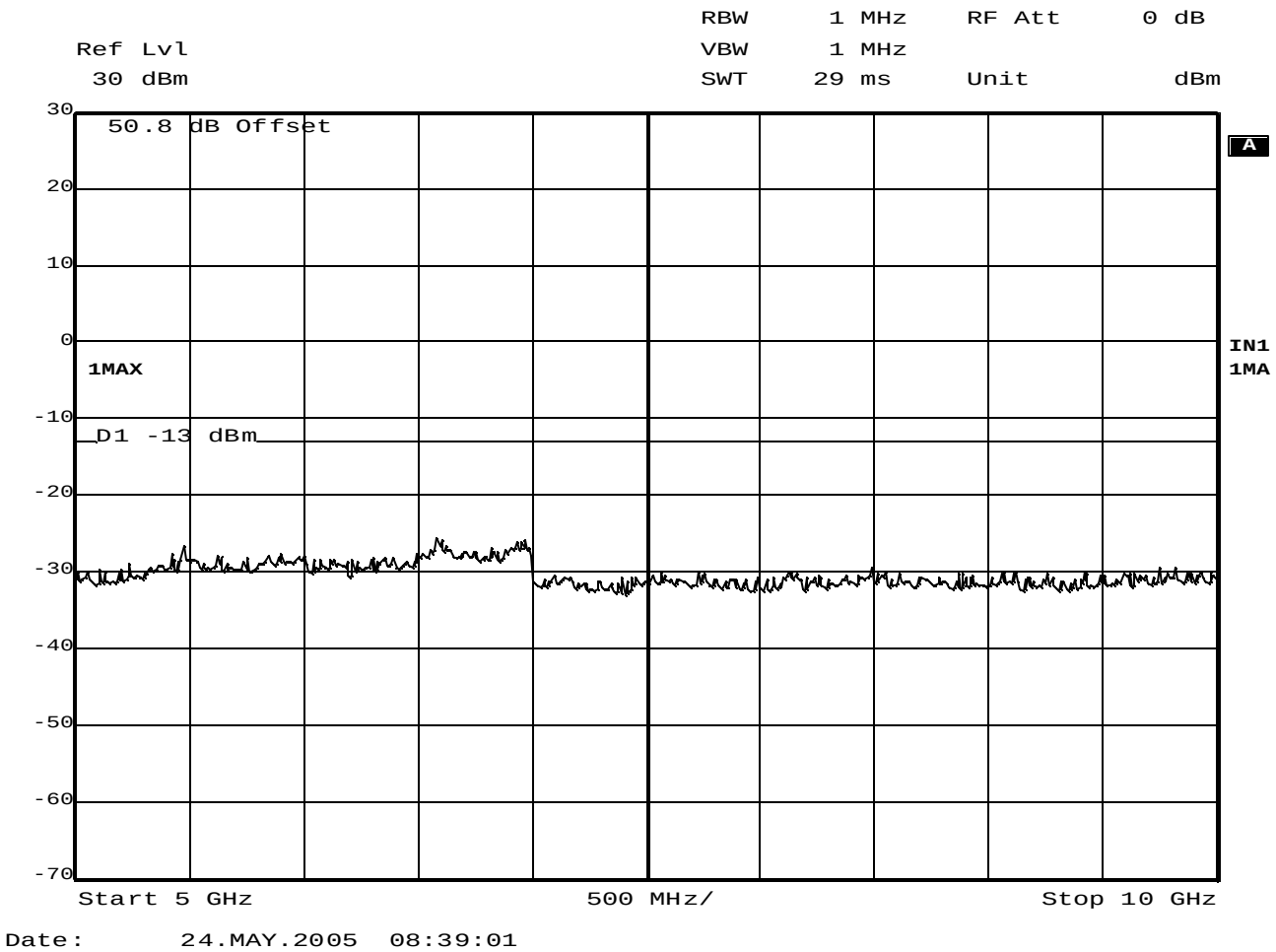
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 24 Bandedge Compliance
Test Mode	:	Tx @ 1988.77MHz CDMA
Date	:	May 24, 2005
Notes	:	Input



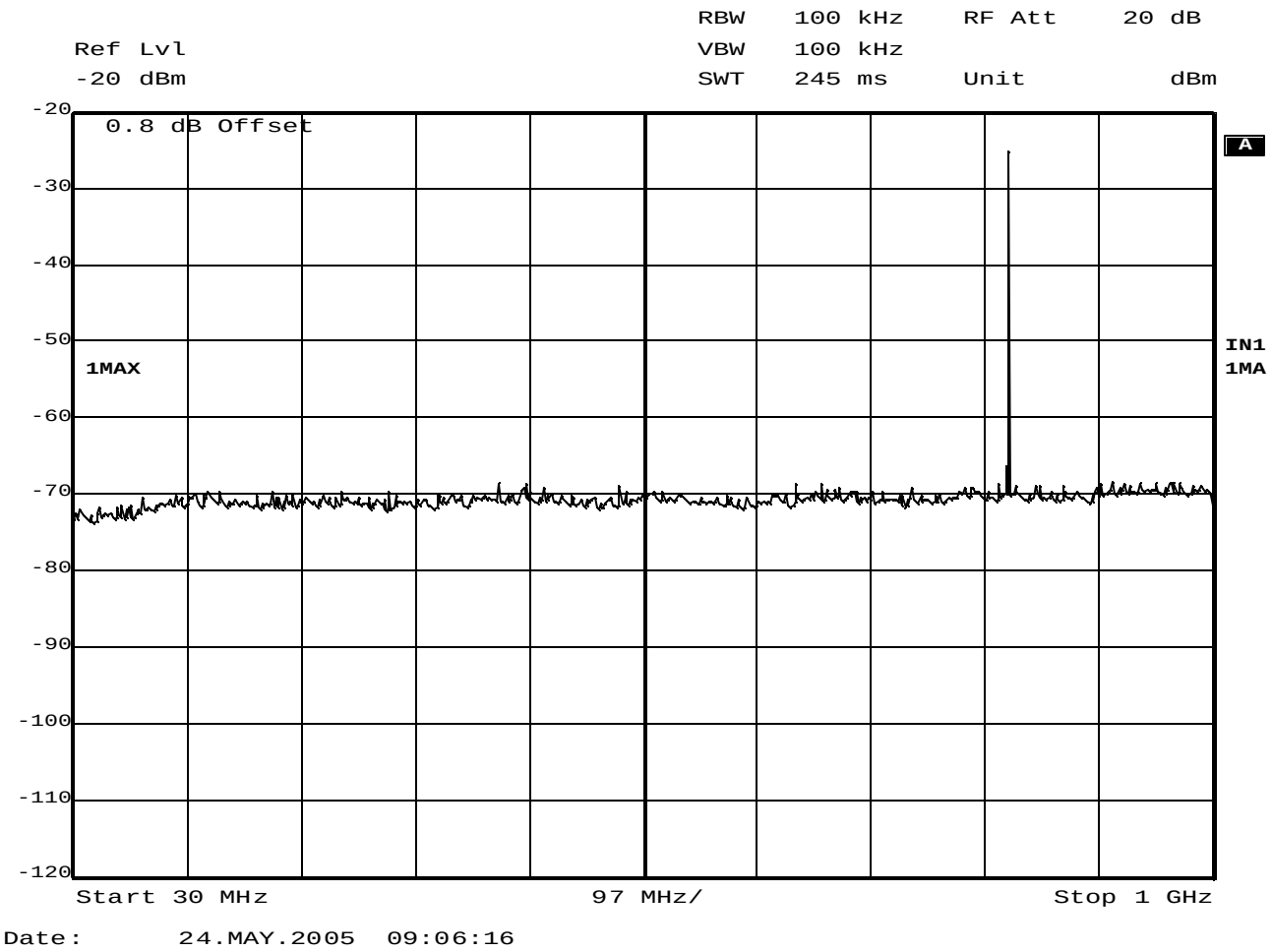
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 824 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



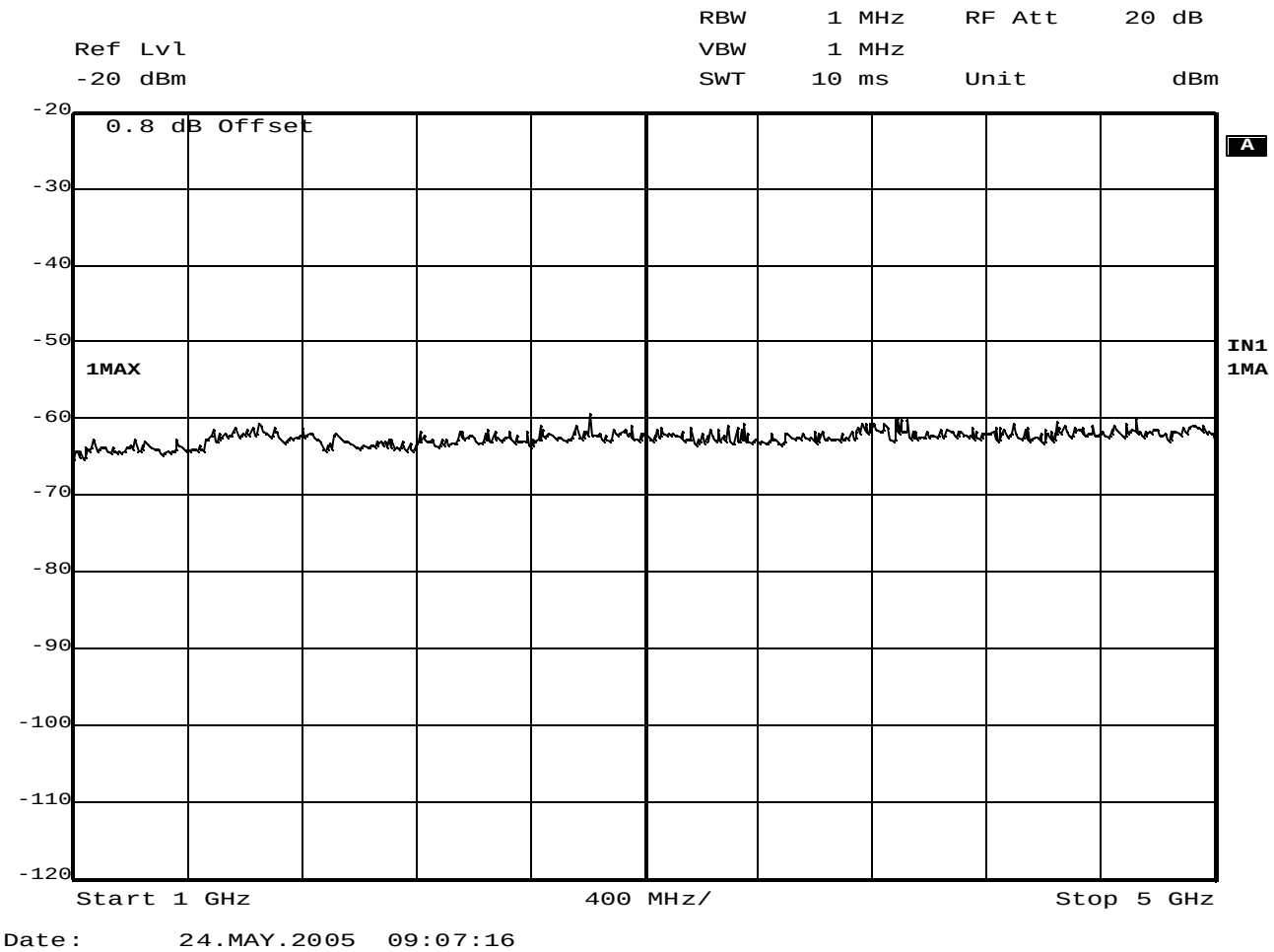
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 824 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



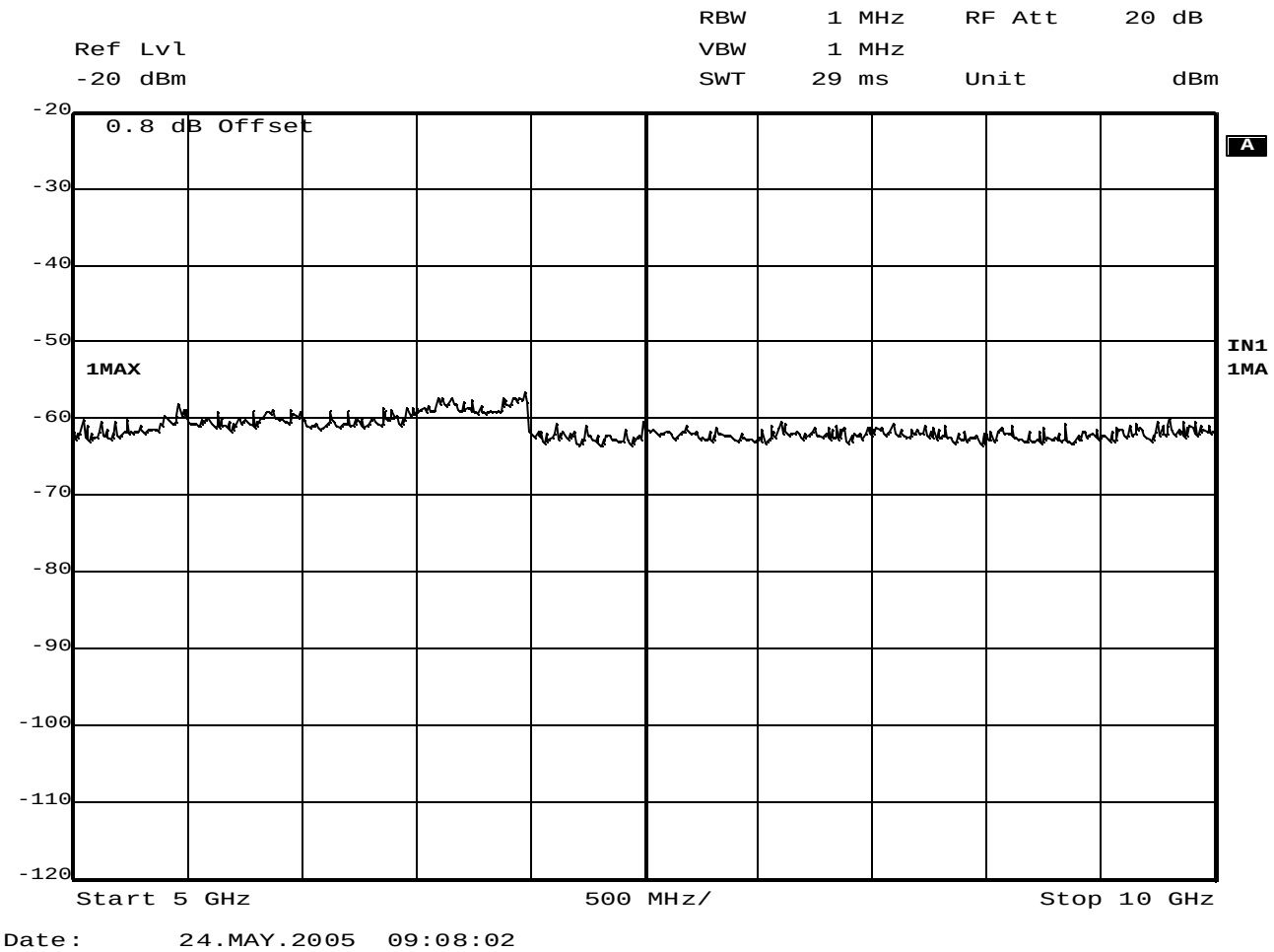
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 824 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



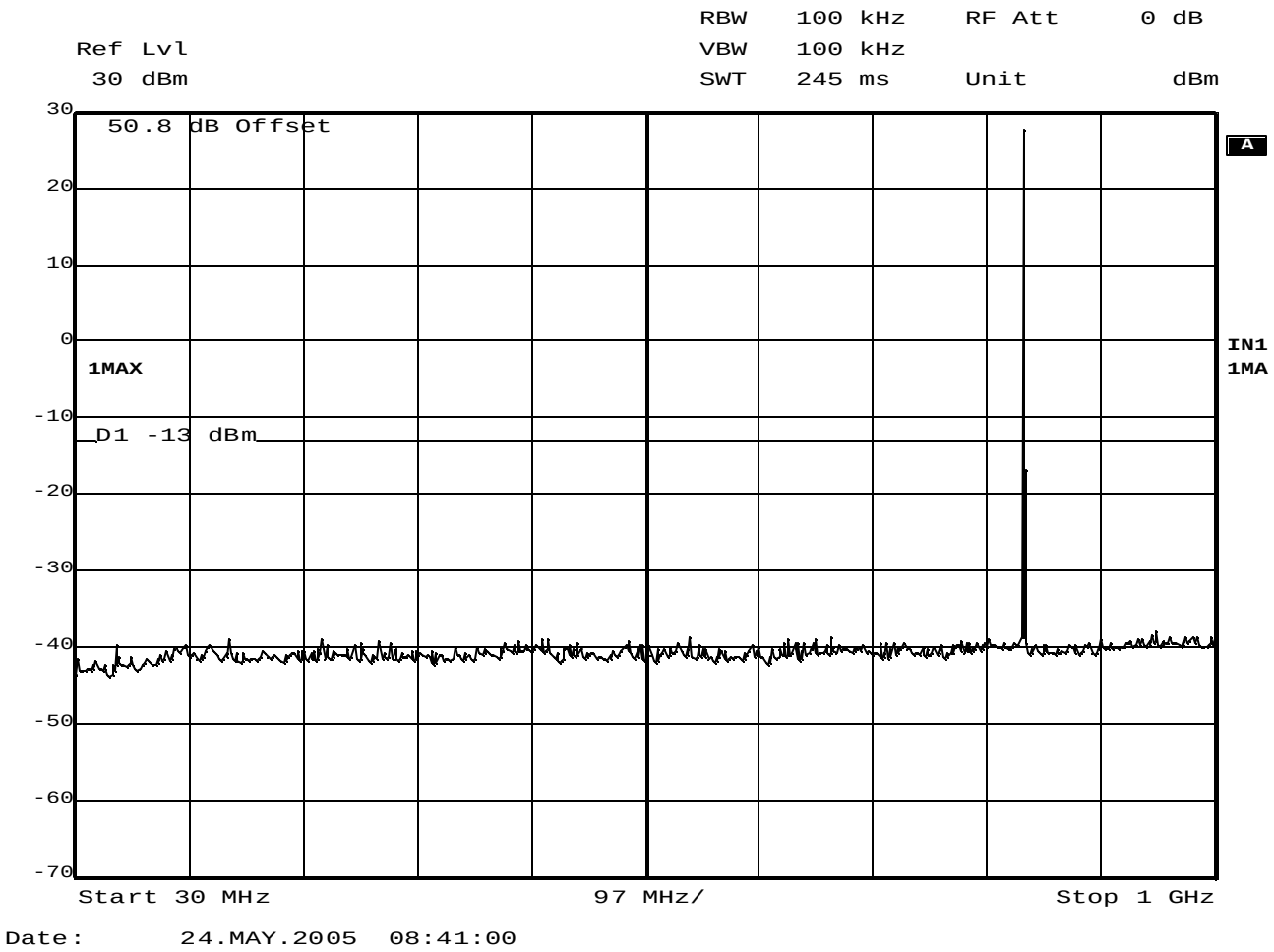
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 824 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



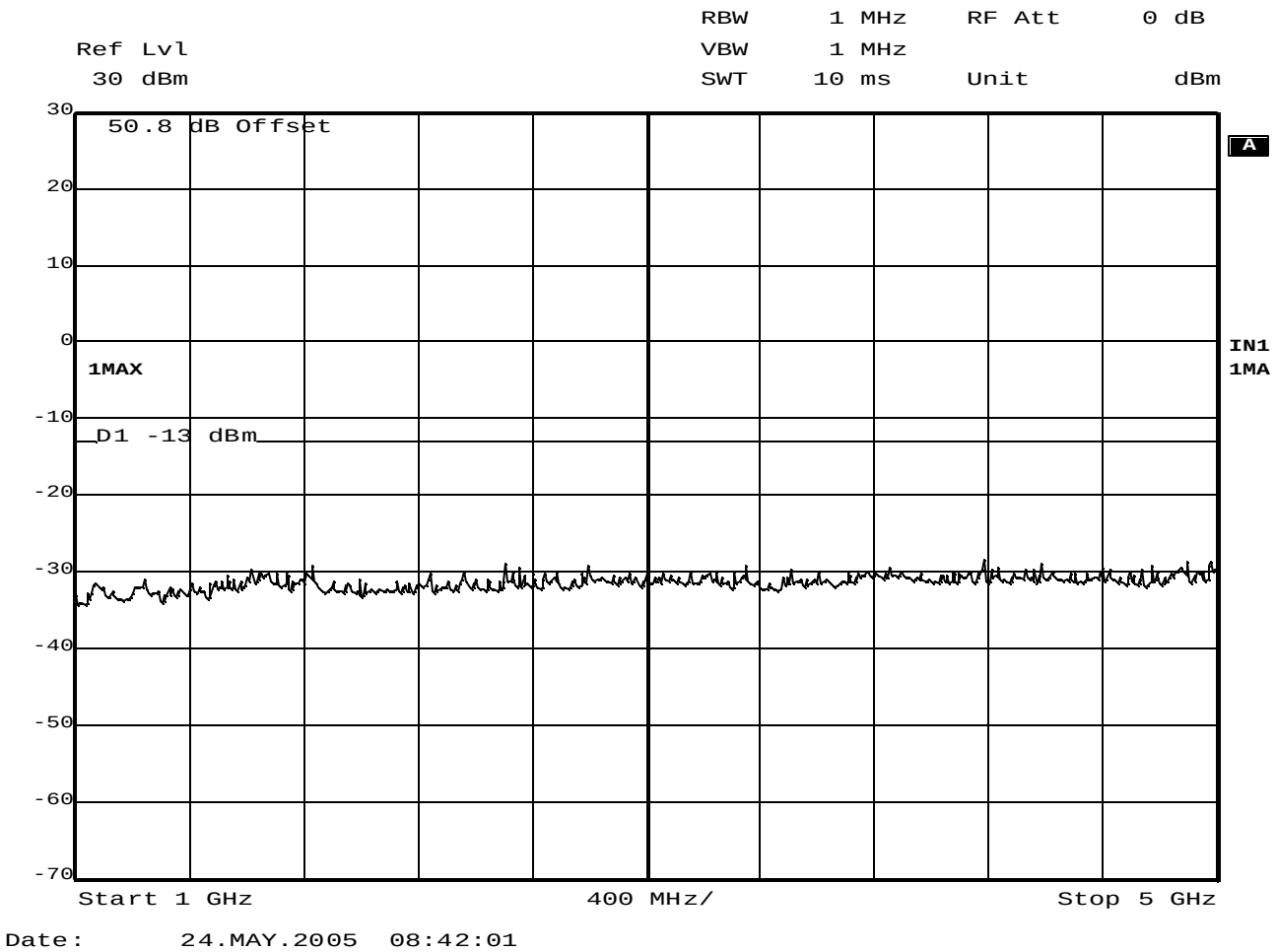
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 824 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



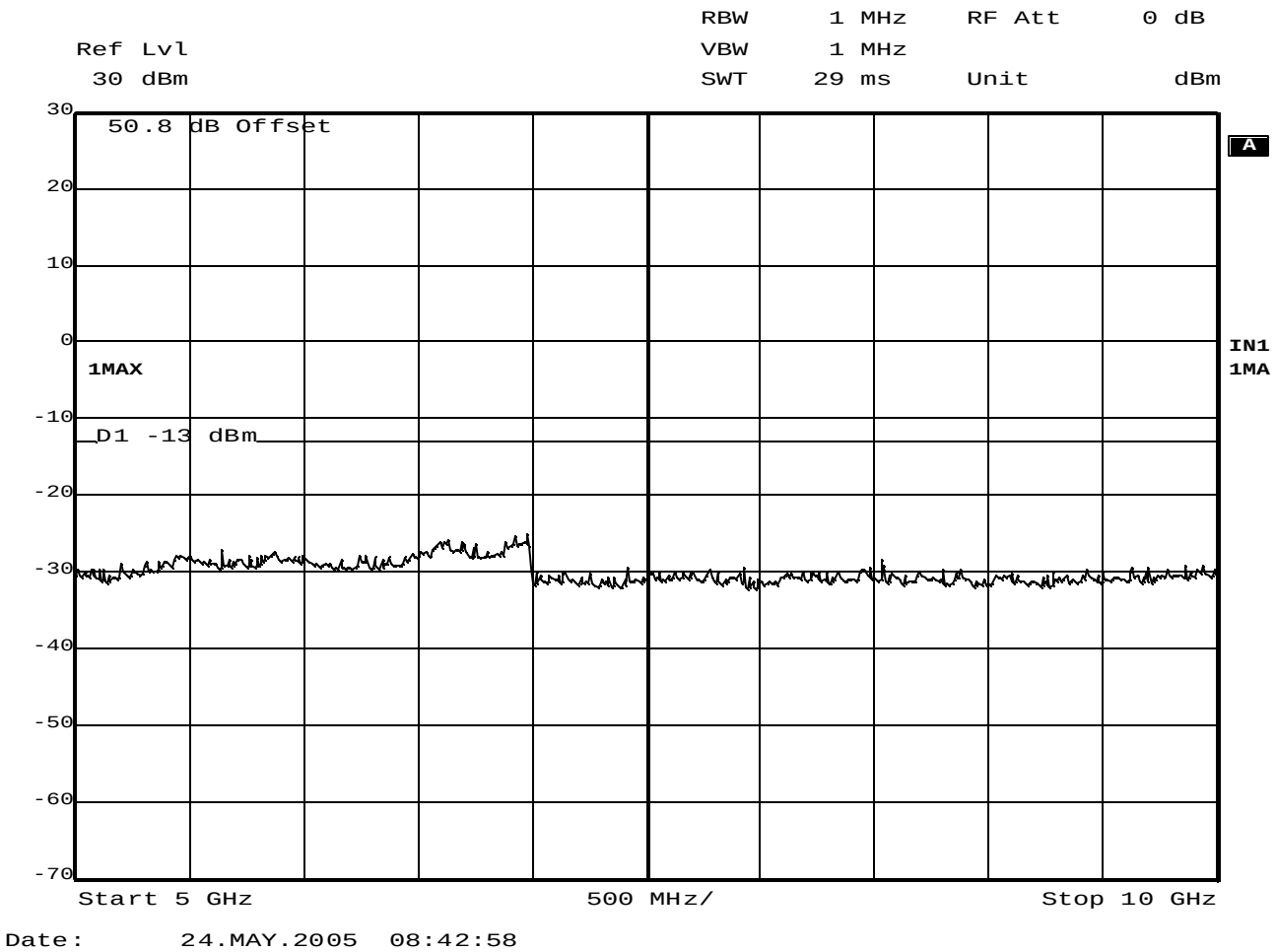
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 824 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



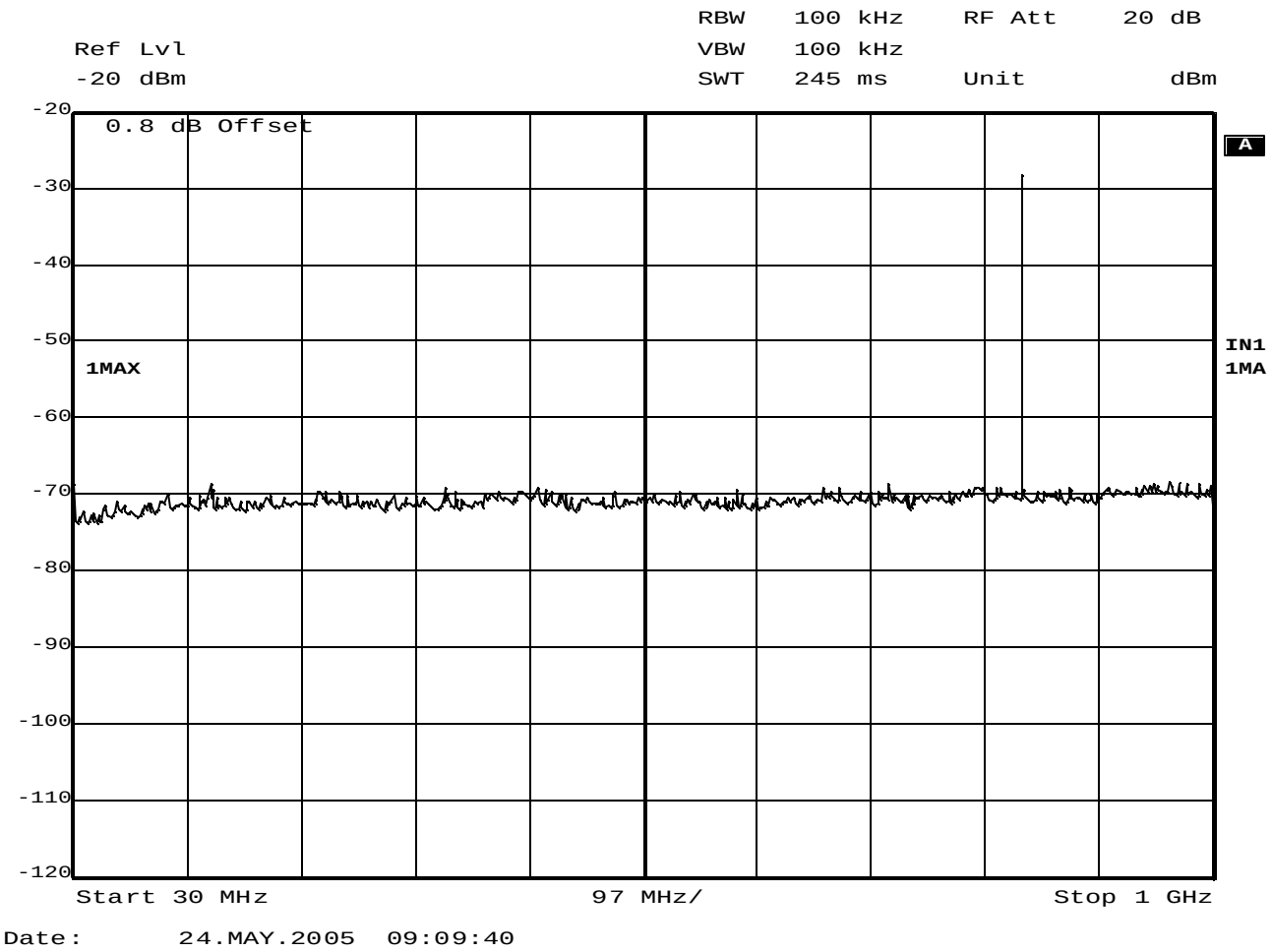
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 836.5 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



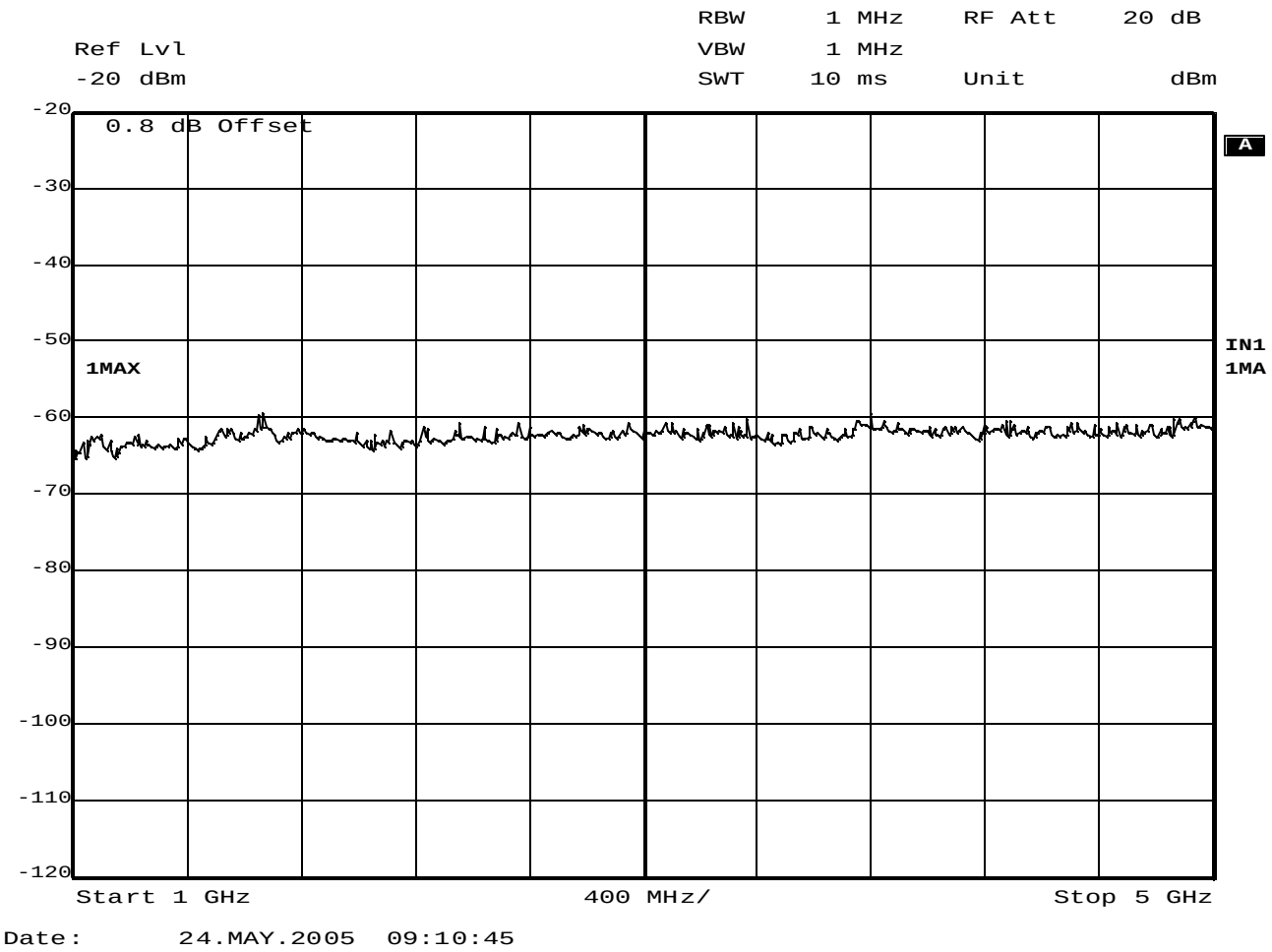
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 836.5 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



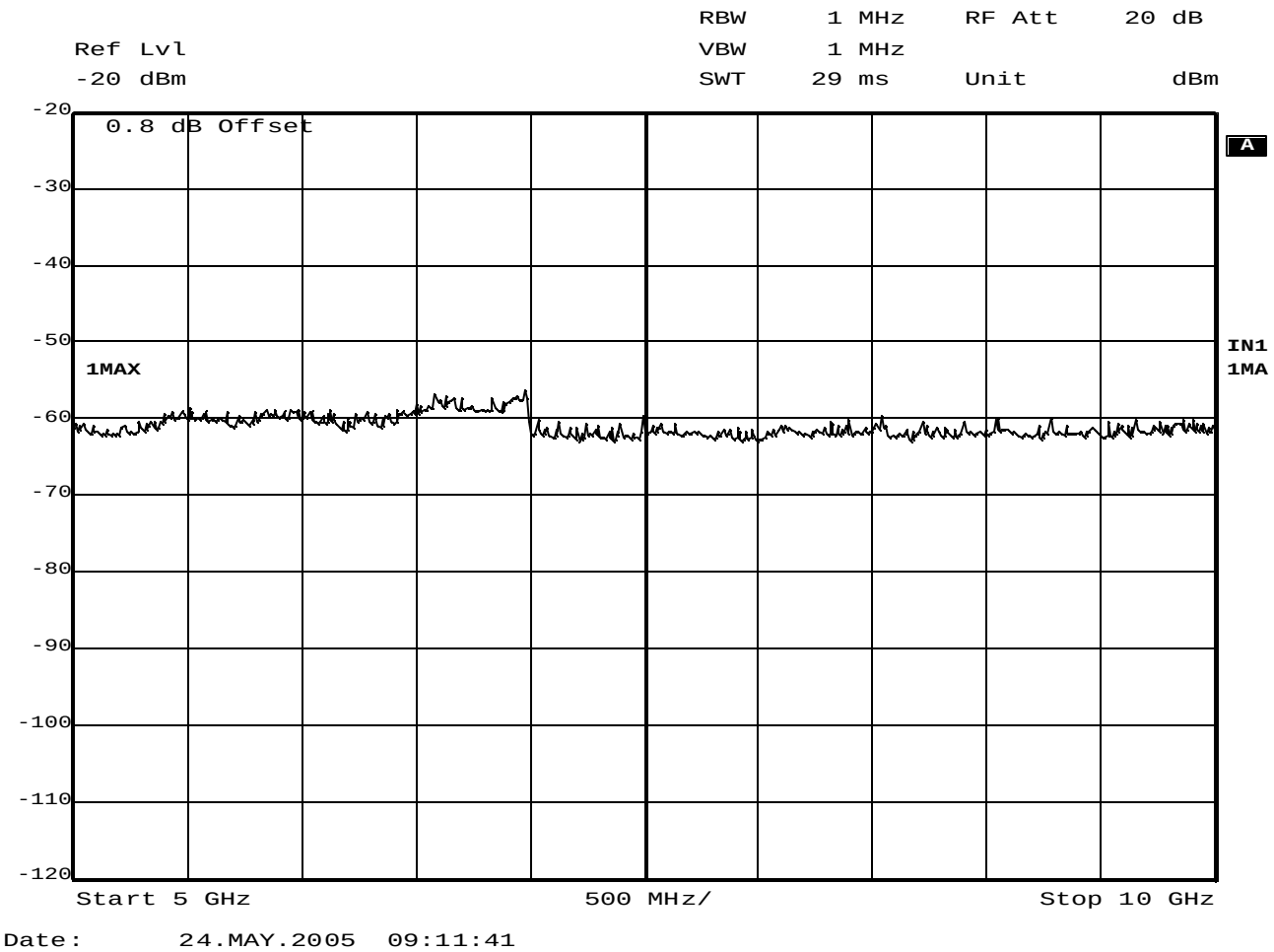
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 836.5 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



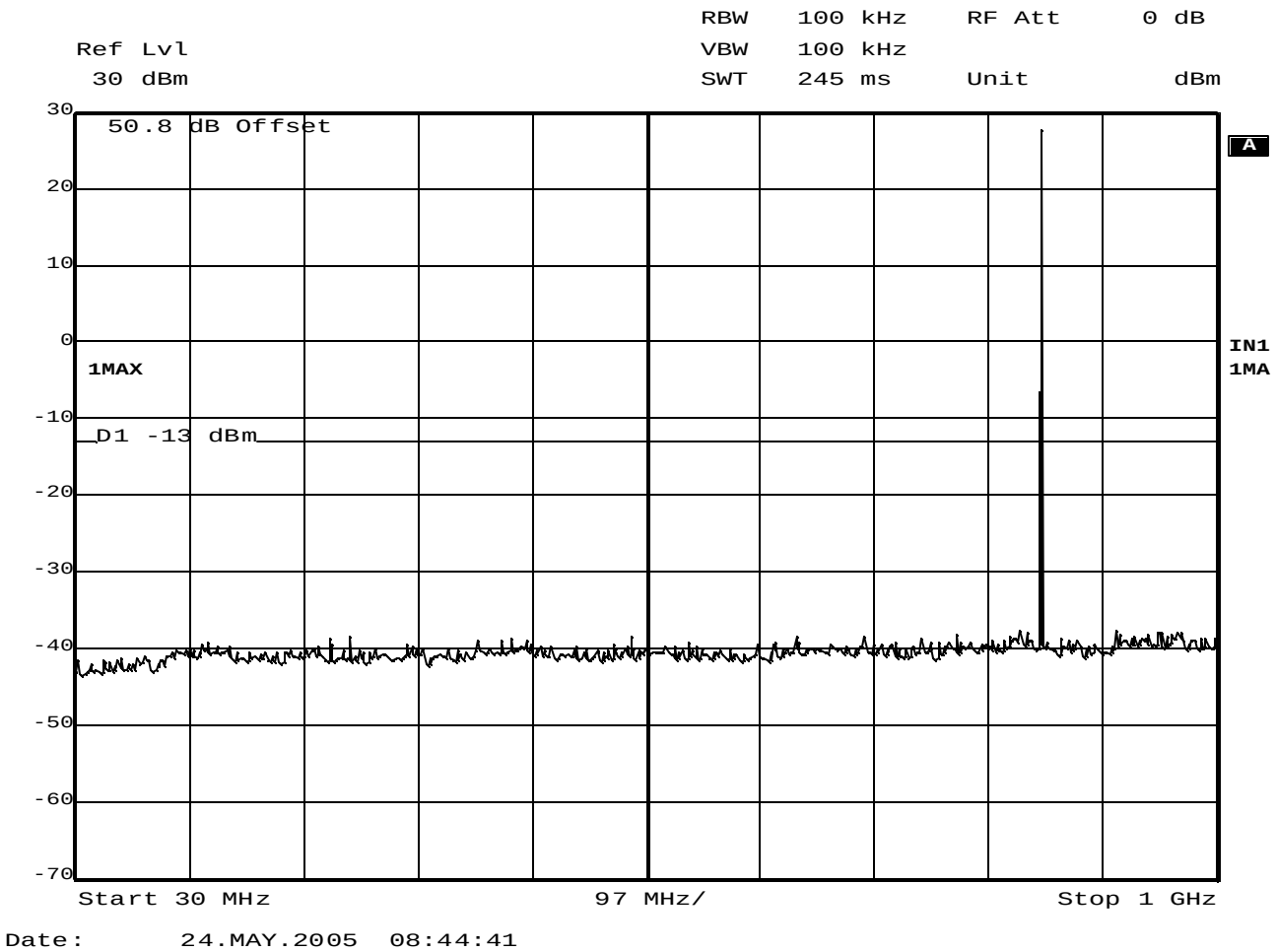
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 836.5 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



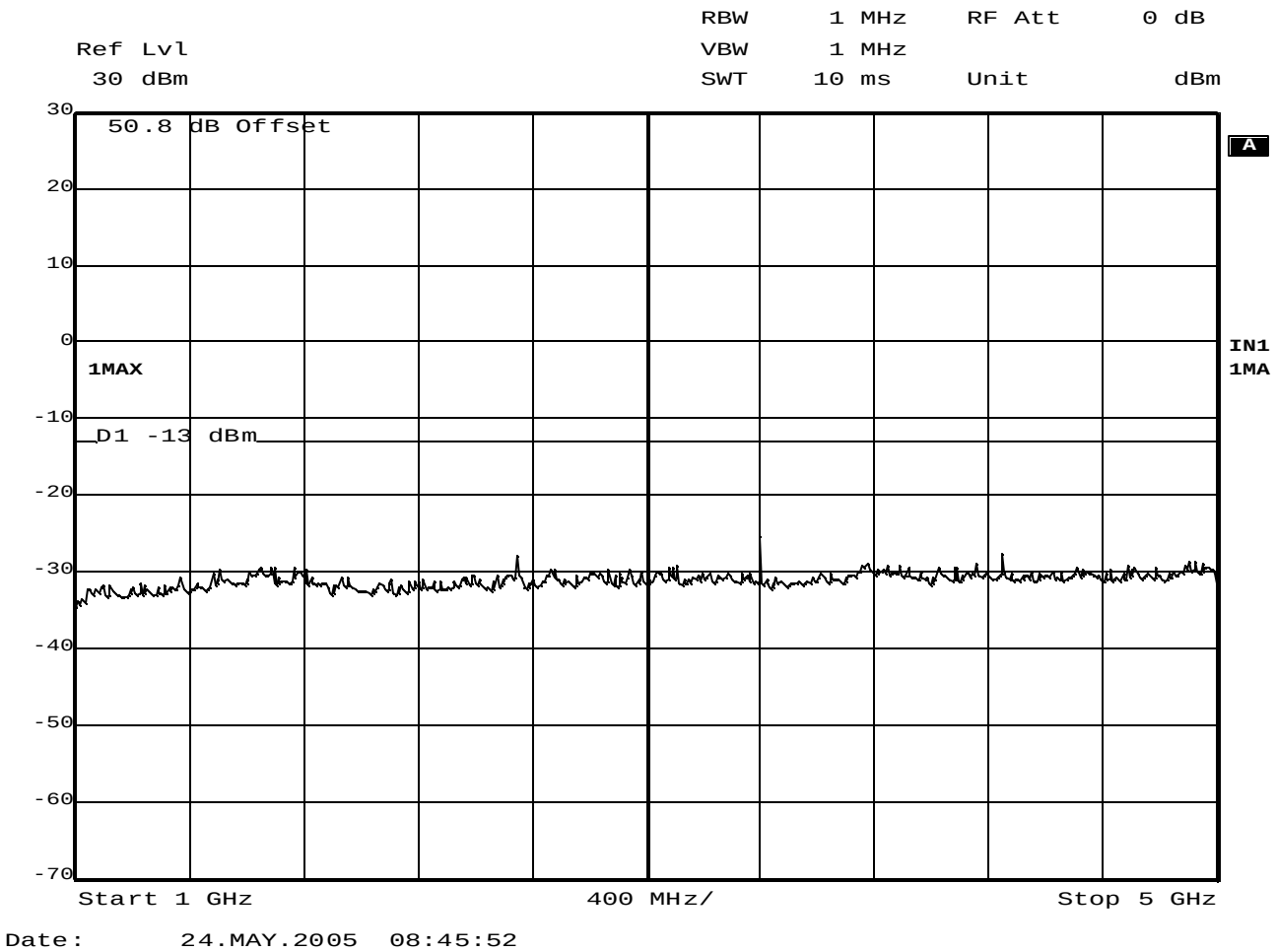
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 836.5 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



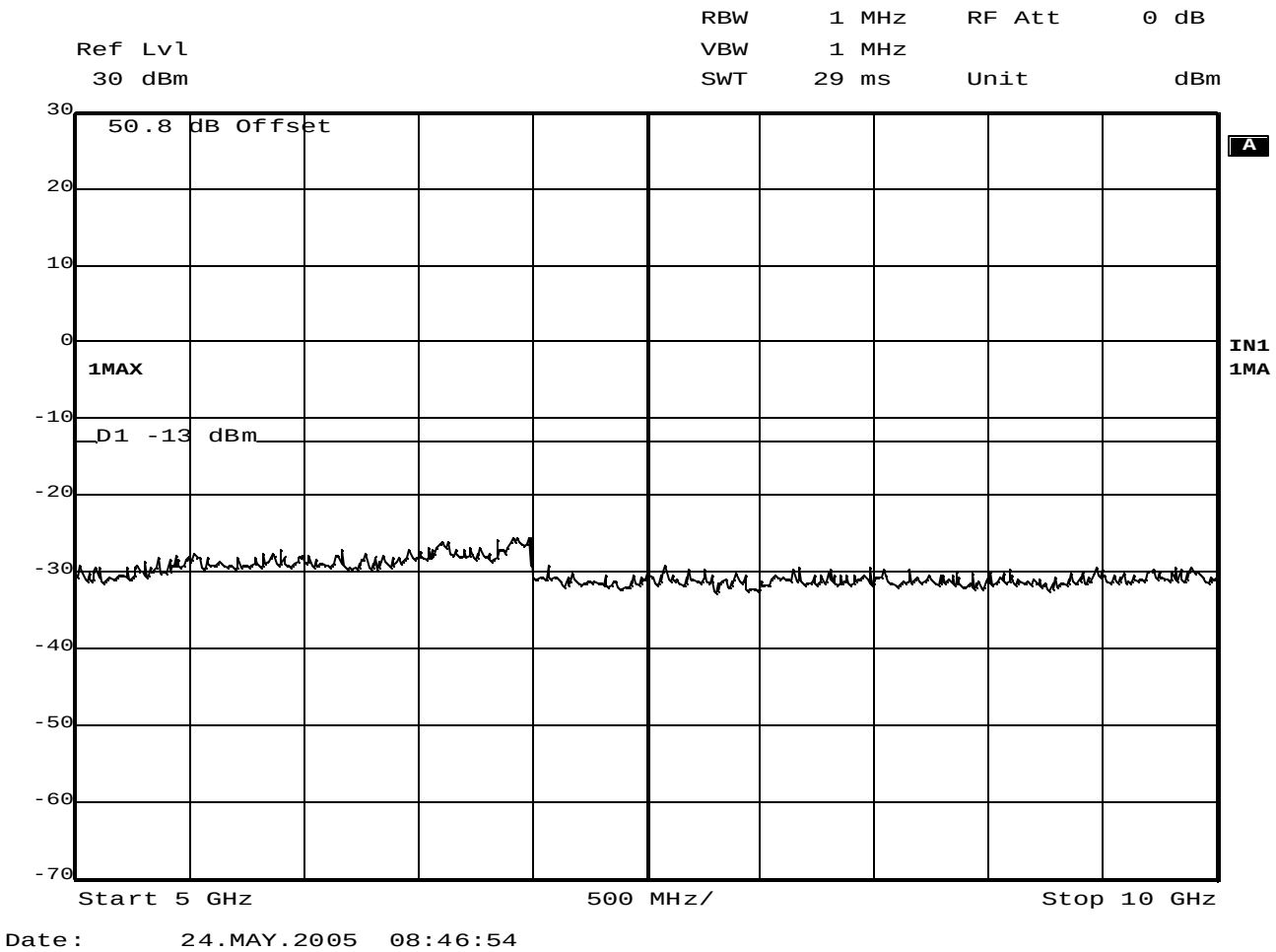
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 836.5 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



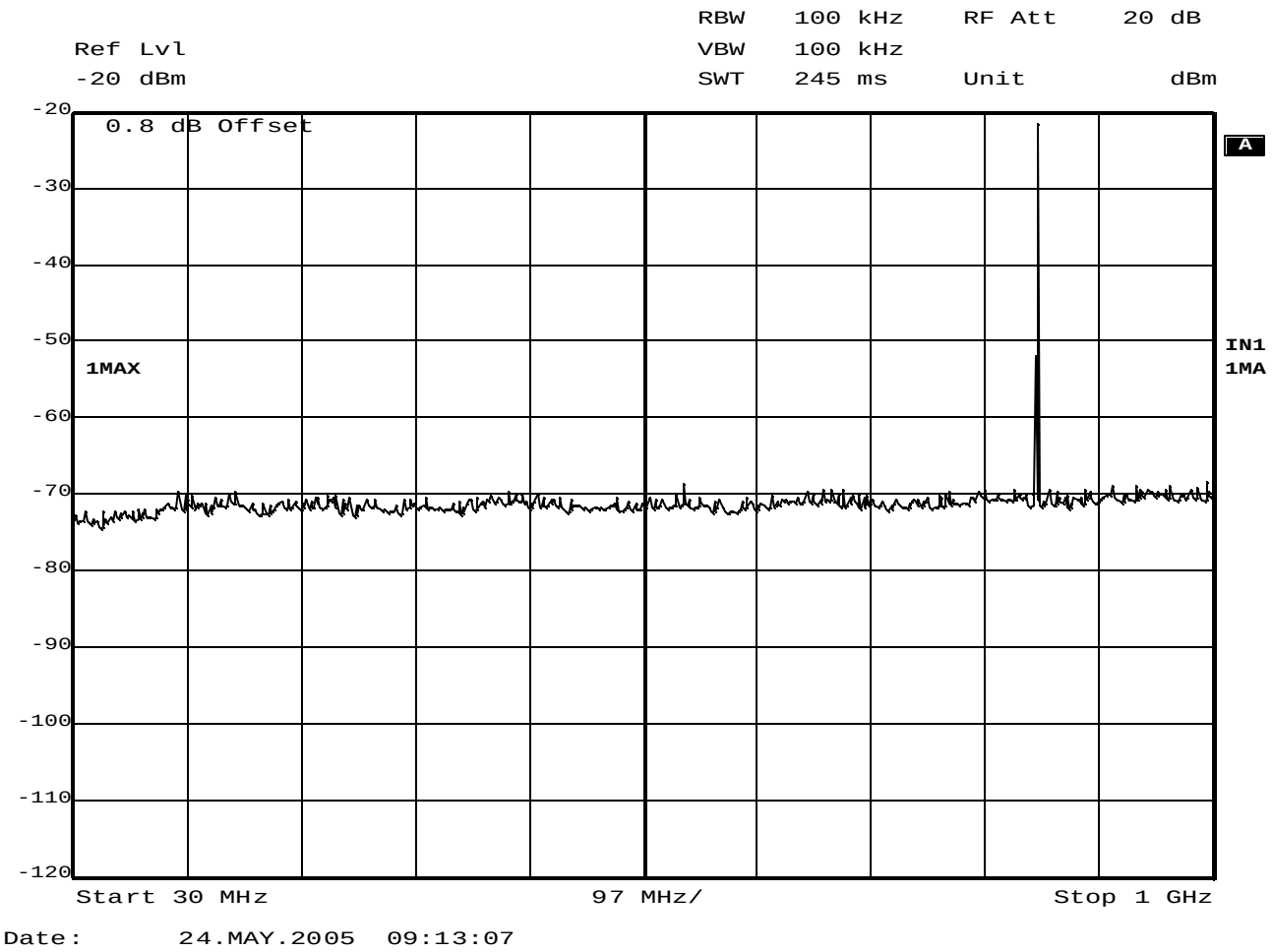
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 849 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



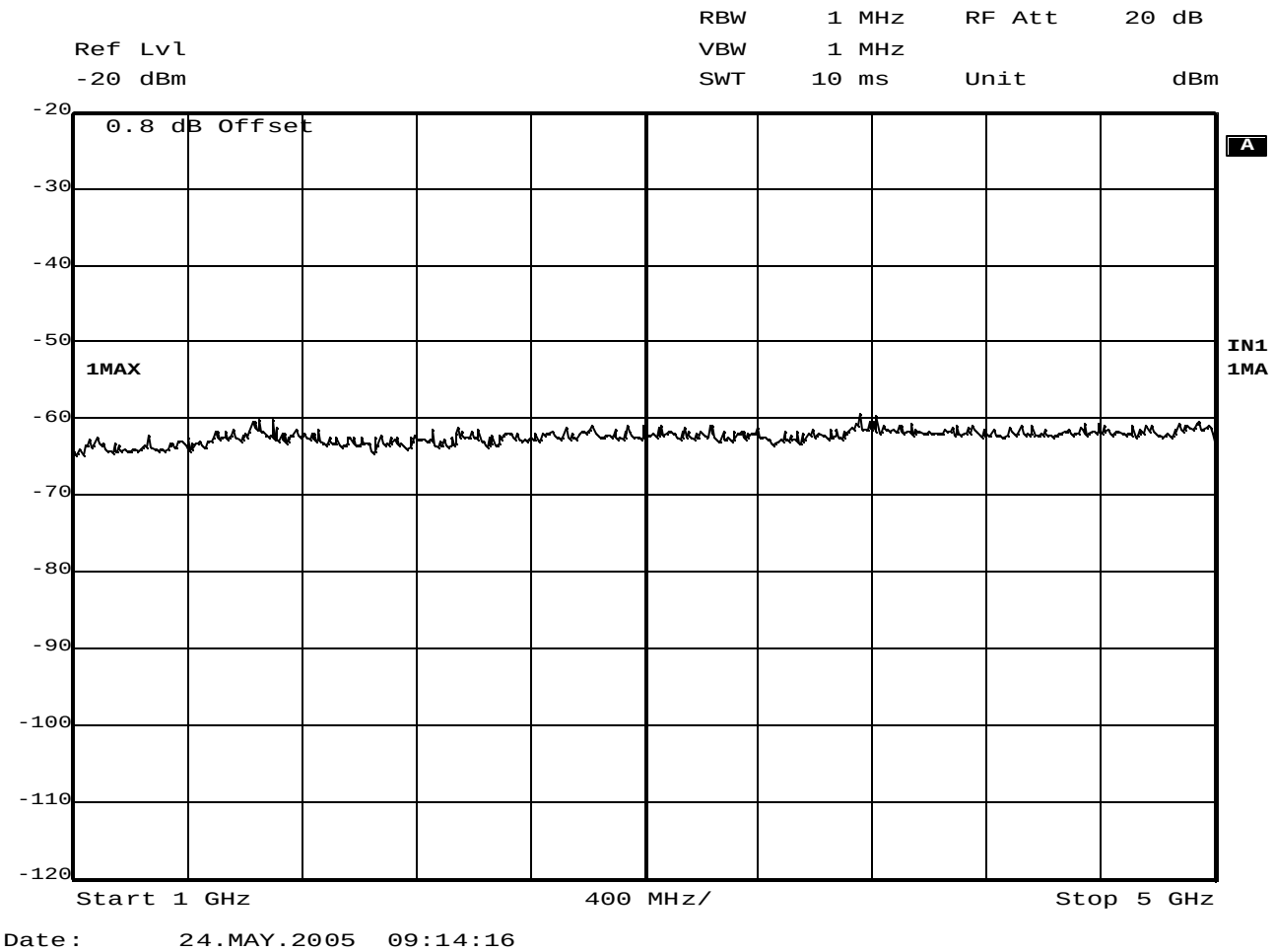
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 849 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



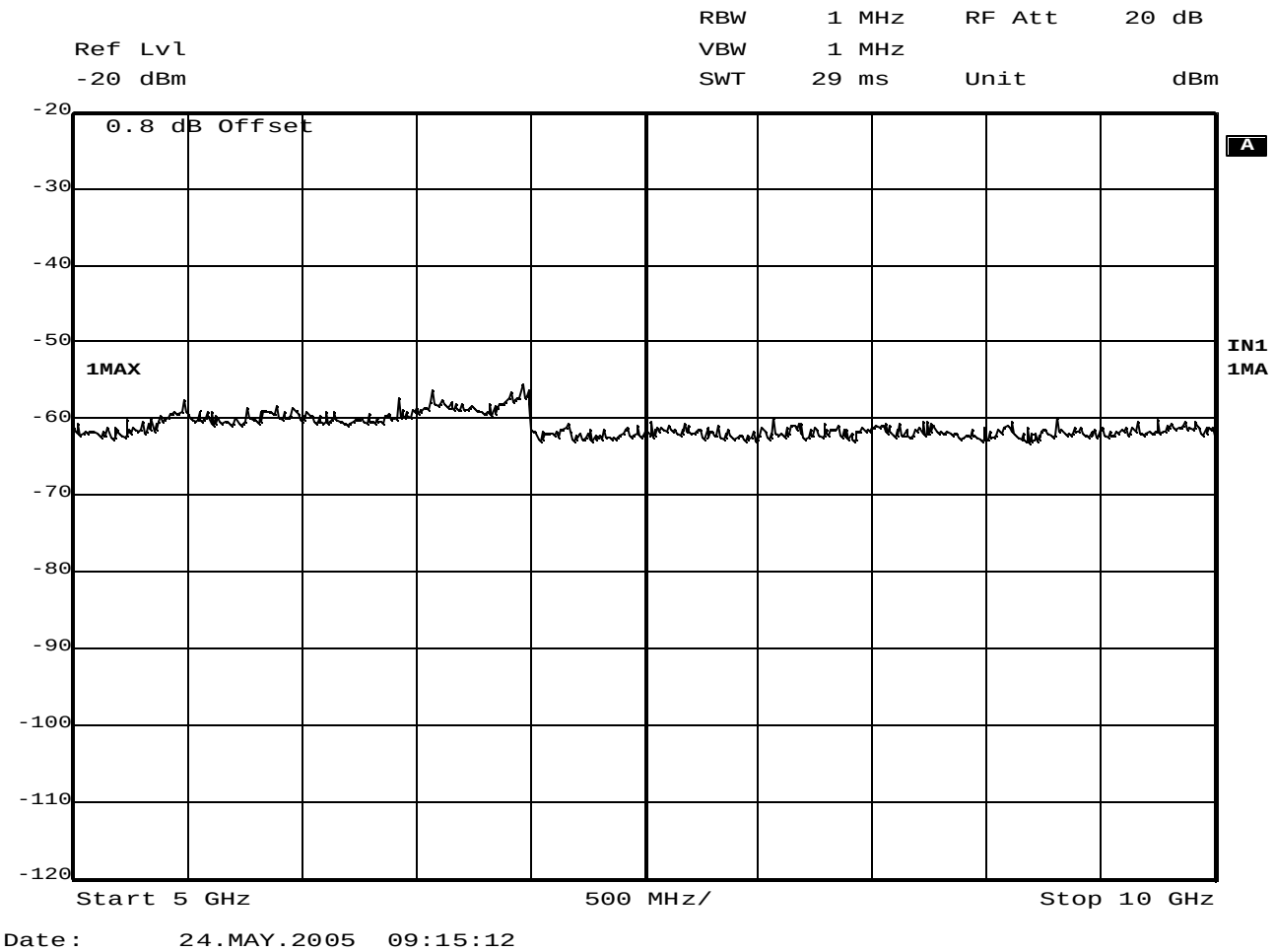
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 849 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



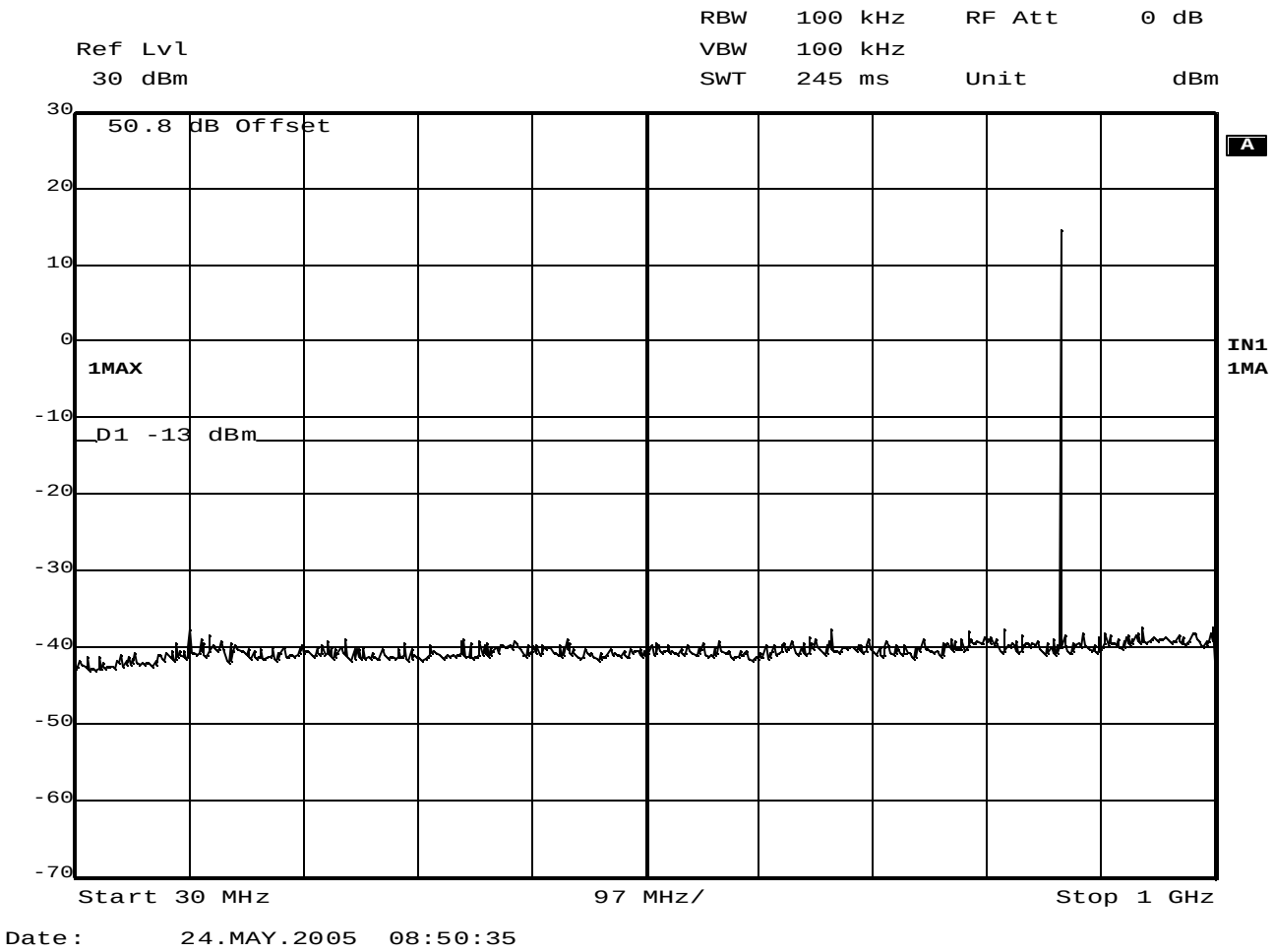
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 849 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



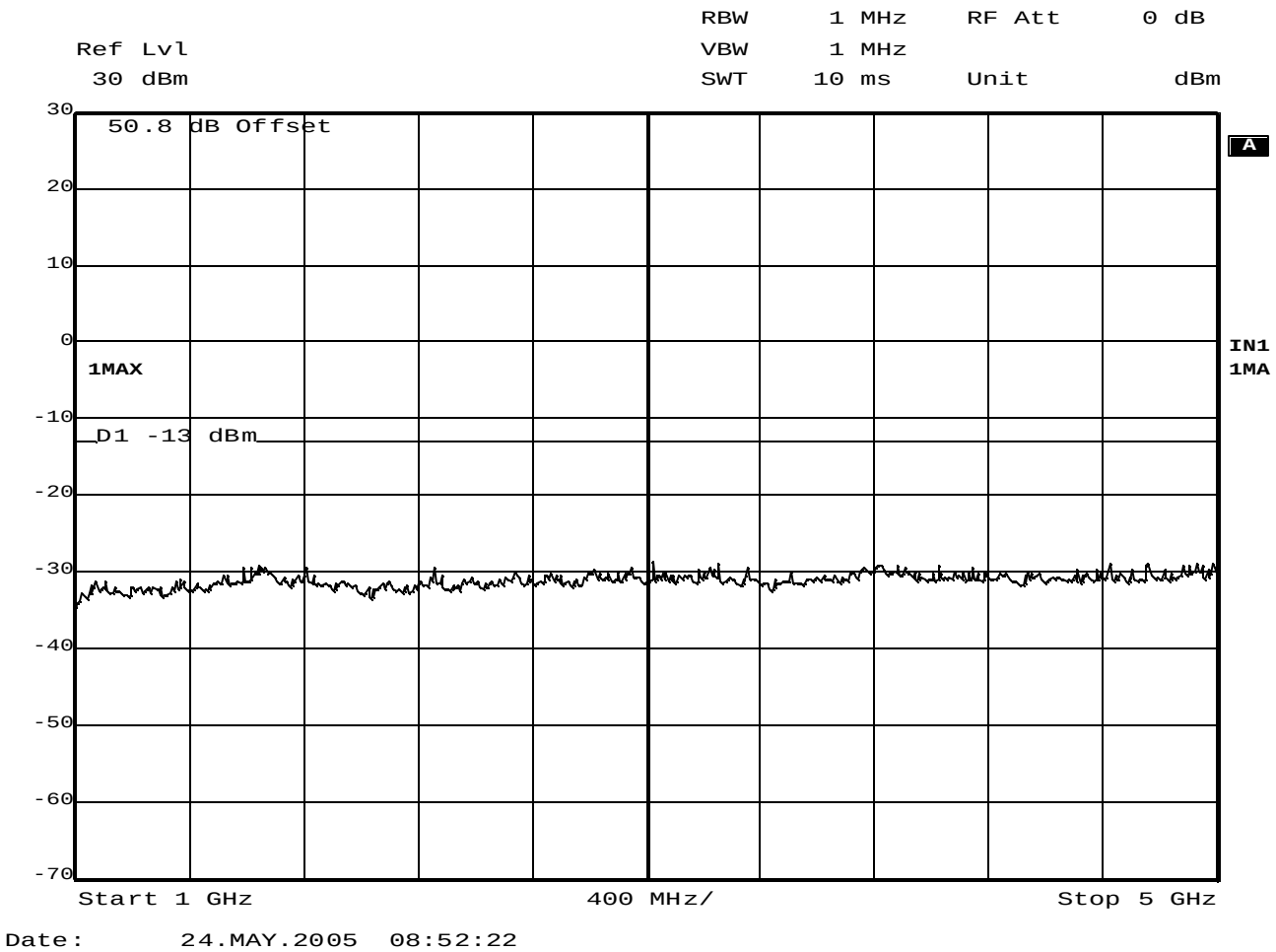
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 849 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



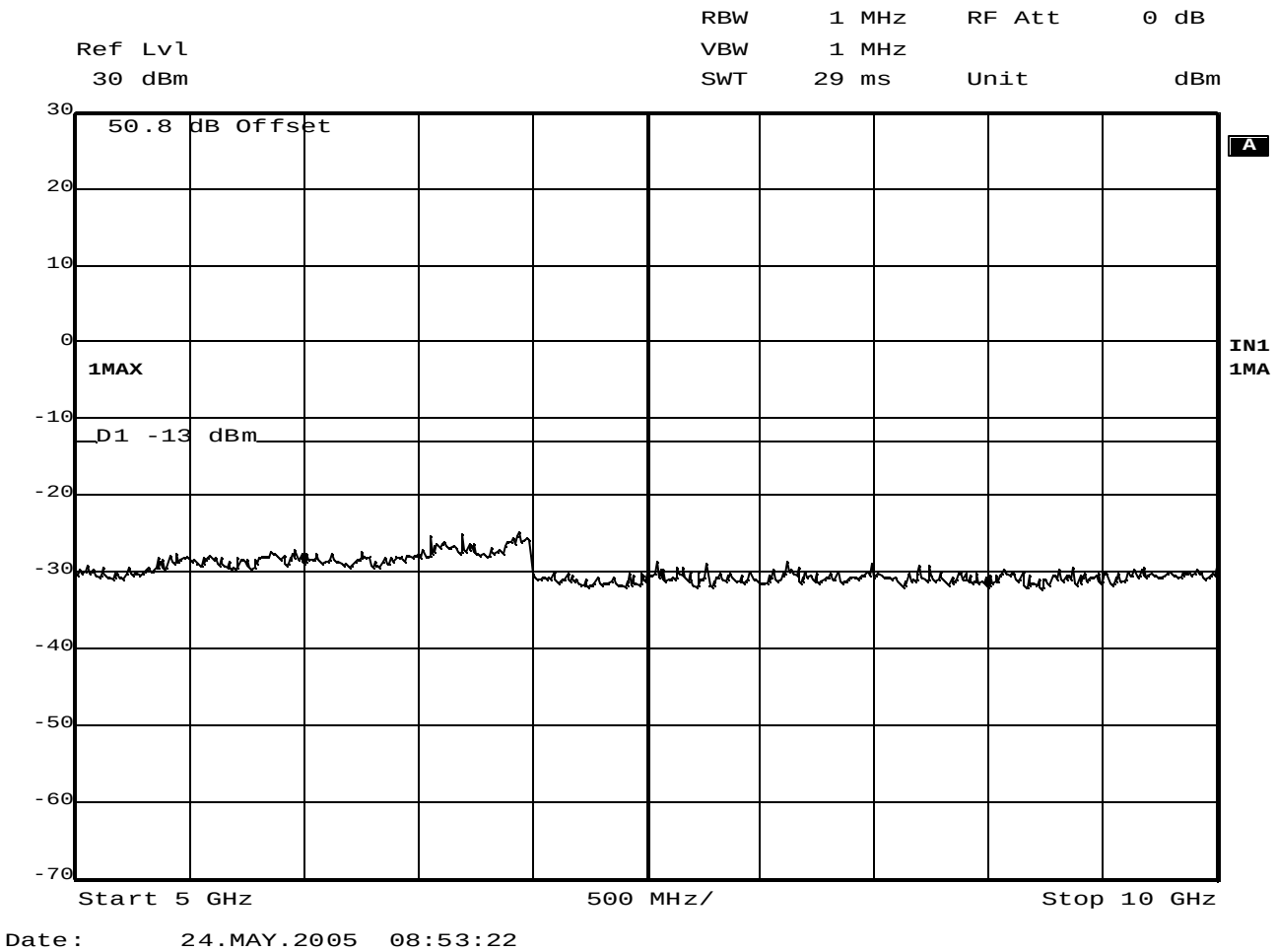
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 849 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



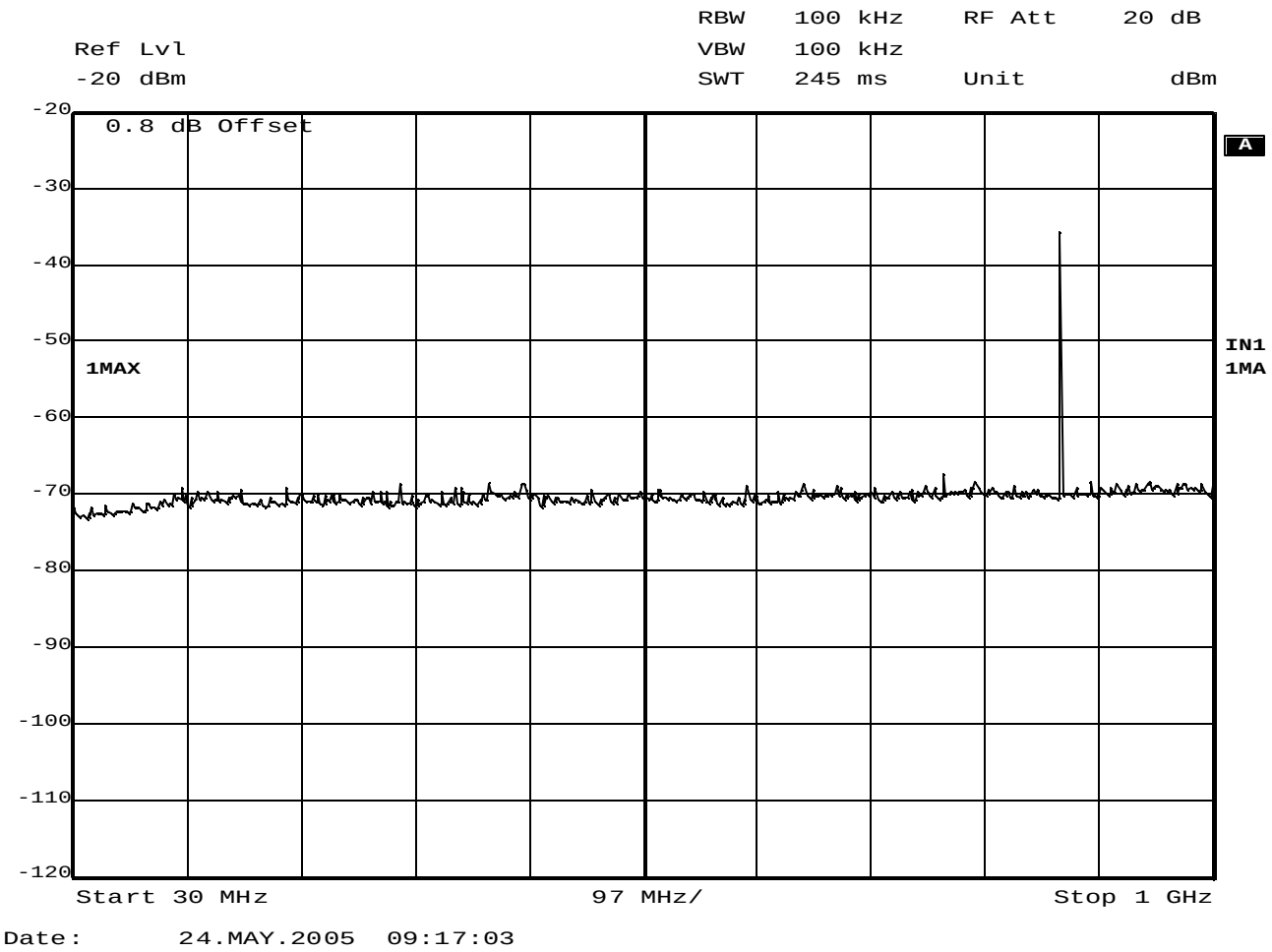
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 869 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



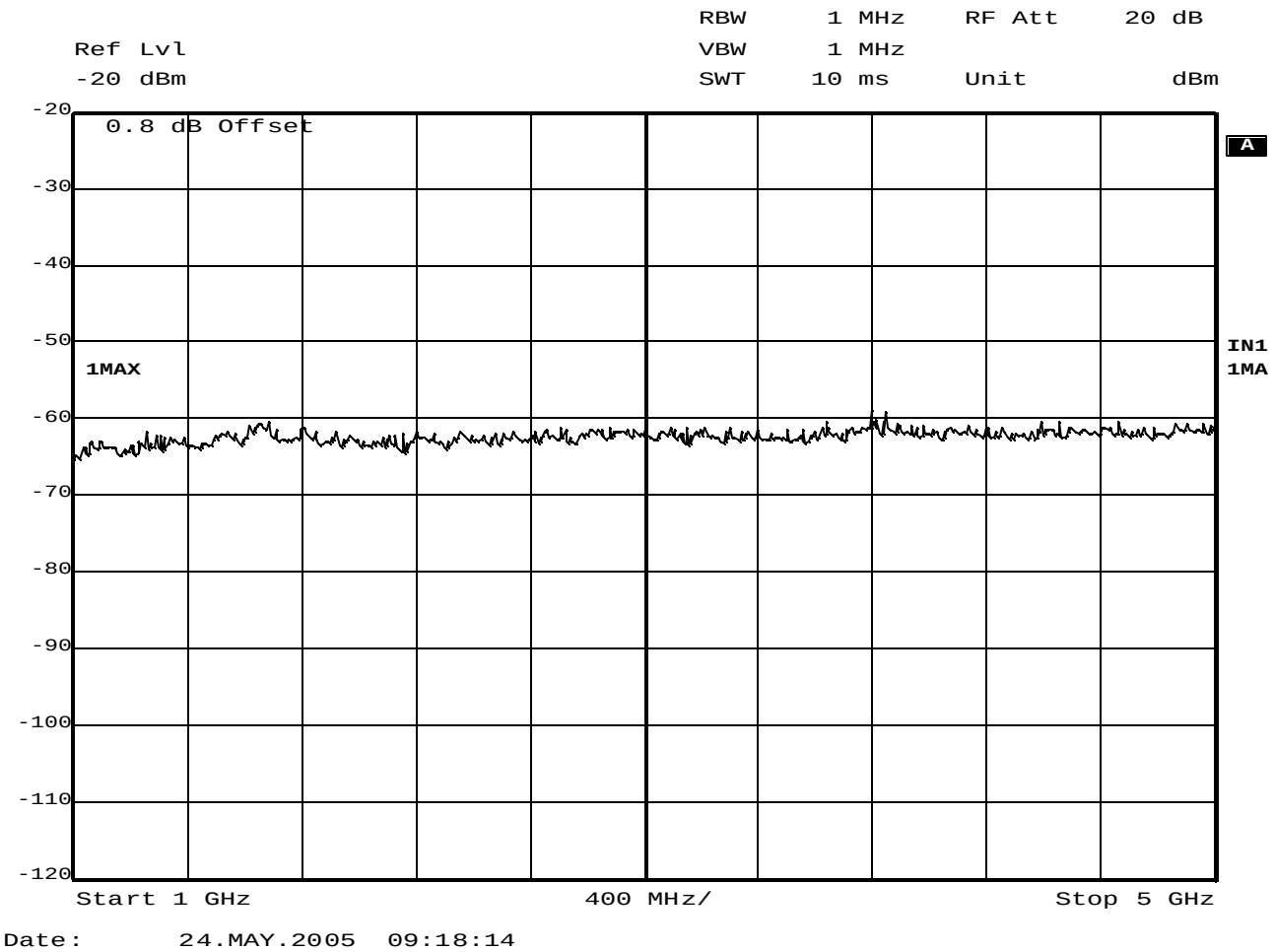
Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 869 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 869 MHz AMPS
Date	:	May 24, 2005
Notes	:	Output (50dB External Pads)



Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 869 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input



Manufacturer	:	RF Engineering Solutions Ltd
Model No.	:	B8001900-1 Cellular Signal Enhancer
Serial No.	:	010003
Test	:	FCC 22 Antenna Conducted Emissions
Test Mode	:	Tx @ 869 MHz AMPS
Date	:	May 24, 2005
Notes	:	Input