ELITE ELECTRONIC ENGINEERING INCORPORATED
1516 CENTRE CIRCLE
DOWNERS GROVE, ILLINOIS 60515-1082

ELITE PROJECT: 30980 DATES TESTED: May 6 through 10, 2002

TEST PERSONNEL: Mark E. Longinotti; Daniel E. Crowder

TEST SPECIFICATION: Federal Communication Commission (FCC) Part 24,

ENGINEERING TEST REPORT NO. 30980-01

MEASUREMENT OF RF INTERFERENCE FROM

A MODEL SYN9528A

SINGLE CARRIER DUAL BAND RF LINEAR COMPENSATOR

FOR: TRL Technologies
Elgin, IL

PURCHASE ORDER NO: 780-0000000795

Report By:
Daniel E. Crowder

Witnessed By:
Heip Lam
TRL Technologies

Approved By:
Craig W. Fanning
NARTE® Certified -
ATL-0188-E; EMC-000296-NT

ENGINEERING TEST REPORT NO. 30980-01

ADMINISTRATIVE DATA AND SUMMARY OF TESTS

DESCRIPTION OF TEST ITEM: Single Carrier Dual Band RF Linear Compensator

MODEL NO: SYN9528A **SERIAL NO:** Qual01

MANUFACTURER: TRL Technologies

APPLICABLE SPECIFICATIONS: FCC Part 24

QUANTITY OF ITEMS TESTED: One (1)

TEST PERFORMED BY: ELITE ELECTRONIC ENGINEERING INCORPORATED
Radio Interference Consultants
Downers Grove, Illinois 60515

DATE RECEIVED: May 6, 2002

DATES TESTED: May 6 through 10, 2002

PERSONNEL (OPERATORS, OBSERVERS, AND CO-ORDINATORS):
CUSTOMER: Heip Lam of TRL Technologies was present.
ELITE ELECTRONIC: Mark E. Longinotti; Daniel E. Crowder

ELITE JOB NO.: 30980

ABSTRACT: The model SYN9528A Single Carrier Dual Band RF Linear Compensator complies with the technical requirements in FCC Part 24. See test results and data pages for more details.

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(INCLUDING DATA SHEETS): 198

ENGINEERING TEST REPORT NO. 30980-01

MEASUREMENT OF RF INTERFERENCE FROM

A MODEL SYN9528A

SINGLE CARRIER DUAL BAND RF LINEAR COMPENSATOR

1.0 INTRODUCTION:

1.1 DESCRIPTION OF TEST ITEM: During the period of May 6 through 10, 2002, a series of radio interference measurements were performed on a model SYN9528A Single Carrier Dual Band RF Linear Compensator, serial number Qual01, (hereinafter referred to as the test item). The tests were performed for TRL Technologies of Elgin, IL.

The test item is a single carrier RF linear compensator that operates in the PCS bands, 1930 through 1990 and 1850 through 1910. The test item has a rated gain of 15dB for the PCS band.

The test item is designed to operate in the following frequency blocks in the PCS band:

Block	Downlink Frequency (MHz)	Uplink Frequency (MHz)
A	1930-1945	1850-1865
D	1945-1950	1865-1870
B	1950-1965	1870-1885
E	1965-1970	1885-1890
F	1970-1975	1890-1895
C	1975-1990	1895-1910

1.2 PURPOSE: The test series was performed to determine if the test item meets the technical requirements of the 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 24, dated 1 October 2001
- Federal Communications Commission "Code of Federal Regulations", Title 47, Part 2, dated 1 October 2001
- 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 25°C and the relative humidity was 38%.

2.0 TEST ITEM SETUP AND OPERATION:

2.1 POWER INPUT: The test item obtained 12VDC from a Tektronix PS280 DC Power Supply through two, 1/2 meter long, unshielded leads.

2.2 GROUNDING: Since the test item was powered with 12VDC from a DC power supply, it was ungrounded 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 VS39440973
Ophir Amplifier	M/N GRF5064, S/N 1006
HP Power Meter	M/N 437B, S/N 3110A05097

The output of the signal generator was routed through the amplifier. The output of the amplifier was connected to the test item through a 0.5 meter long coaxial cable. The power meter was connected to the test item through a 1 meter long coaxial cable.

2.4 MODULATION: The test signal was modulated with four different representative types of modulations: (1) Analog - AMPS 30kHz; (2) Digital I/Q modulations - TDMA 30kHz; GSM 300kHz; CDMA 1.23 MHz. The input signals were supplied from an HP M/N E4432B Signal Generator.

The RF Power Output, the Occupied Bandwidth, the preliminary radiated emissions, and the Spurious Emissions at Antenna Terminal tests were performed with AMPS, TDMA, GSM, and CDMA modulated input signals. The final Field Strength of Spurious Emissions tests were performed with CW and GSM modulated input signals.

2.5 FREQUENCY SELECTION: For test purposes, only the Uplink frequencies were tested because the test item has an antenna connection to the Uplink side only. Three test frequencies, one at the low edge, one in the middle and one at the high edge, were selected for each frequency block pair. The frequencies were one channel spacing from the low or high edge of the frequency range edge. The specified channel spacings used for each modulation type are shown below:

Modulation	Channel Spacing
FM (AMPS)	30kHz
TDMA (NADC)	30kHz
GSM	300kHz
CDMA	1.23MHz

The specific test frequencies are designated as follows:

Uplink:

Block	Modulation Type	Low Edge Frequency (MHz)	Middle Frequency (MHz)	High Edge Frequency (MHz)
A-D	AMPS	1850.03	1860	1869.97
B-E	AMPS	1870.03	1880	1889.97
F-C	AMPS	1890.03	1900	1909.97
A-D	NADC	1850.03	1860	1869.97
B-E	NADC	1870.03	1880	1889.97
F-C	NADC	1890.03	1900	1909.97
A-D	GSM	1850.3	1860	1869.7
B-E	GSM	1870.3	1880	1889.7
F-C	GSM	1890.3	1900	1909.7
A-D	CDMA	1851.23	1860	1868.77
B-E	CDMA	1871.23	1880	1888.77
F-C	CDMA	1890.23	1900	1908.77

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)
AMPS	27	0.5
TDMA	27	0.5
GSM	30	1.0
CDMA	27	0.5

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 24.232, 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 operated to measure the output for the uplink path.

(a) The input signal was set to 1860MHz.

(b) The input signal was FM (AMPS) modulated.

(c) The HP 437B Power Meter was connected to the output of the test item and the output of the test item was monitored.

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

(e) Steps (b) through (d) were repeated separately with the input signal TDMA, GSM, and CDMA modulated.

(f) Steps (b) through (d) were repeated separately with the input frequency set to 1880MHz and 1900MHz.

4.1.3 RESULTS: The output power measurements are presented on data page 18. The power outputs achieved for the uplink path were 0.5 watts (AMPS Modulation), 0.5 watts (TDMA Modulation), 1.0 watts (GSM Modulation) and 0.5 watts (CDMA Modulation). The remainder of the tests were 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: In accordance with Paragraph 24.238, 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 0.5W, the emissions outside of the emission bandwidth shall be attenuated at least 40dB below the transmitter power. For a rated power level of 1.0W, the emissions outside of the emission bandwidth shall be attenuated at least 43dB 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 26dB down.

4.2.2 PROCEDURES:

The test was performed using each of the modulation types listed in paragraph 2.2 (AMPS, TDMA, GSM, CDMA).

(a) The input signal was set separately to 1850.03MHz, 1869.97MHz, 1870.03MHz, 1889.97MHz, 1890.03MHz and 1909.97. 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 FM (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 TDMA (NADC) and steps (c) and (d) were repeated separately with the input signal set to 1850.03MHz, 1869.97MHz, 1870.03MHz, 1889.97MHz, 1890.03MHz and 1909.97MHz.

(f) The modulation was changed to GSM and steps (c) and (d) were repeated separately with the input signal set to 1850.3MHz, 1869.7MHz, 1870.3MHz, 1889.7MHz, 1890.3MHz and 1909.7MHz.

(g) The modulation was changed to CDMA and steps (c) and (d) were repeated separately with the input signal set to 1851.23MHz, 1868.77MHz, 1871.23MHz, 1888.77MHz, 1891.23MHz and 1908.77MHz. The bandwidth of the spectrum analyzer was set to 30kHz.

4.2.3 RESULTS: The plots of the occupied bandwidth measured with the FM (AMPS) modulation of the carrier are presented on data pages 19 through 36. The plots of the occupied bandwidth measured with the TDMA (NADC) modulation of the carrier are presented on data pages 37 through 54. The plots of the occupied bandwidth measured with the GSM modulation of the carrier are presented on data pages 55 through 72. The plots of the occupied bandwidth measured with the CDMA modulation of the carrier are presented on data pages 73 through 90.

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 FM, TDMA, GSM and CDMA modulations of the carrier. The sideband emissions measured at the test item output were similar to the sideband emissions measured from the input signals.

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 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 0.5W, the spurious emissions shall be attenuated by a minimum of 40 dB. For 1W, the spurious emissions shall be attenuated by a minimum of 43 dB. 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 2.2 (FM, TDMA, GSM, CDMA).

(a) The input signal was set to 1860.0MHz. The input signal level was adjusted to provide the rated level at the test item output.

(b) The input signal was FM modulated.

(c) A spectrum analyzer was connected to the output of the test item. The frequency span was adjusted to cover 30 MHz up to 1 GHz.

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 1 GHz up to 2 GHz. With a bandwidth of the spectrum analyzer set to 1 MHz, the output of the test item was measured and recorded.

(e) The frequency span was adjusted to cover 2 GHz up to 20 GHz. With a bandwidth of the spectrum analyzer set to 1 MHz, the output of the test item was measured and recorded. This range covers up through the 10th harmonic.

(f) Steps (c) through (e) were repeated on the input signal from the signal generator.

(g) The modulation was changed to TDMA and steps (c) through (f) were repeated separately with the input signal set to 1860.0MHz.

(h) The modulation was changed to GSM and steps (c) through (f) were repeated separately with the input signal set to 1860.0MHz.

(i) The modulation was changed to CDMA and steps (c) through (f) were repeated separately with the input signal set to 1860.0MHz.

(j) Steps (a) through (i) were repeated separately with the signal generator set to 1880.0MHz and 1900.0MHz.

4.3.3 RESULTS: The plots of the antenna conducted output measurements are presented on data pages 91 through 162. As can be seen from the data, the test item did not produce spurious emissions in excess of the -13 dBm 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. The frequencies with significant emission levels were measured in the open field.

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 1992 for site attenuation.

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

The test was performed using each of the modulation types listed in paragraph 2.2 (FM, TDMA, GSM and CW).

(a) The preliminary measurements were performed with the test item operating separately with an input signal at 1860.0MHz, 1880.0MHz and 1900MHz, with CW modulation. 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.

(b) Step (a) was repeated with the modulation changed to CDMA.

4.4.1.3 RESULTS: The preliminary plots are presented on data pages 163 through 192. 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 limit of -13dBm. 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 1992 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 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 reading were recorded. No averaging methods or corrections were applied.

f) Measurements were performed with the input signal modulated with CW and CDMA.

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 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 data pages 193 through 198. The radiated emissions were measured through the 10th harmonic. All emissions measured from the test item were within the specification limits.

4.5 FREQUENCY STABILITY:

4.5.1 REQUIREMENTS: This requirement does not apply to the test item because it has no frequency conversion.

5.0 CONCLUSION:

It was found that the TRL Technologies model SYN9528A Single Carrier Dual Band RF Linear Compensator, 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 FCC Part 24. The Frequency Stability requirements were deemed to be not applicable.

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 TRL Technologies 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 1: TEST EQUIPMENT LIST

ELITE ELECTRONIC ENG. INC. Page: 1

Eq ID	Equipment Description	Manufacturer	Model No.	Serial No.	Frequency Range	Cal Date	Cal Inv	Due Date
Equipment Type: ACCESSORIES, MISCELLANEOUS								
XZG3	ATTENUATOR/SWITCH DRIVER	HEWLETT PACKARD	11713A	2421A03059	---		N/A	
Equipment Type: AMPLIFIERS								
APK3	PREAMPLIFIER	AGILENT TECHNOL	8449B	3008A01593	1-26.5GHZ	05/09/02	12	05/09/03
Equipment Type: ANTENNAS								
NTA0	BILOG ANTENNA	CHASE EMC LTD.	BILOG CBL611	2057	0.03-2GHZ	05/09/01	12	05/09/02
NWF0	RIDGED WAVE GUIDE	EMCO	3105	2035	1-12.4GHZ	09/08/01	12	09/08/02
NWH0	RIDGED WAVE GUIDE	TENSOR	4105	2081	1-12.4GHZ	08/03/01	12	08/03/02
NWI0	RIDGED WAVE GUIDE	AEL	H1498	153	2-18GHZ	09/18/01	12	09/18/02
NWI1	RIDGED WAVE GUIDE	AEL	H1498	154	2-18GHZ	09/18/01	12	09/18/02
Equipment Type: ATTENUATORS								
T2D5	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-43	AY9244	DC-18GHZ	01/14/02	12	01/14/03
T2D7	20DB, 25W ATTENUATOR	WEINSCHEL	46-20-43	AY9246	DC-18GHZ	05/16/02	12	05/16/03
Equipment Type: CONTROLLERS								
CDD2	COMPUTER	HEWLETT PACKARD	D4171A#ABA	US61654645	---		N/A	
Equipment Type: PRINTERS AND PLOTTERS								
HRE1	LASER JET 5P	HEWLETT PACKARD	C3150A	USHB061052	---		N/A	
Equipment Type: RECEIVERS								
RAC2	SPECTRUM ANALYZER	HEWLETT PACKARD	85660B	3638A08770	100HZ-22GHZ	02/21/02	12	02/21/03
RACD	RF PRESELECTOR	HEWLETT PACKARD	85685A	3010A01205	20HZ-2GHZ	02/21/02	12	02/21/03
RAF5	QUASIPEAK ADAPTOR W/ RECEI	HEWLETT PACKARD	85650A	2043A00151	0.01-1000MHZ	06/11/01	12	06/11/02
Equipment Type: SIGNAL GENERATORS								
GBN2	SIGNAL GENERATOR	ROHDE & SCHWARZ	SMY 02	DE14046	9KHZ-2.080GHZ	05/08/01	12	05/08/02
GDJ1	SYNTHESIZED GENERATOR	HEWLETT PACKARD	8672A	2132A02171	2-18GHZ	04/09/02	12	04/09/03

Cal. Interval: Listed in Months I/O: Initial Only N/A: Not Applicable
Note 1: For the purpose of this test, the equipment was calibrated over the specified frequency range, pulse rate, or modulation prior to the test or monitored by a calibrated instrument.

ETR 30980-01
DATA SHEET

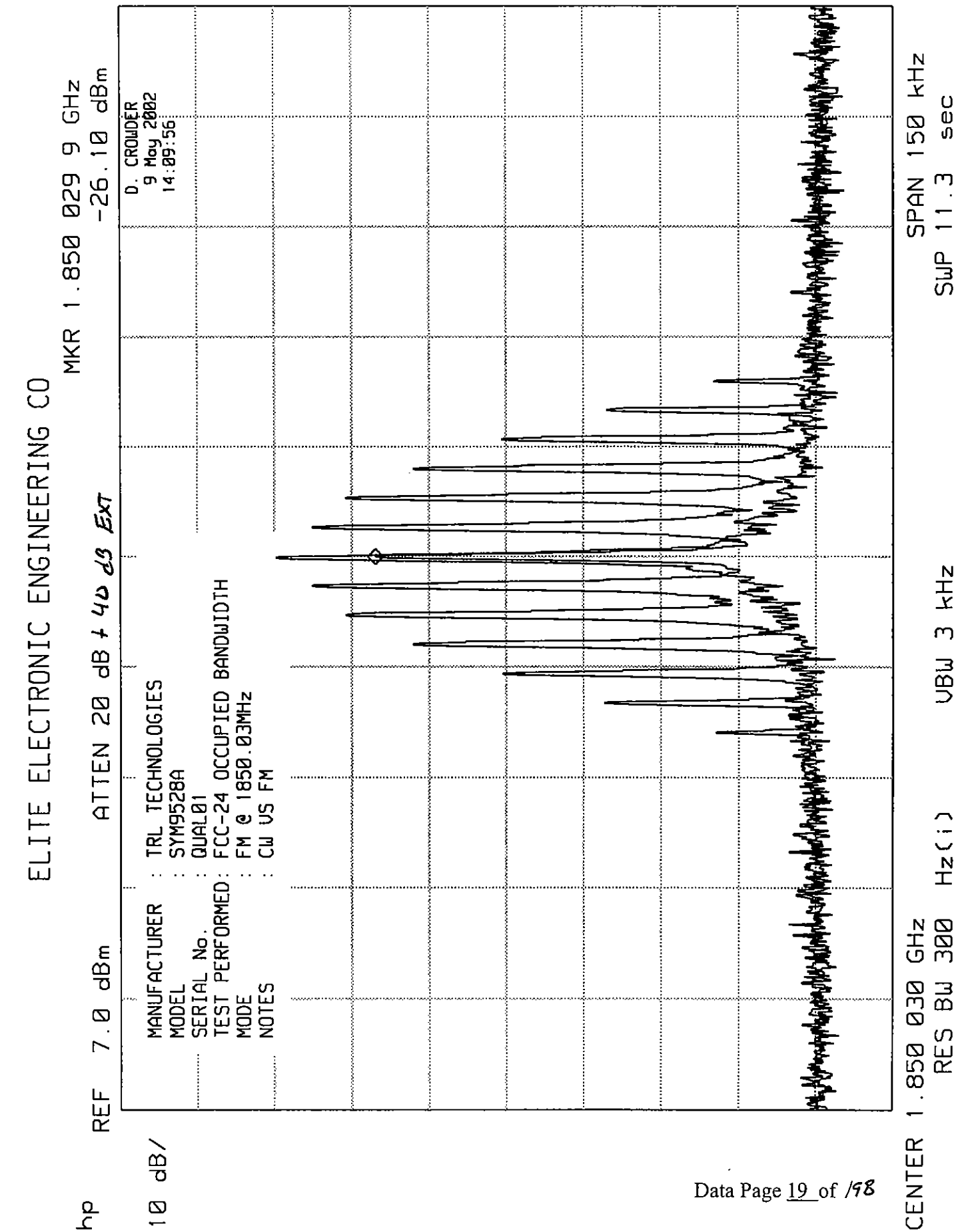
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYN9528A
S/N : QUAL 01
SPECIFICATION : FCC-24 RF POWER OUTPUT
DATE : MAY 6, 2002

FREQUENCY (MHz)	POWER READING	
	dBm	WATTS
1860 AMPS Modulation	27	0.5
1860 NADC Modulation	27	0.5
1860 CDMA Modulation	27	0.5
1860 AMPS Modulation	30	1.0

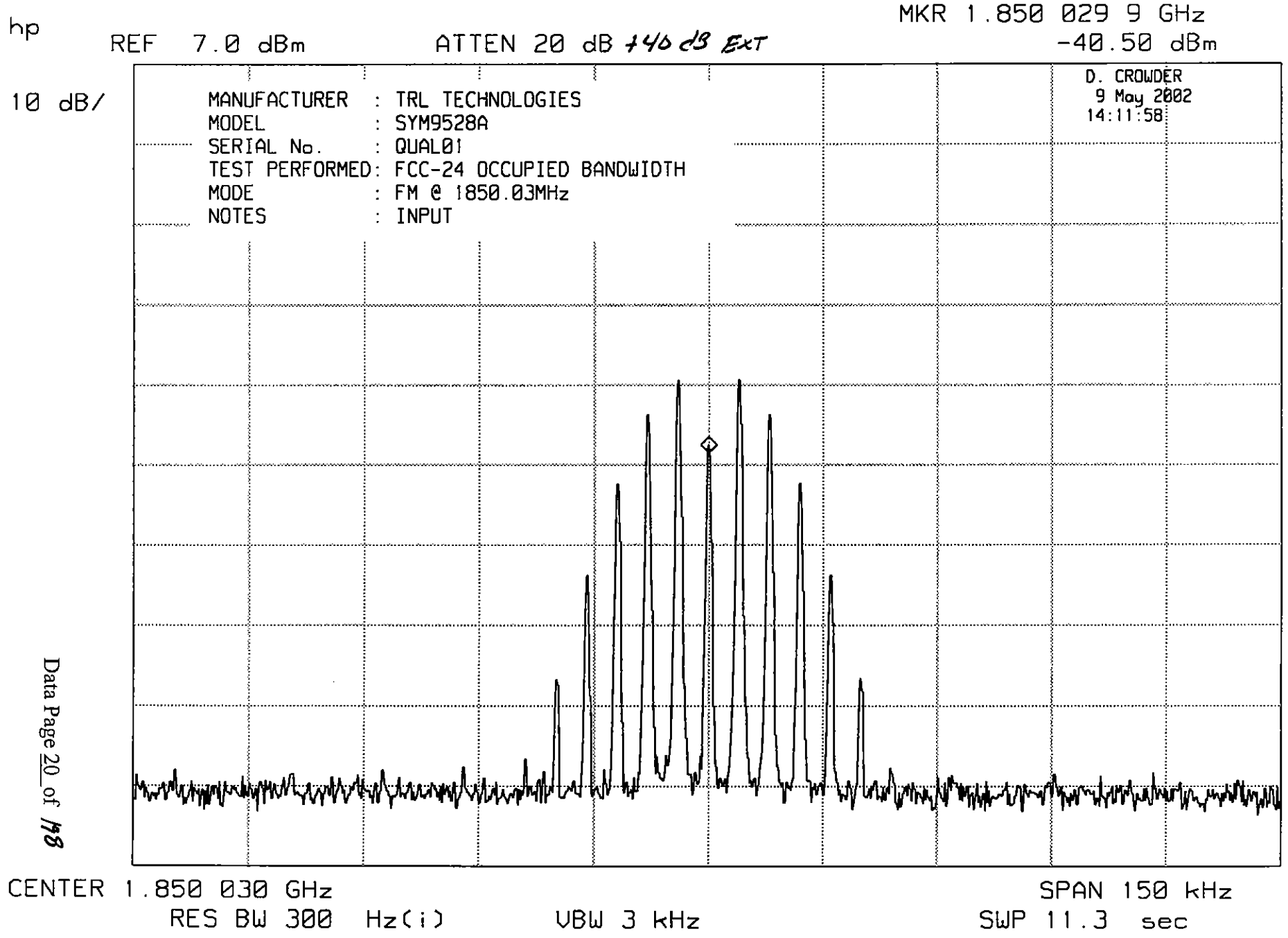
FREQUENCY (MHz)	POWER READING	
	dBm	WATTS
1880 AMPS Modulation	27	0.5
1880 NADC Modulation	27	0.5
1880 CDMA Modulation	27	0.5
1880 AMPS Modulation	30	1.0

FREQUENCY (MHz)	POWER READING	
	dBm	WATTS
1900 AMPS Modulation	27	0.5
1900 NADC Modulation	27	0.5
1900 CDMA Modulation	27	0.5
1900 AMPS Modulation	30	1.0

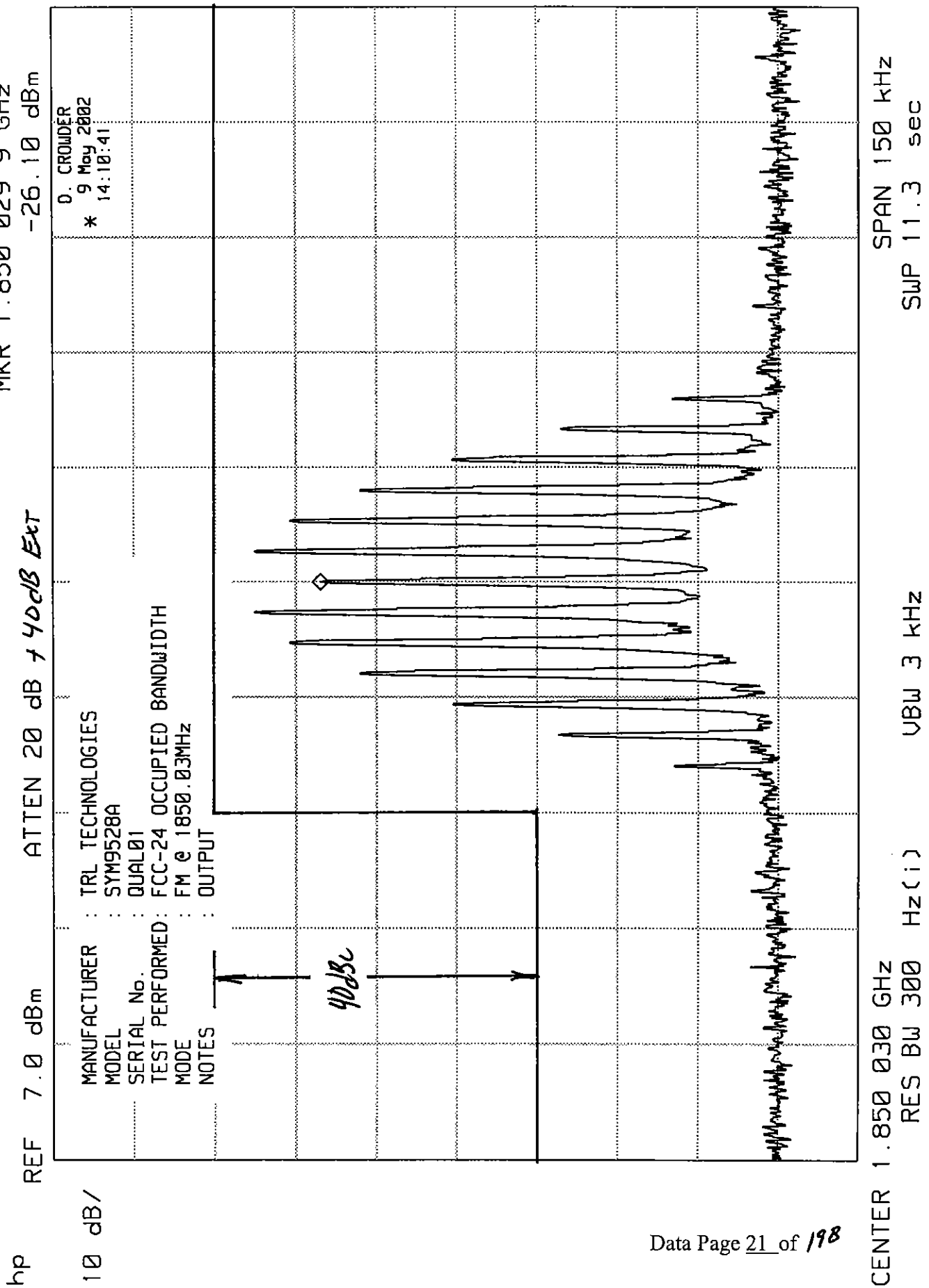
CHECKED BY:
Daniel E. Crowder

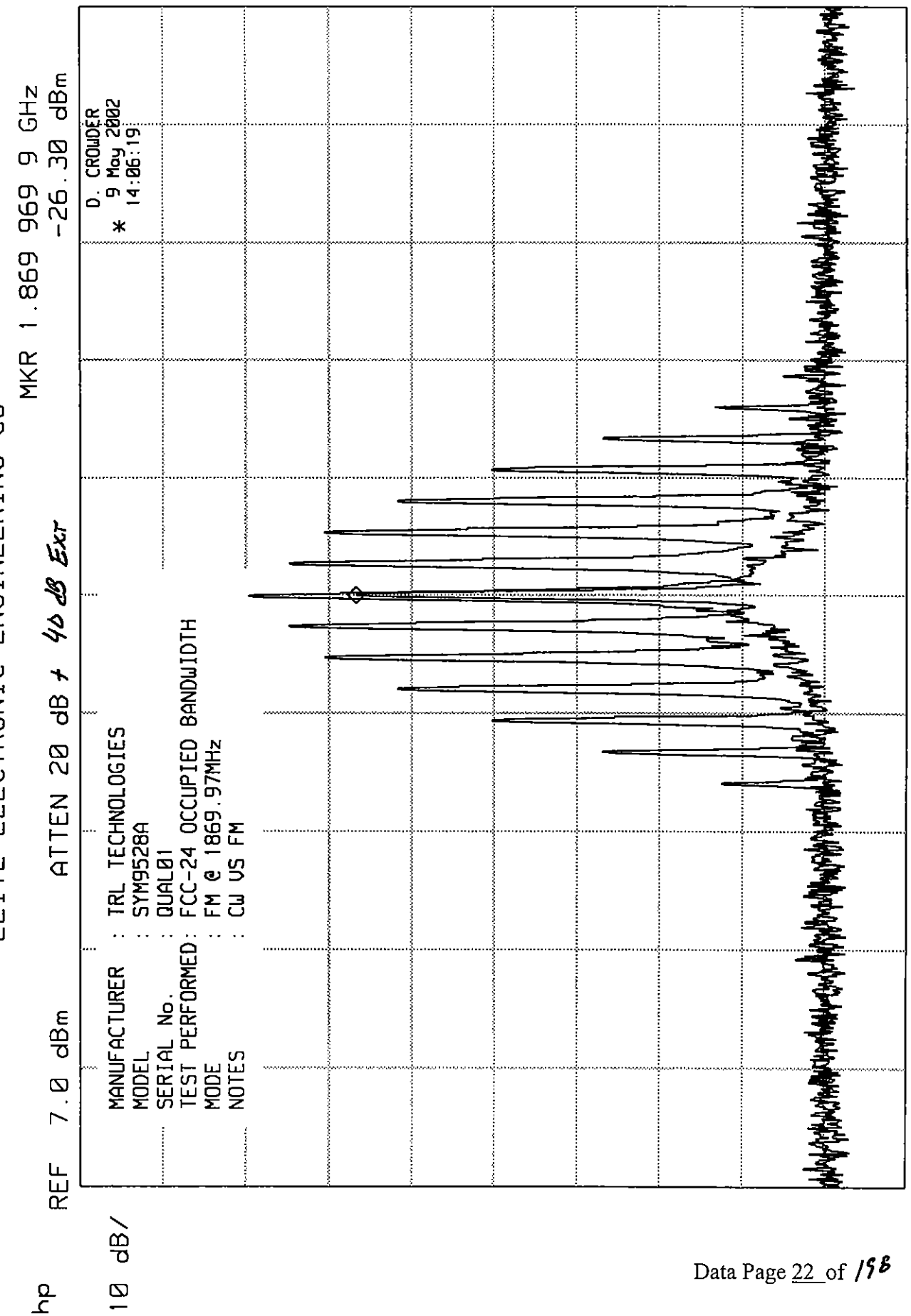

ELITE ELECTRONIC ENGINEERING CO
MKR 1.850 029 9 GHz
-26.10 dBm
REF 7.0 dBm
ATTEN 20 dB
10 dB/
D. CROWDER
9 May 2002
14:09:56
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1850.03MHz
NOTES : CW US FM
CENTER 1.850 030 GHz
SPAN 150 kHz
RES BW 300 Hz(i)
VBW 3 kHz
SWP 11.3 sec

ELITE ELECTRONIC ENGINEERING CO

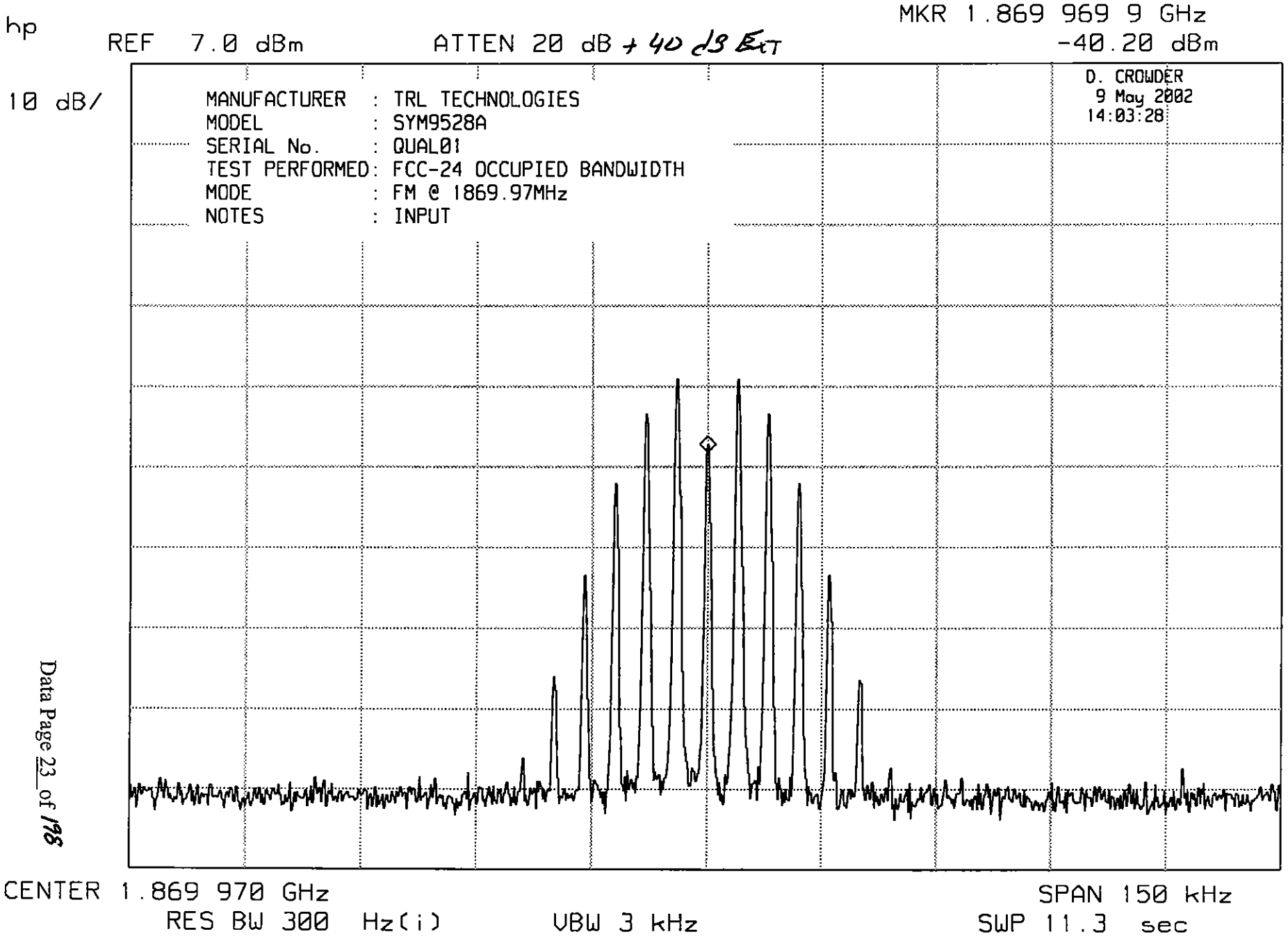


ETR 30980-01

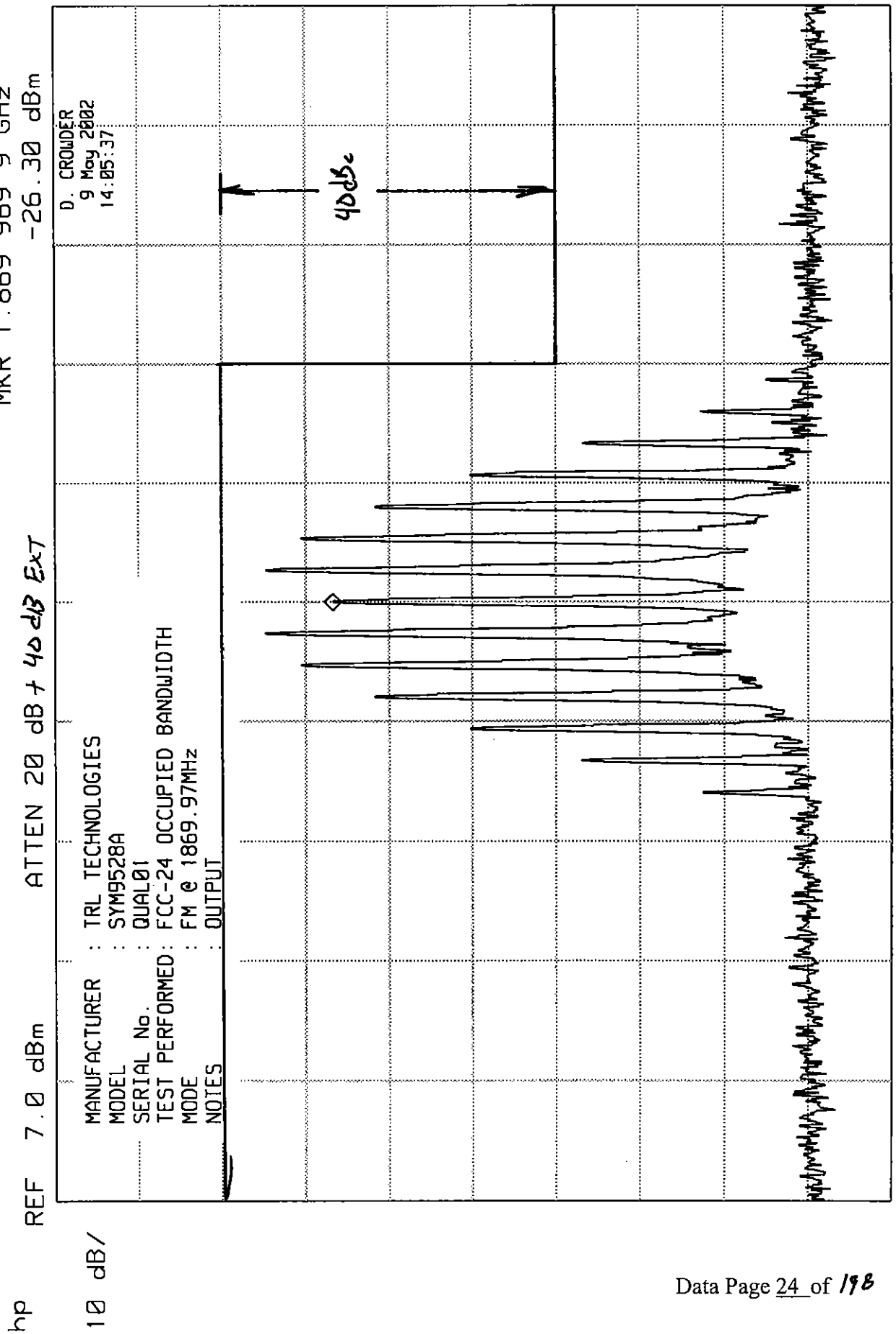

ELITE ELECTRONIC ENGINEERING CO
MKR 1.850 029 9 GHz
-26.10 dBm
D. CROWDER
9 May 2002
14:10:41
REF 7.0 dBm
ATTEN 20 dB + 40dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1850.03MHz
NOTES : OUTPUT
40dBc
CENTER 1.850 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

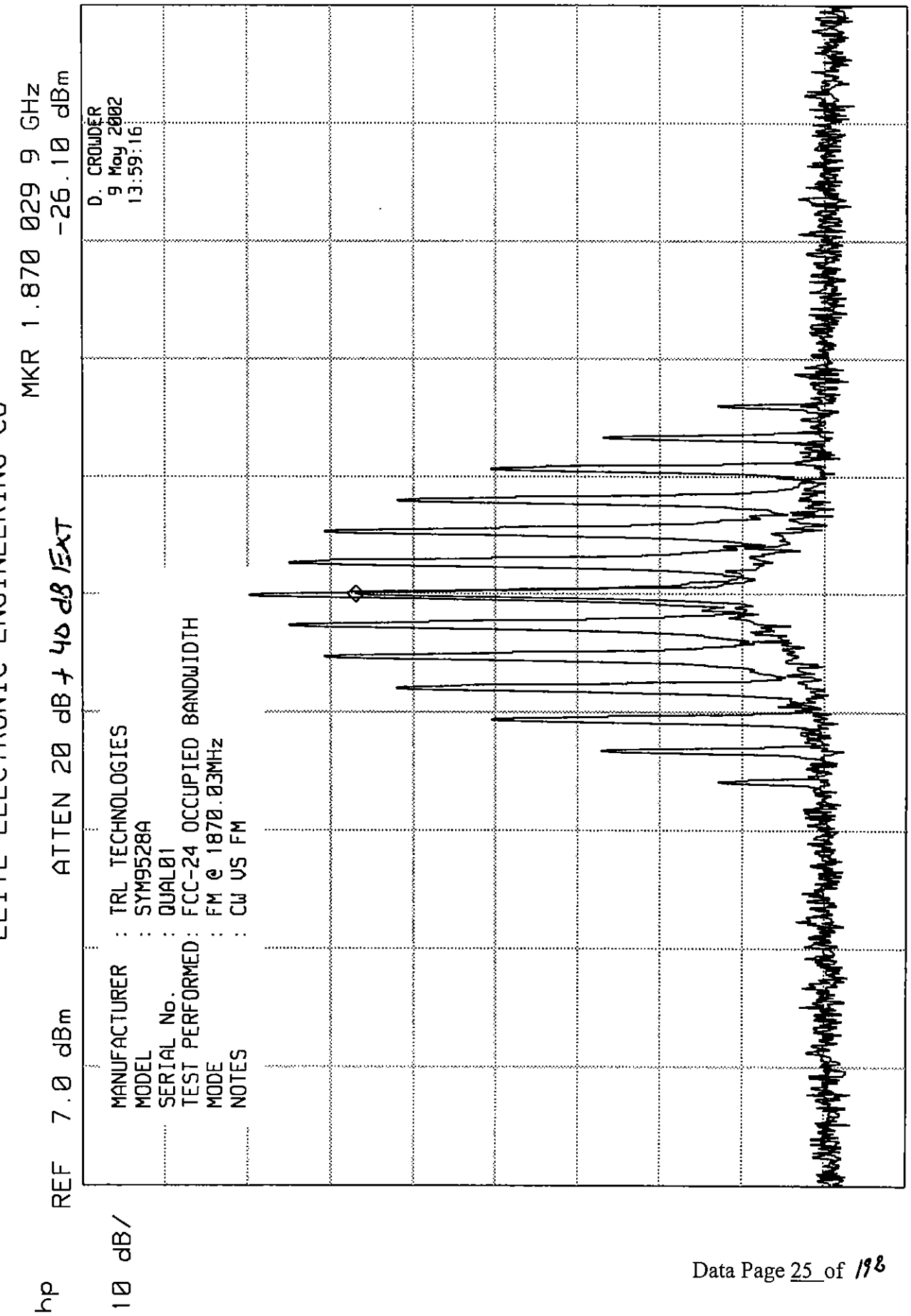

ELITE ELECTRONIC ENGINEERING CO
MKR 1.869 969 9 GHz
-26.30 dBm
D. CROWDER
* 9 May 2002
14:06:19
REF 7.0 dBm
ATTEN 20 dB + 45 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1869.97MHz
NOTES : CW VS FM
CENTER 1.869 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

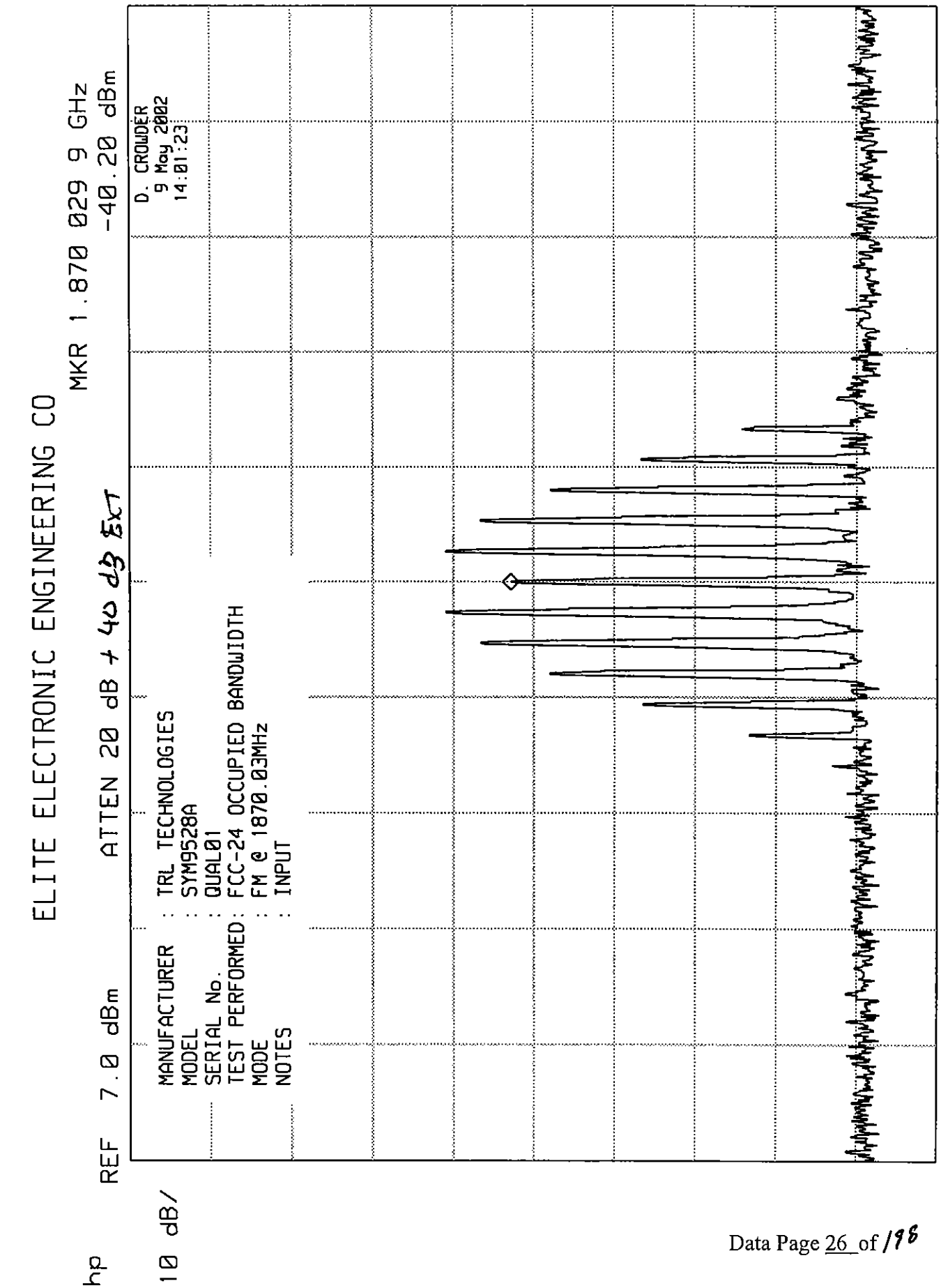
ELITE ELECTRONIC ENGINEERING CO

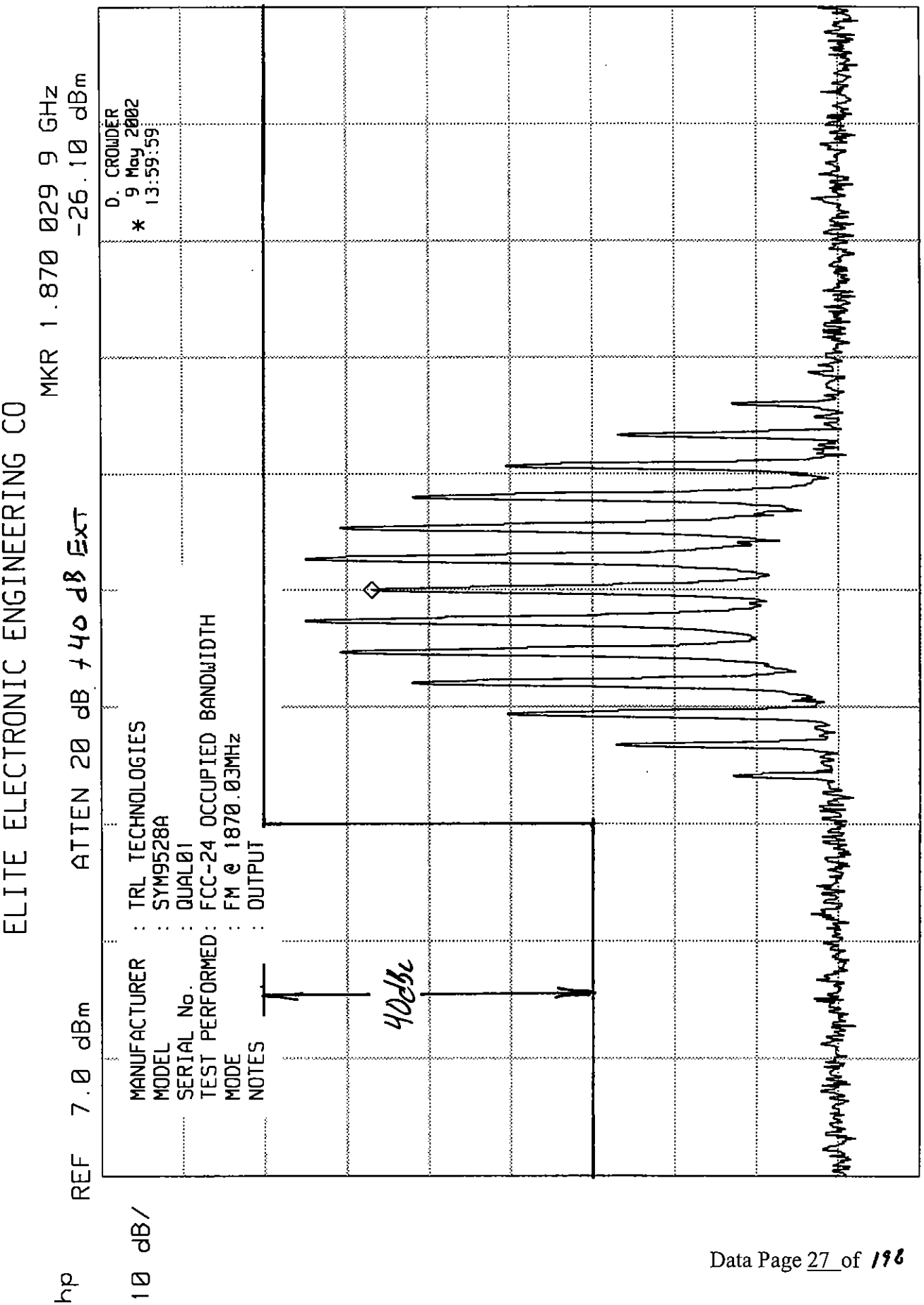


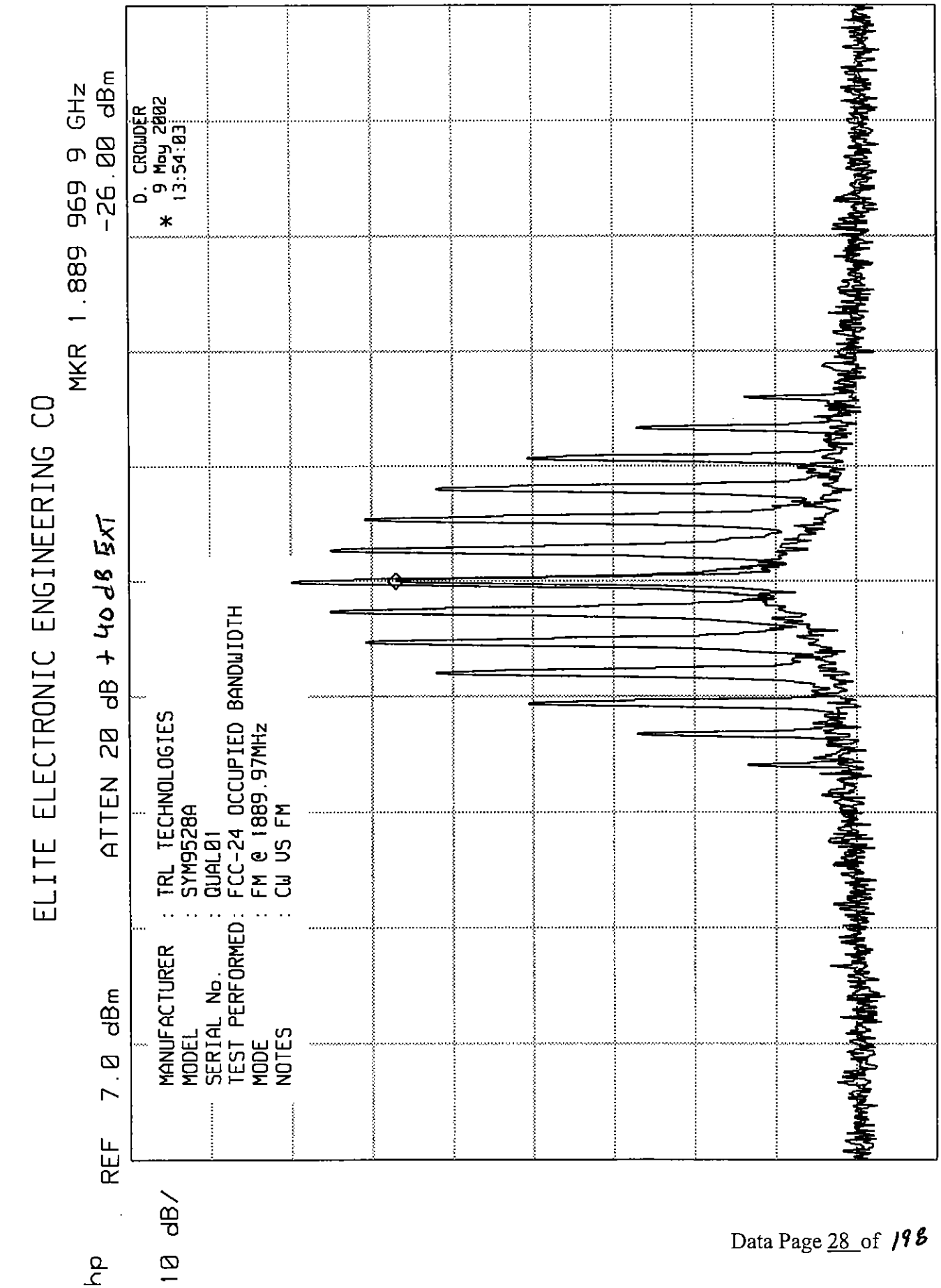
ETR 30980-01

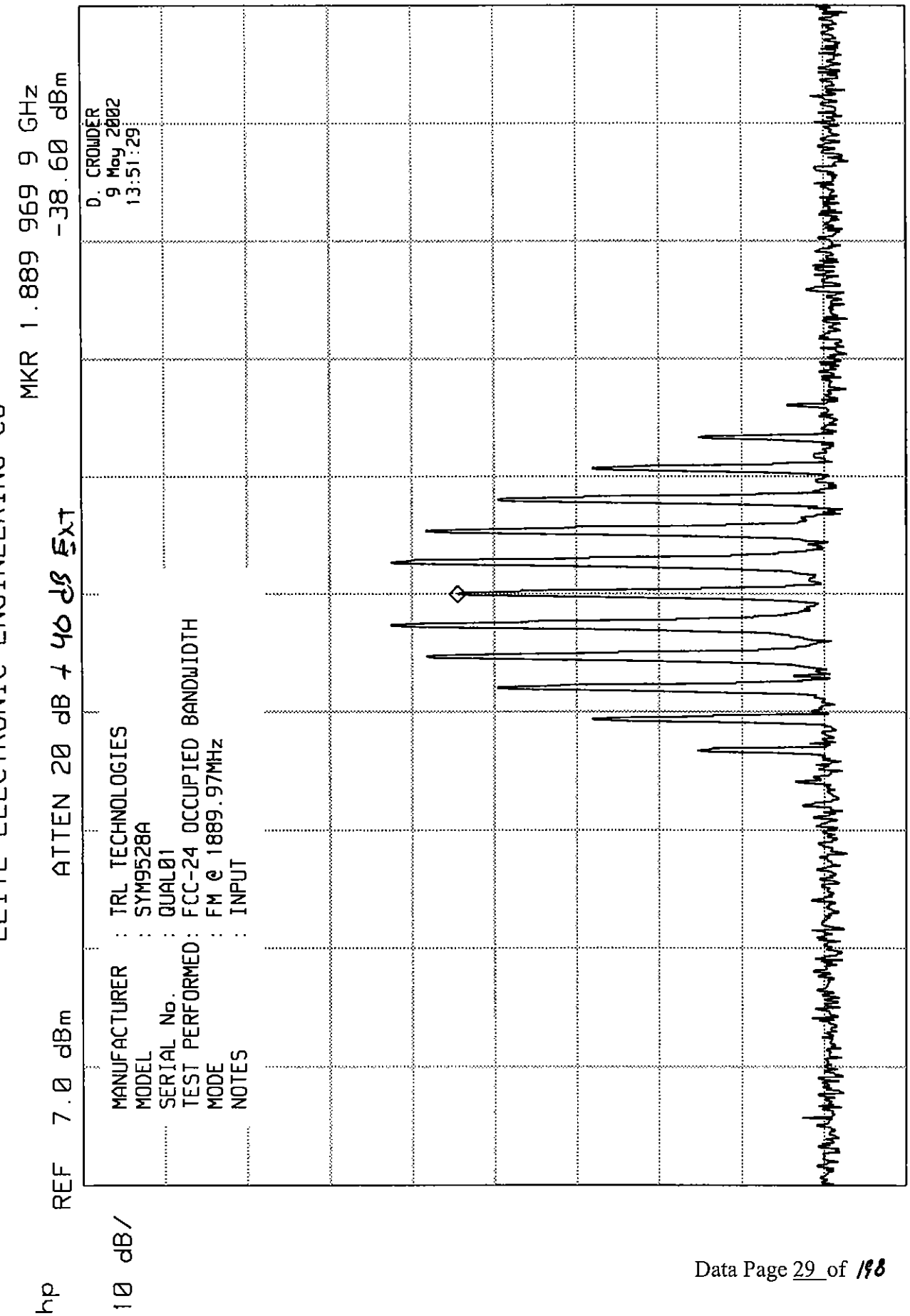

ELITE ELECTRONIC ENGINEERING CO
MKR 1.869 969 9 GHz
-26.30 dBm
D. CROWDER
9 May 2002
14:05:37
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
45dBc
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1869.97MHz
NOTES : OUTPUT
CENTER 1.869 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

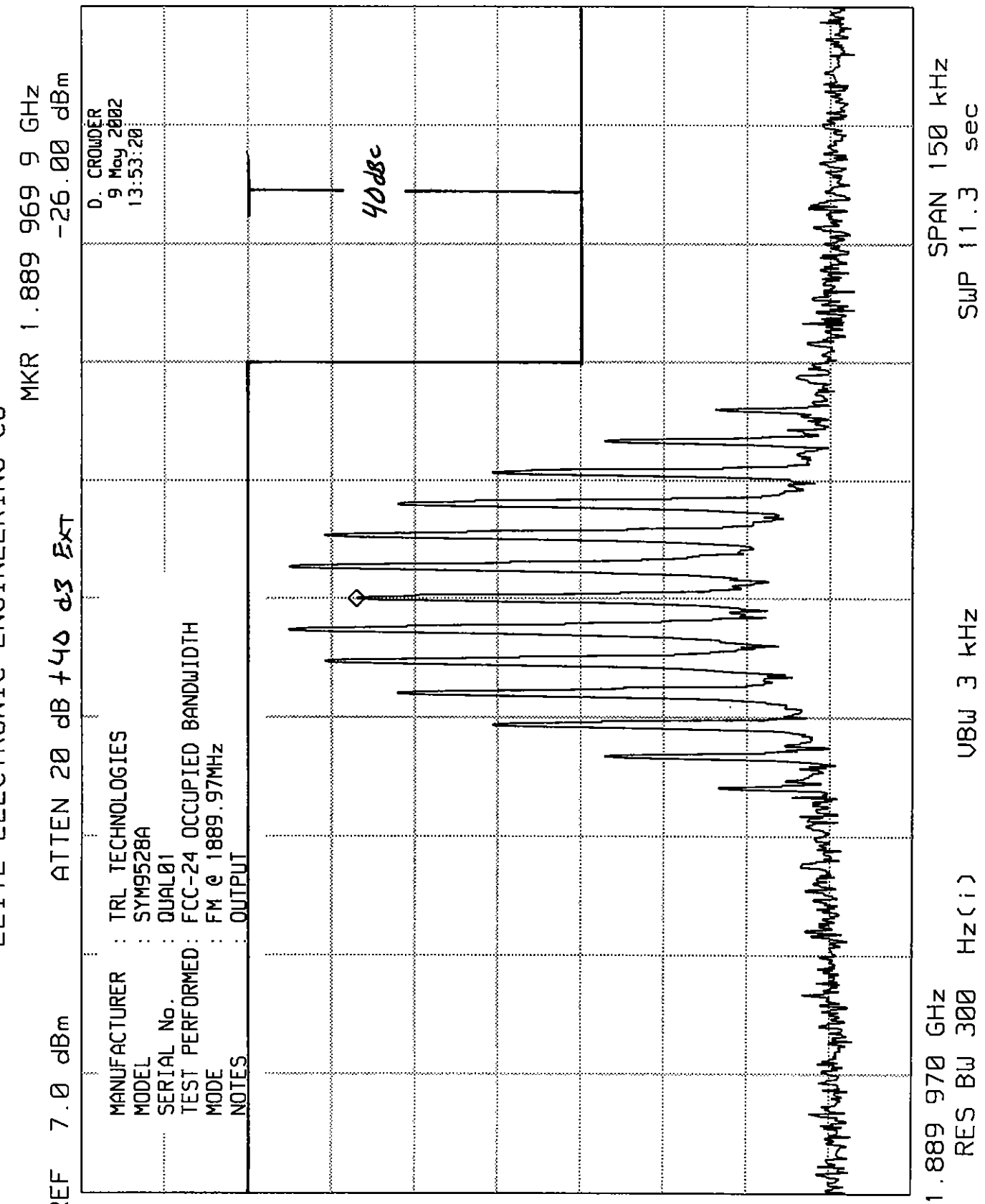

ELITE ELECTRONIC ENGINEERING CO
MKR 1.870 029 9 GHz
-26.10 dBm
D. CROWDER
9 May 2002
13:59:16
REF 7.0 dBm
ATTEN 20 dB + 40 dB EXT
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1870.03MHz
NOTES : CW VS FM
CENTER 1.870 030 GHz
SPAN 150 kHz
RES BW 300 Hz(i)
VBW 3 kHz
SWP 11.3 sec

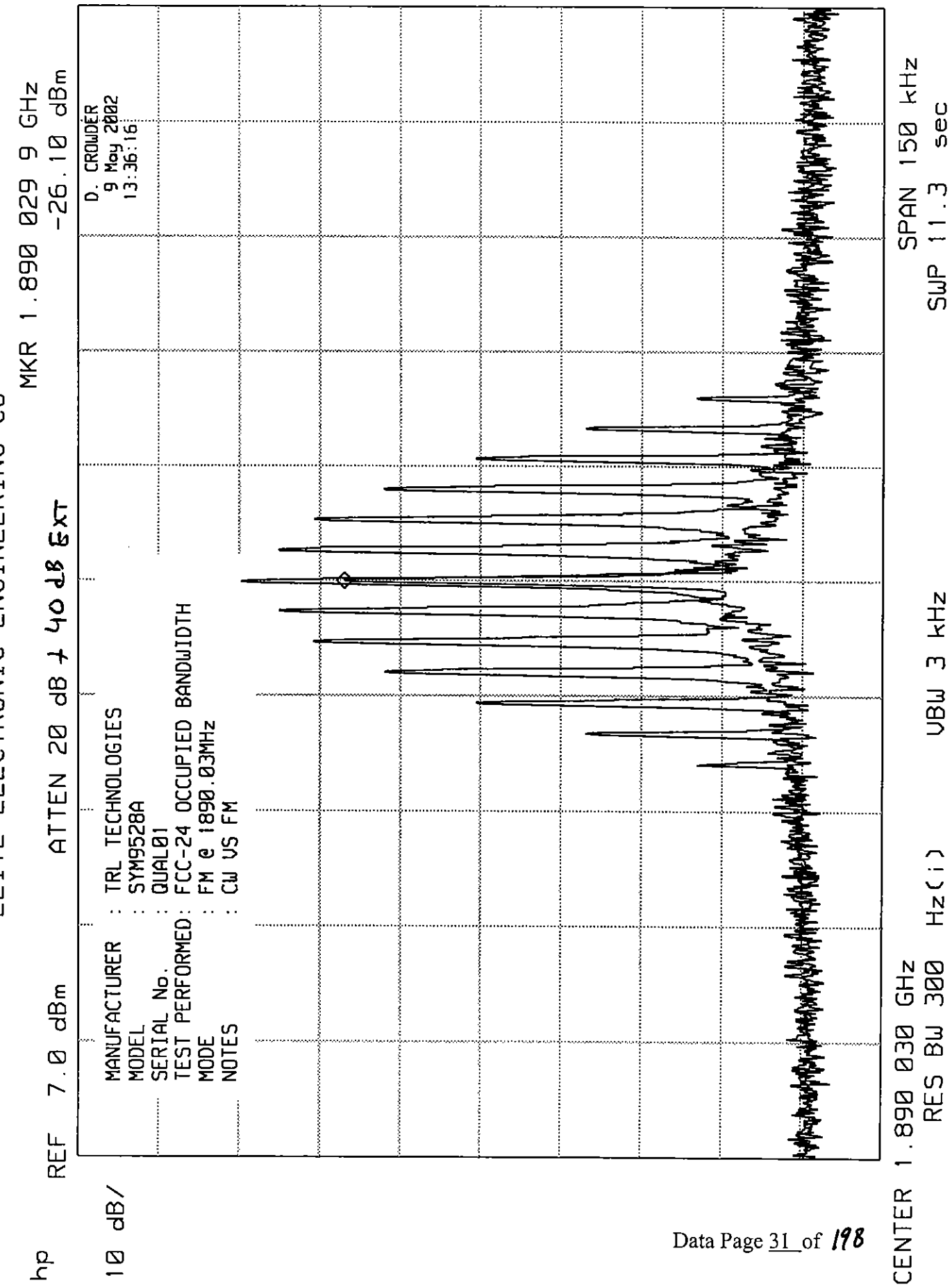

ELITE ELECTRONIC ENGINEERING CO
MKR 1.870 029 9 GHz
-40.20 dBm
D. CROWDER
9 May 2002
14:01:23
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1870.03MHz
NOTES : INPUT
CENTER 1.870 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

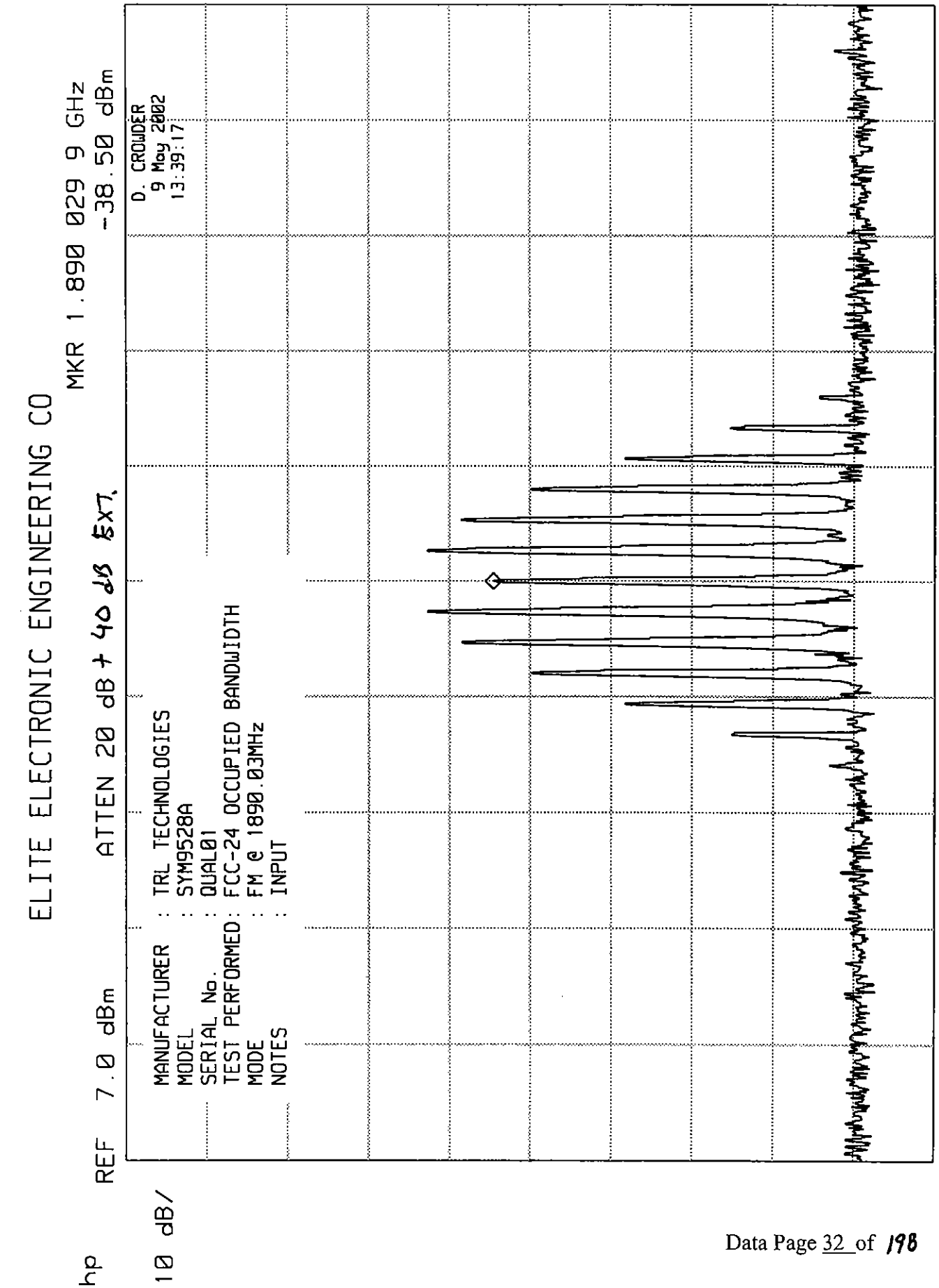

ELITE ELECTRONIC ENGINEERING CO
MKR 1.870 029 9 GHz
-26.10 dBm
D. CROWDER
9 May 2002
13:59:59
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1870.03MHz
NOTES : OUTPUT
40dBc
CENTER 1.870 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

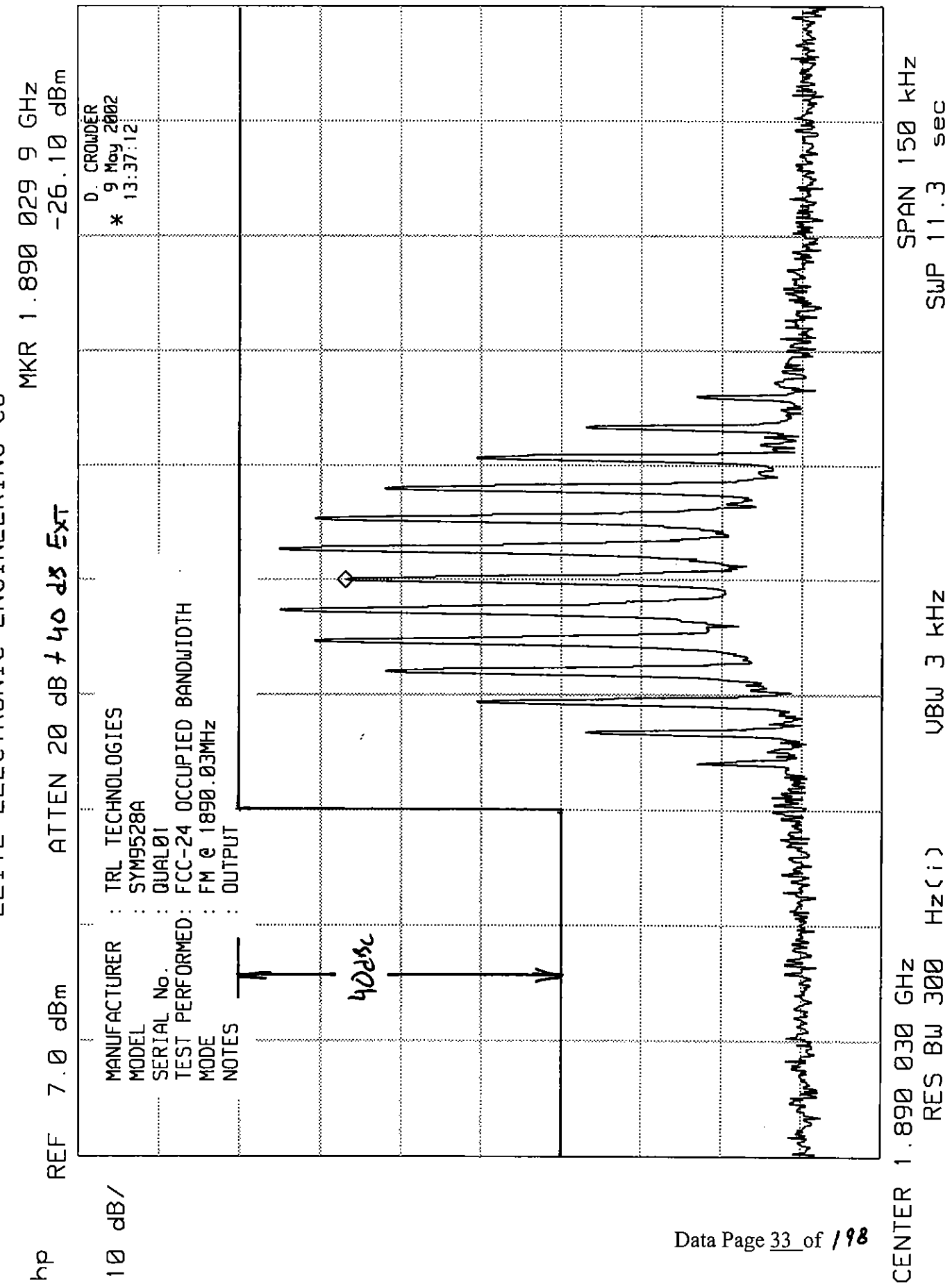

ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 969 9 GHz
-26.00 dBm
D. CROWDER
9 May 2002
13:54:03
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1889.97MHz
NOTES : CW VS FM
CENTER 1.889 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

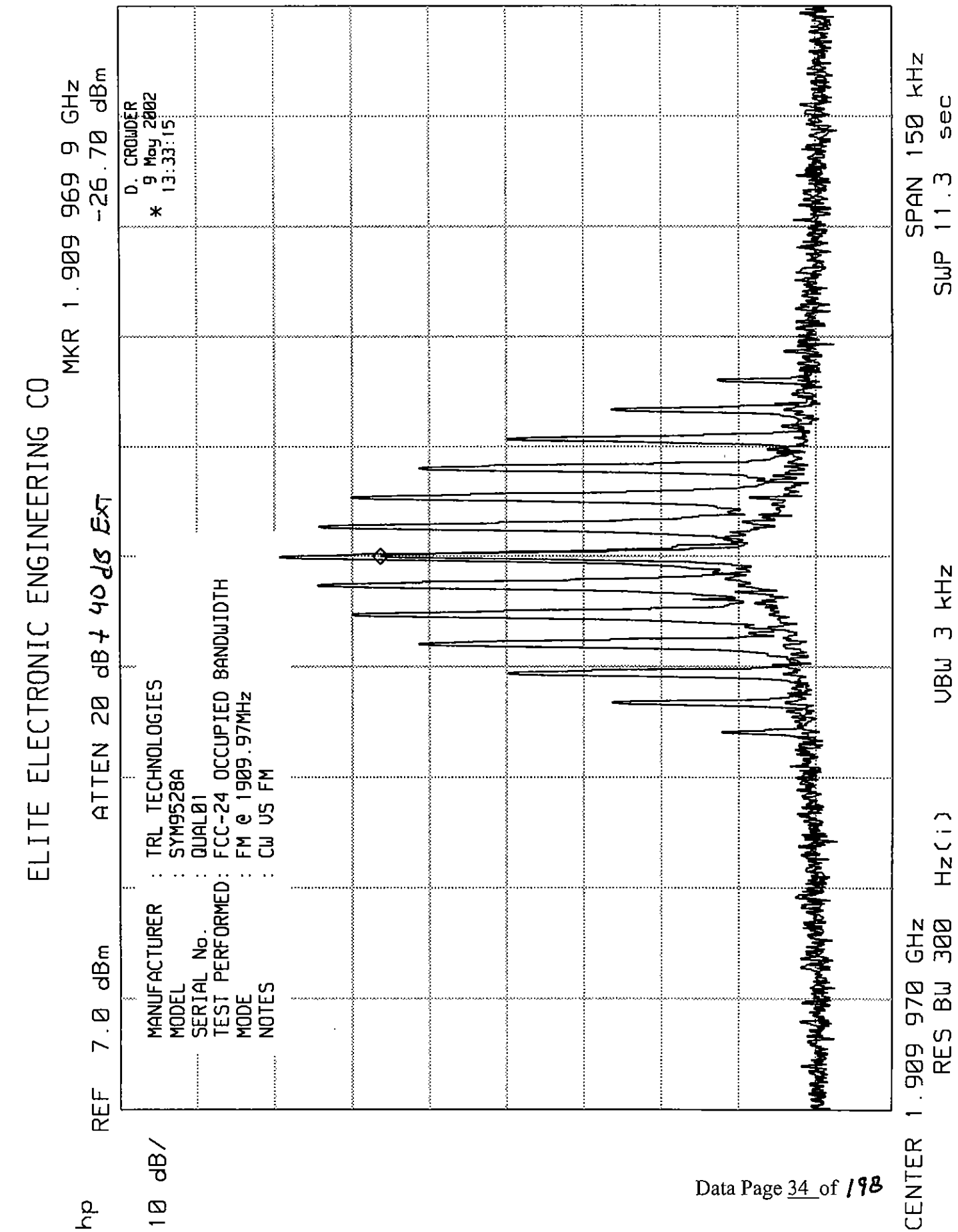

ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 969 9 GHz
-38.60 dBm
D. CROWDER
9 May 2002
13:51:29
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1889.97MHz
NOTES : INPUT
CENTER 1.889 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

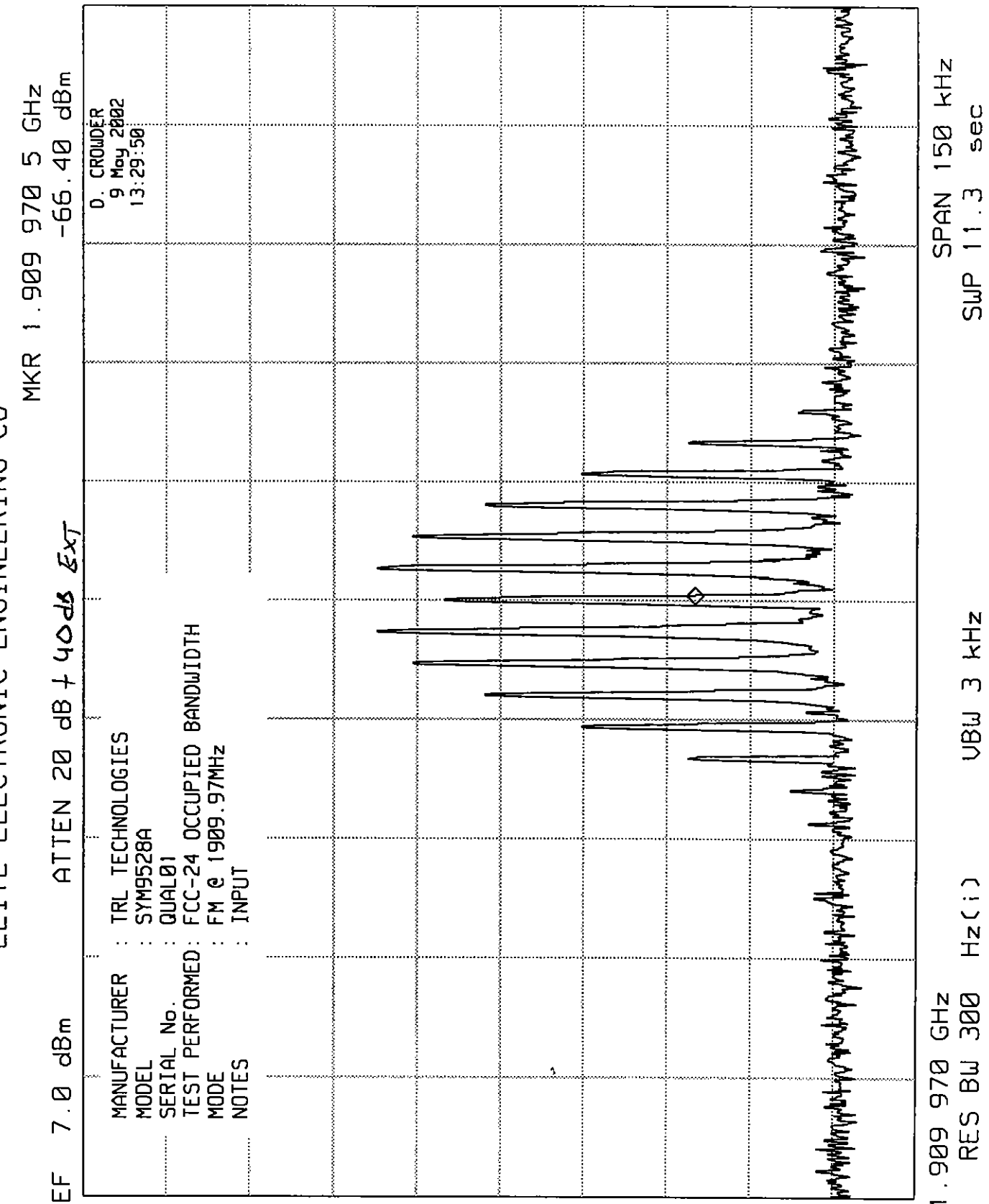

ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 969 9 GHz
-26.00 dBm
D. CROWDER
9 May 2002
13:53:20
40dBc
hp
REF 7.0 dBm
ATTEN 20 dB +40 d3 Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1889.97MHz
NOTES : OUTPUT
CENTER 1.889 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

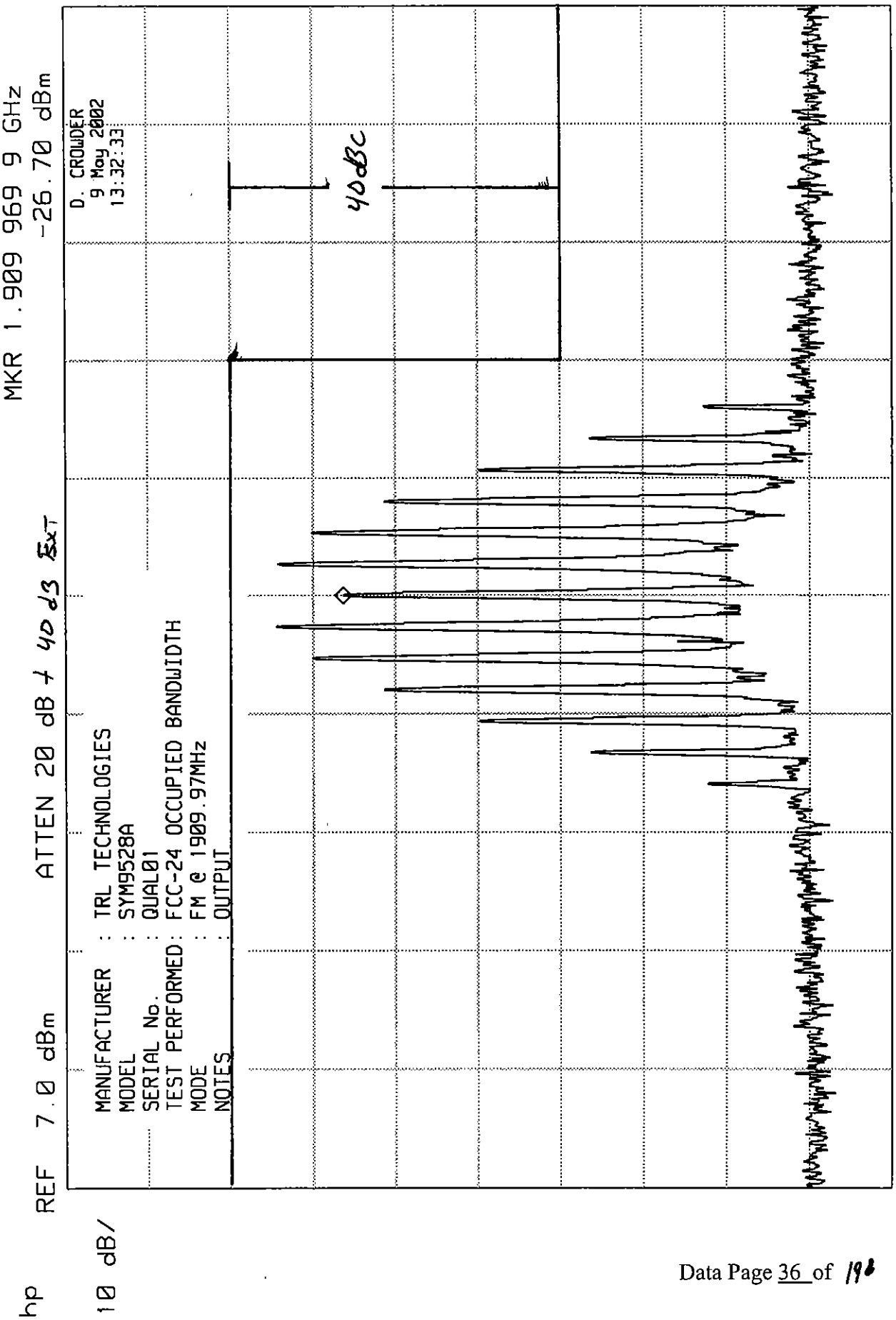

ELITE ELECTRONIC ENGINEERING CO
MKR 1.890 029 9 GHz
-26.10 dBm
D. CROWDER
9 May 2002
13:36:16
hp
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1890.03MHz
NOTES : CW VS FM
CENTER 1.890 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

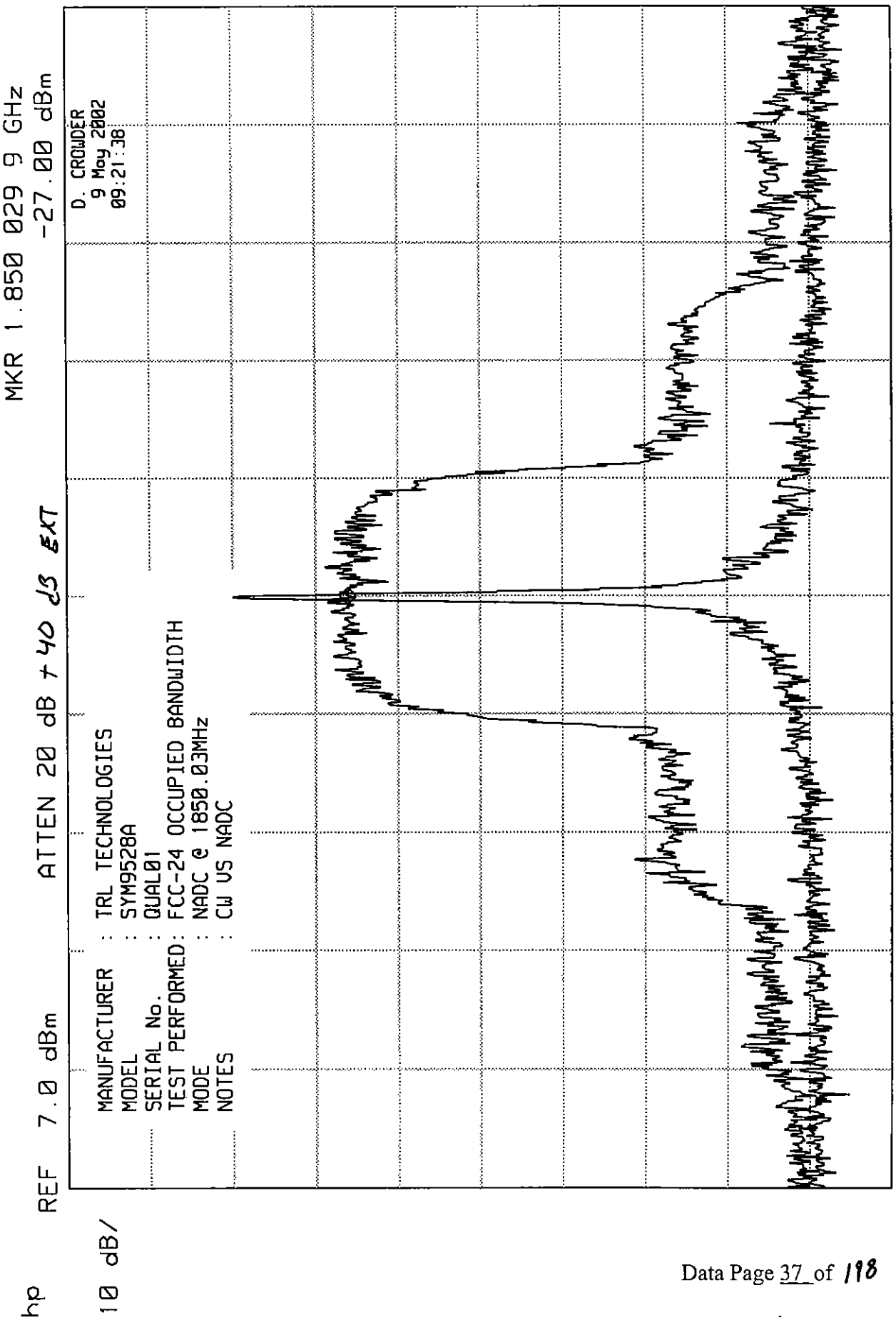

ELITE ELECTRONIC ENGINEERING CO
MKR 1.890 029 9 GHz
-38.50 dBm
D. CROWDER
9 May 2002
13:39:17
REF 7.0 dBm
ATTEN 20 dB + 40 dB EXT.
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1890.03MHz
NOTES : INPUT
CENTER 1.890 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.890 029 9 GHz
-26.10 dBm
D. CROWDER
9 May 2002
13:37:12
REF 7.0 dBm
ATTEN 20 dB
40 dBc
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1890.03MHz
NOTES : OUTPUT
10 dB/
CENTER 1.890 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

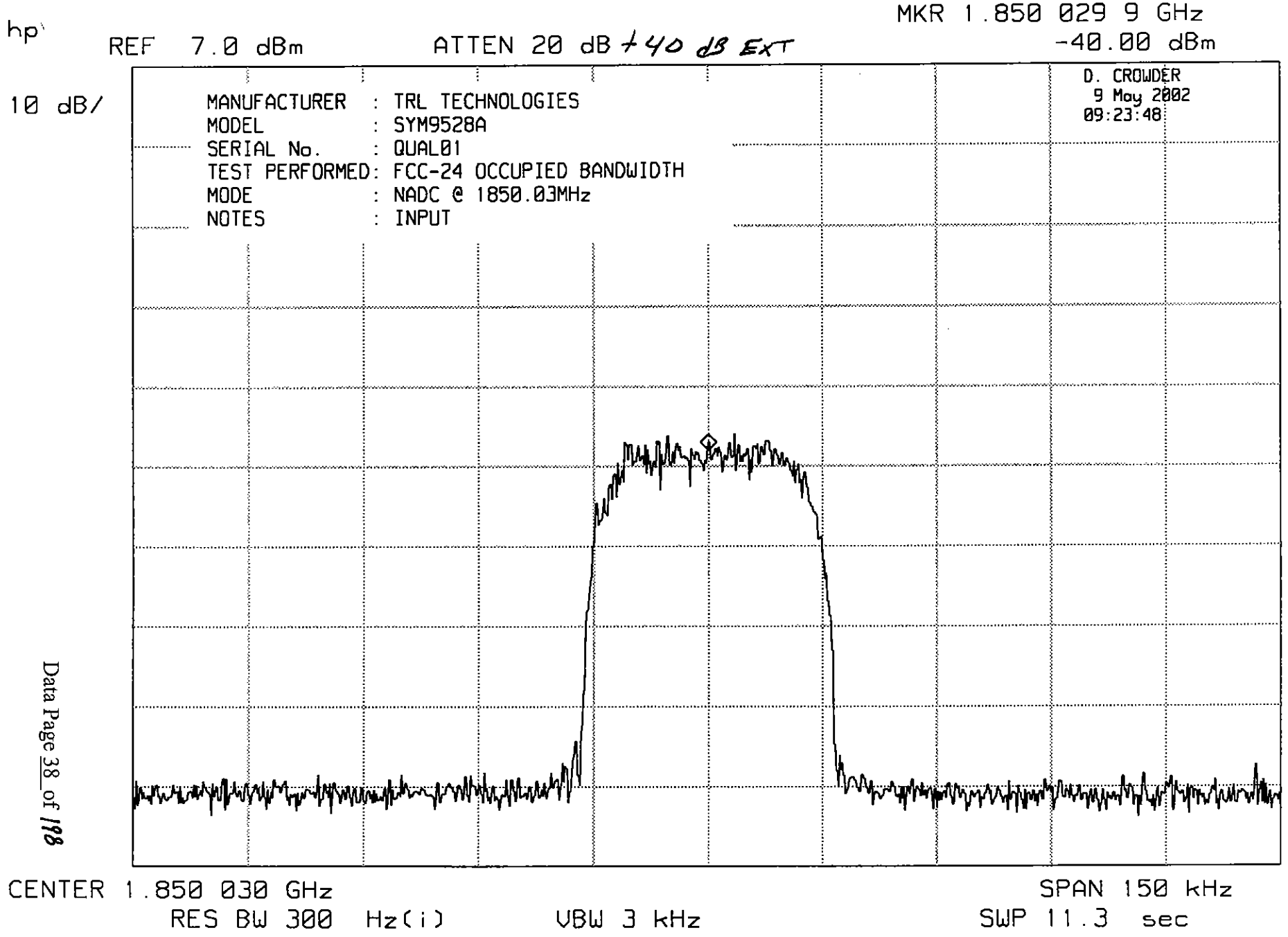

ELITE ELECTRONIC ENGINEERING CO
MKR 1.909 969 9 GHz
-26.70 dBm
D. CROWDER
9 May 2002
13:33:15
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1909.97MHz
NOTES : CW VS FM
CENTER 1.909 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.909 970 5 GHz
-66.40 dBm
REF 7.0 dBm
ATTEN 20 dB + 40dB Ext
10 dB/
D. CROWDER
9 May 2002
13:29:50
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1909.97MHz
NOTES : INPUT
CENTER 1.909 970 GHz
SPAN 150 kHz
RES BW 300 Hz(i)
VBW 3 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.909 969 9 GHz
-26.70 dBm
REF 7.0 dBm
ATTEN 20 dB
10 dB/
hp
D. CROWDER
9 May 2002
13:32:33
40dBc
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : FM @ 1909.97MHz
NOTES : OUTPUT
CENTER 1.909 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.850 029 9 GHz
-27.00 dBm
REF 7.0 dBm
ATTEN 20 dB + 40 dB EXT
10 dB/
D. CROWDER
9 May 2002
09:21:38
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1850.03MHz
NOTES : CW US NADC
CENTER 1.850 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

ELITE ELECTRONIC ENGINEERING CO



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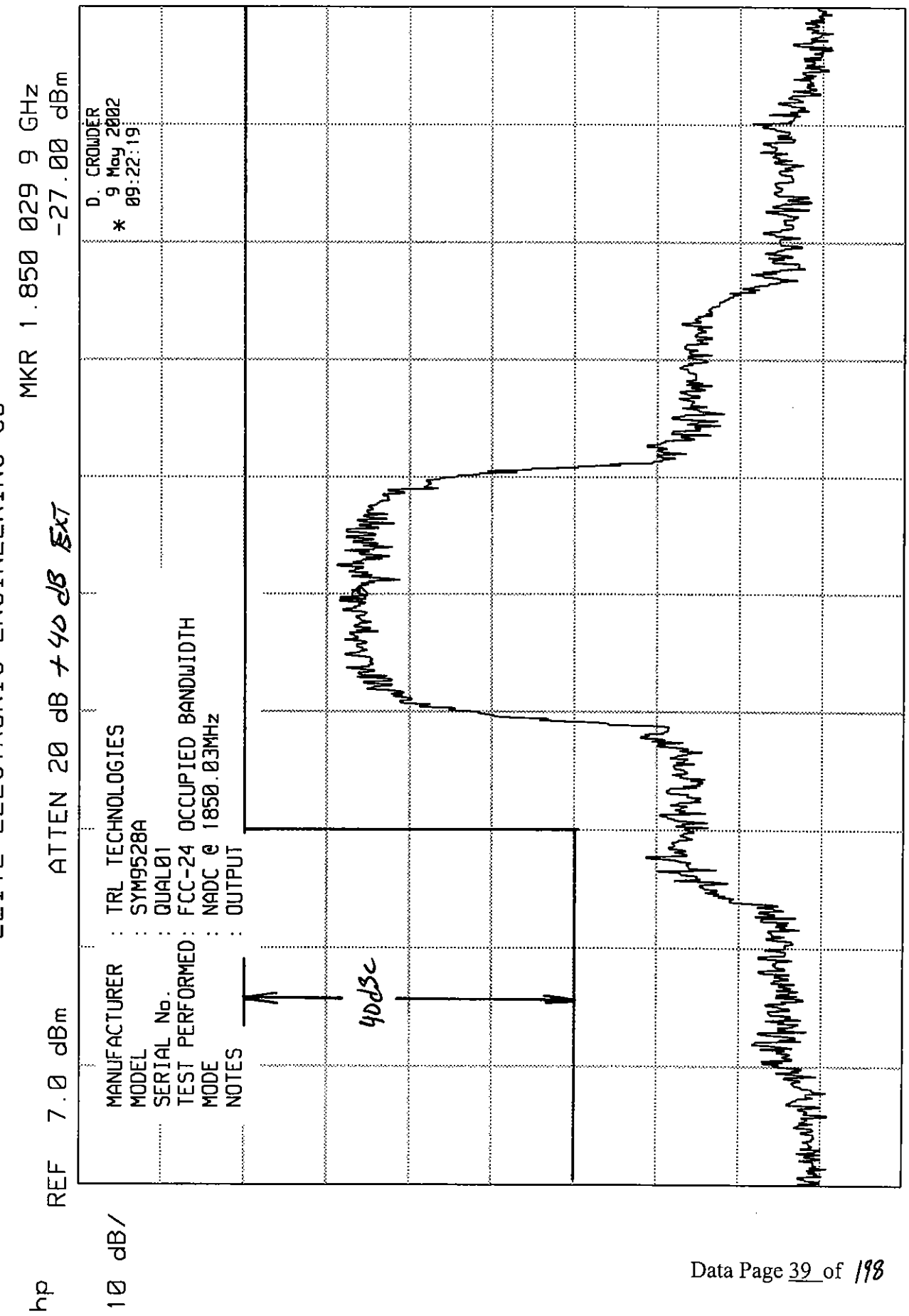
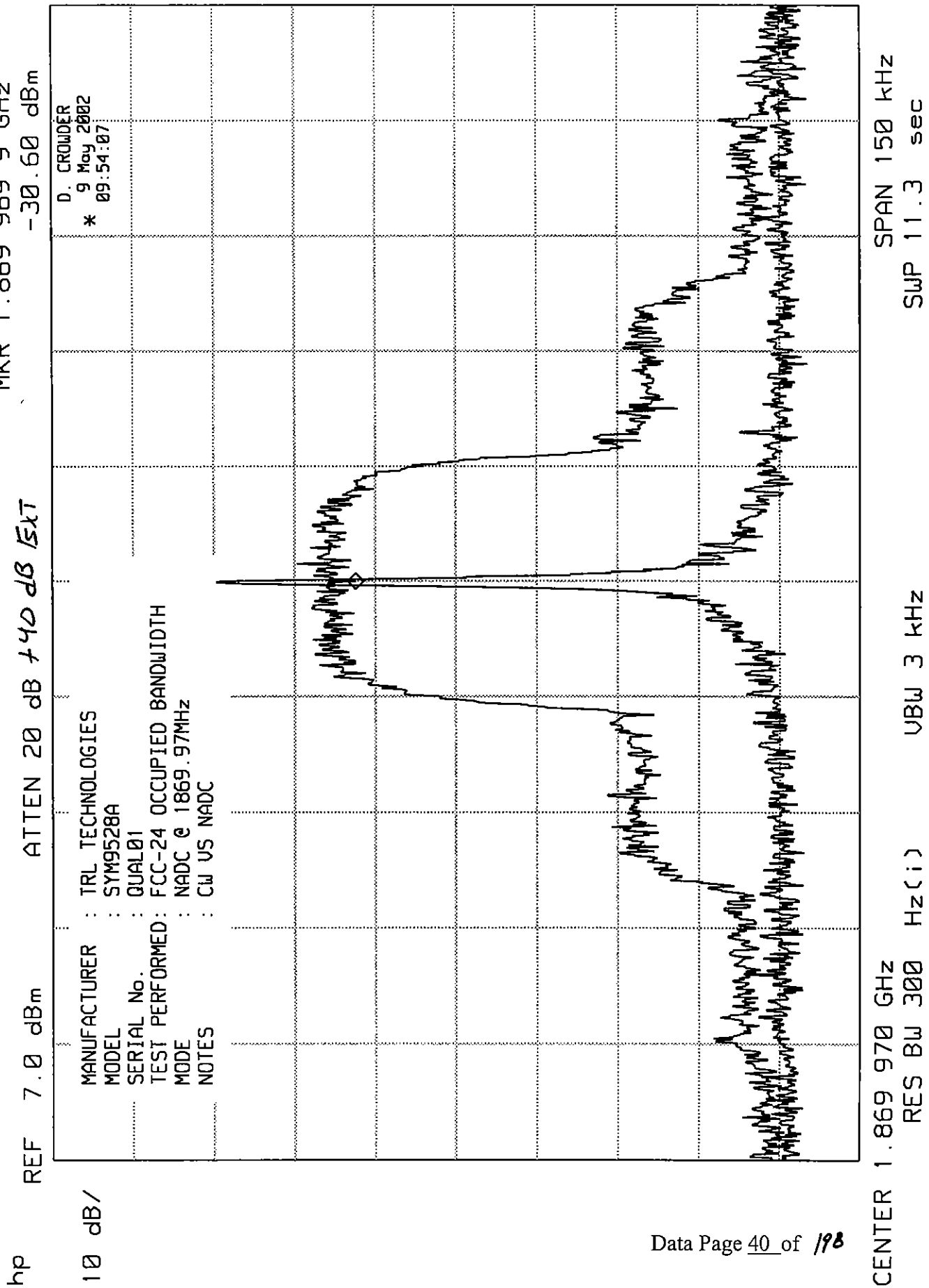
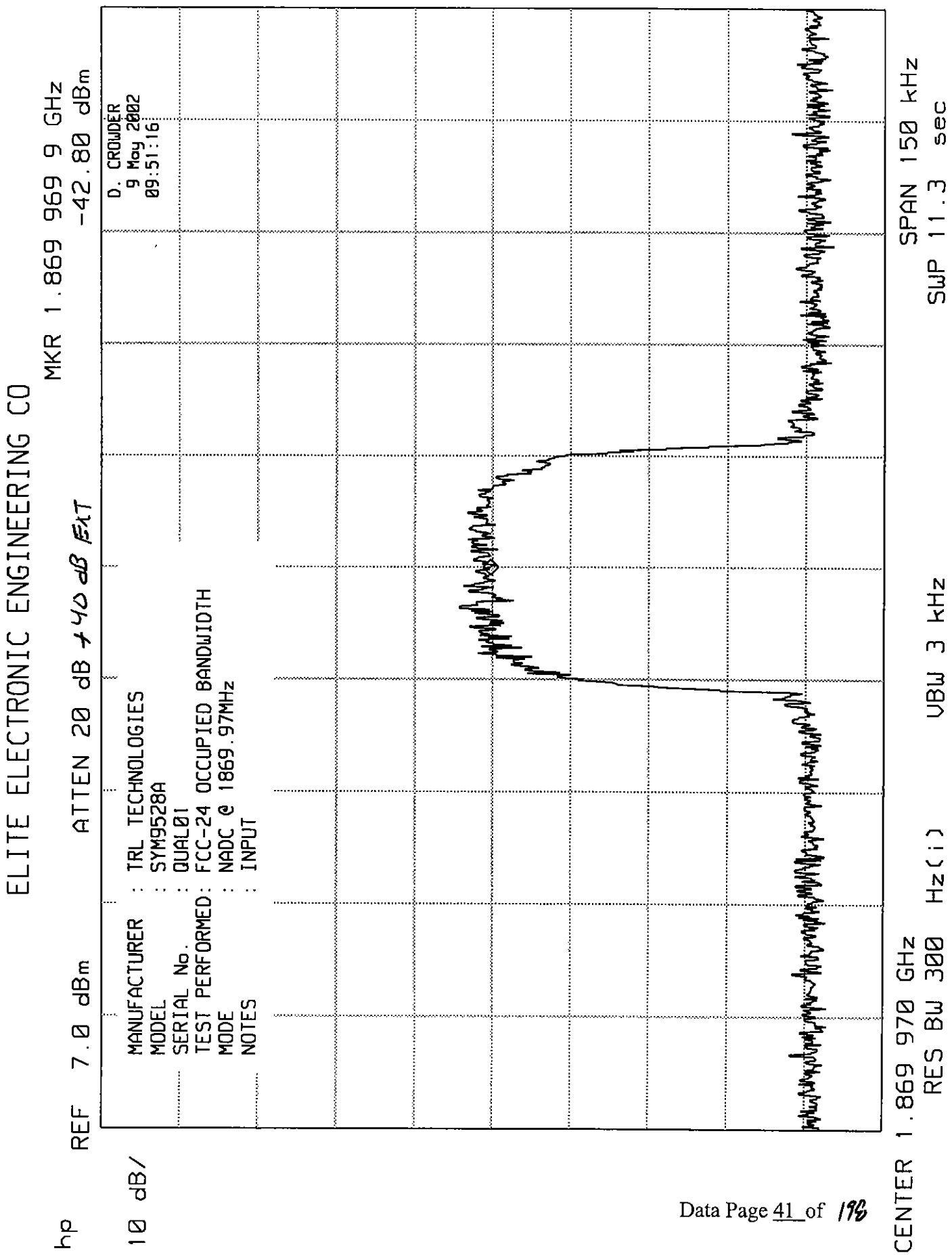
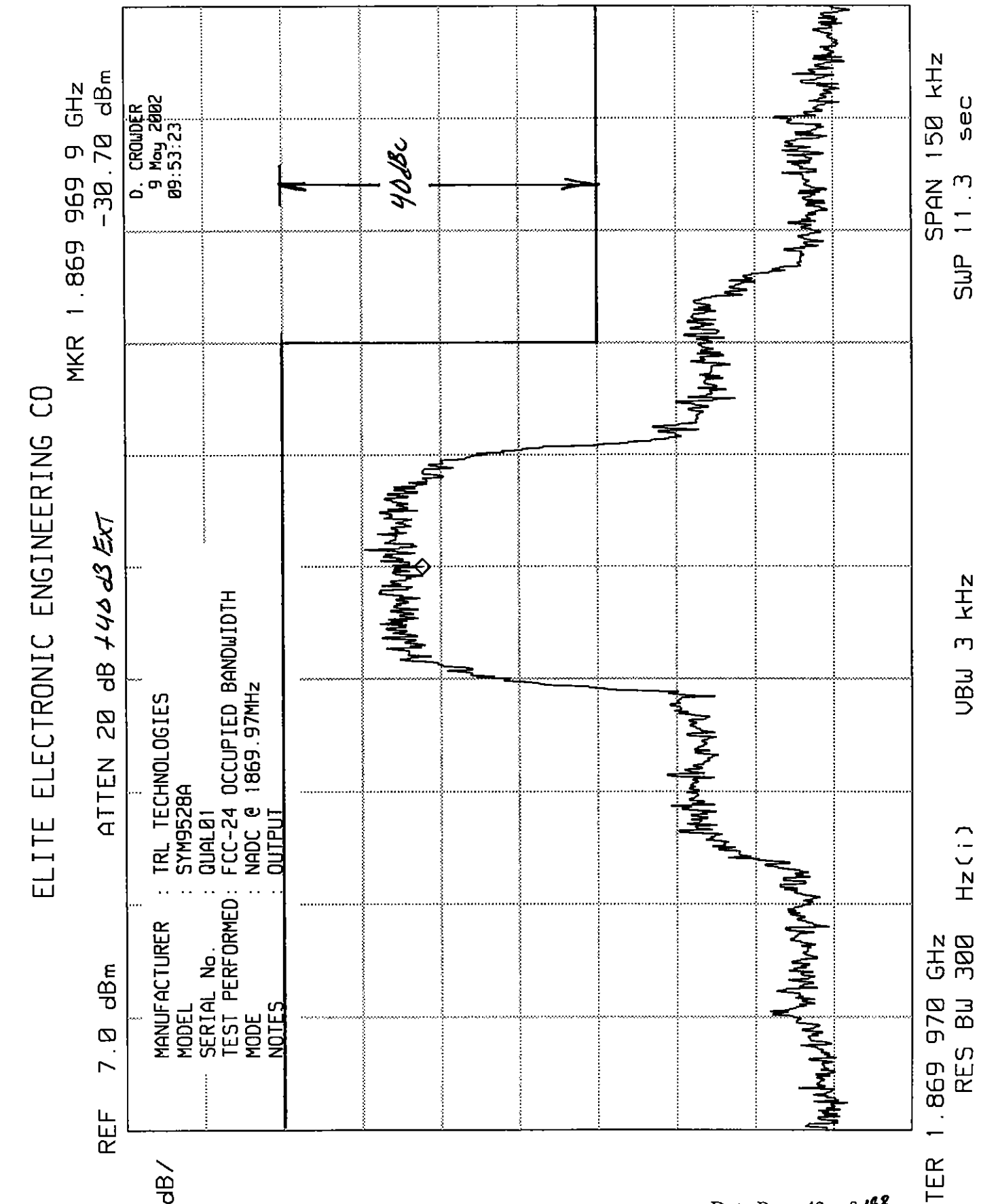
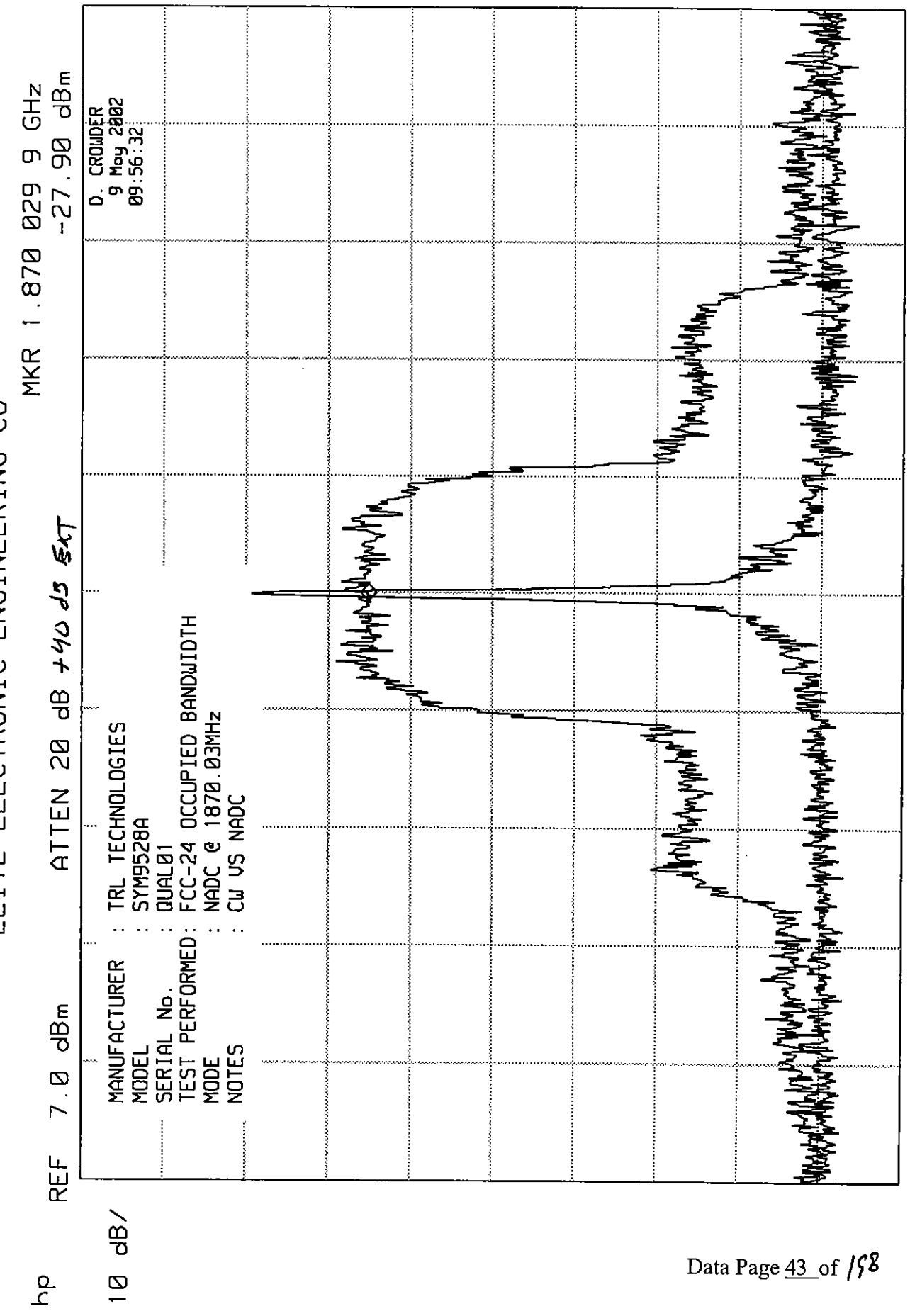
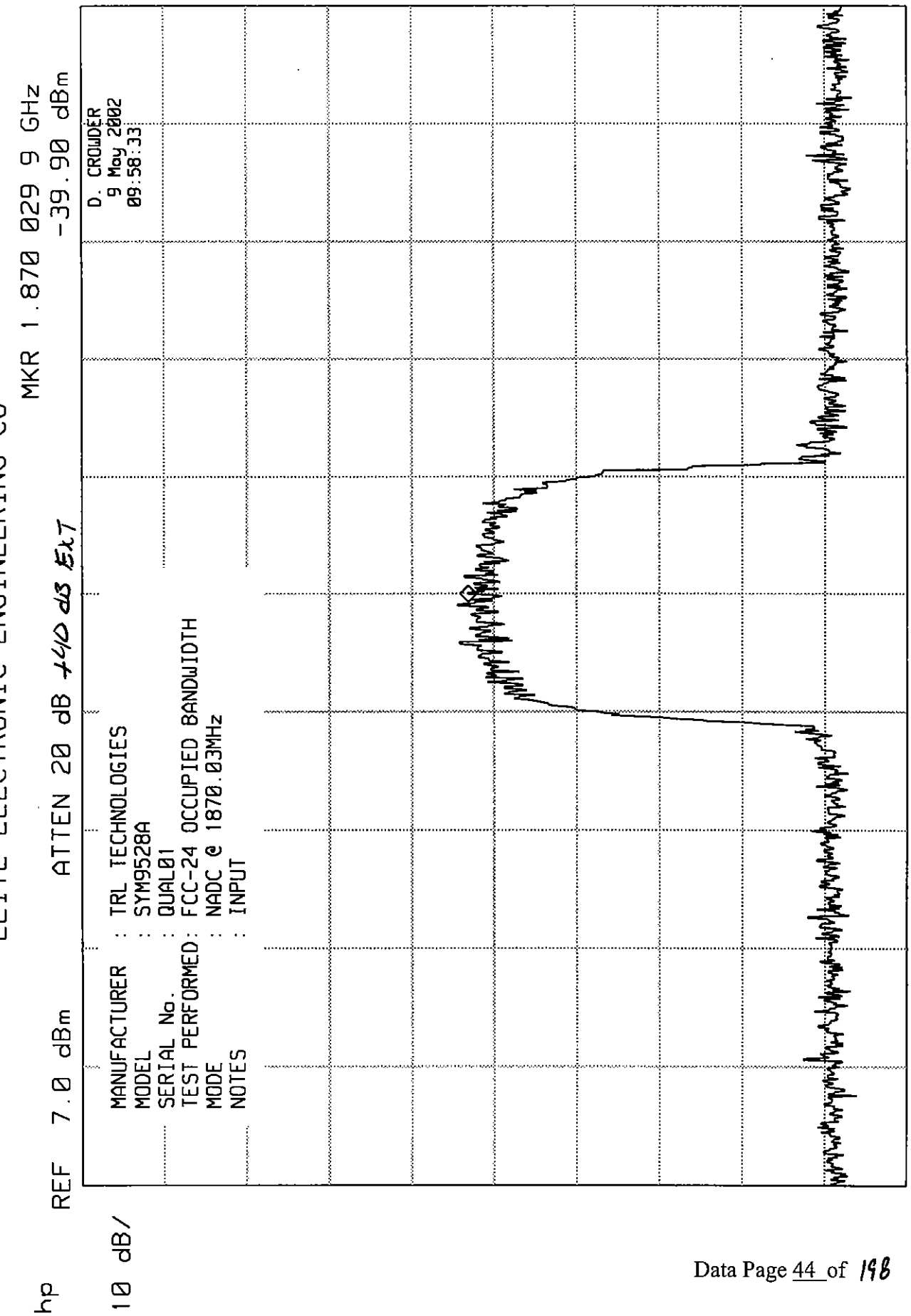

ELITE ELECTRONIC ENGINEERING CO
MKR 1.850 029 9 GHz
-27.00 dBm
ATTEN 20 dB +40 dB Ext
REF 7.0 dBm
10 dB/
D. CROWDER
9 May 2002
09:22:19
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1850.03MHz
NOTES : OUTPUT
40dBc
CENTER 1.850 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

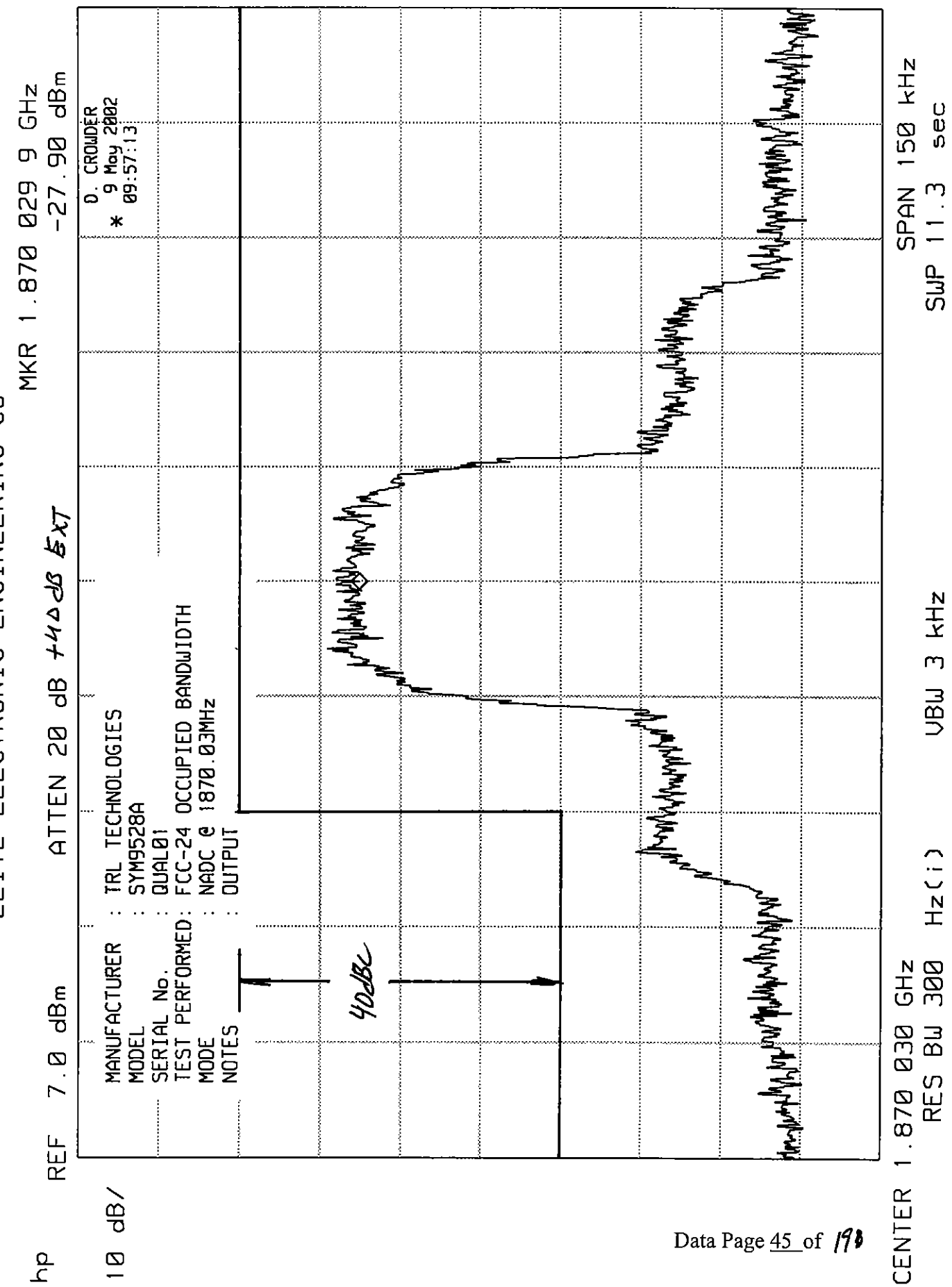

ELITE ELECTRONIC ENGINEERING CO
MKR 1.869 969 9 GHz
-30.60 dBm
D. CROWDER
9 May 2002
09:54:07
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1869.97MHz
NOTES : CW VS NADC
CENTER 1.869 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

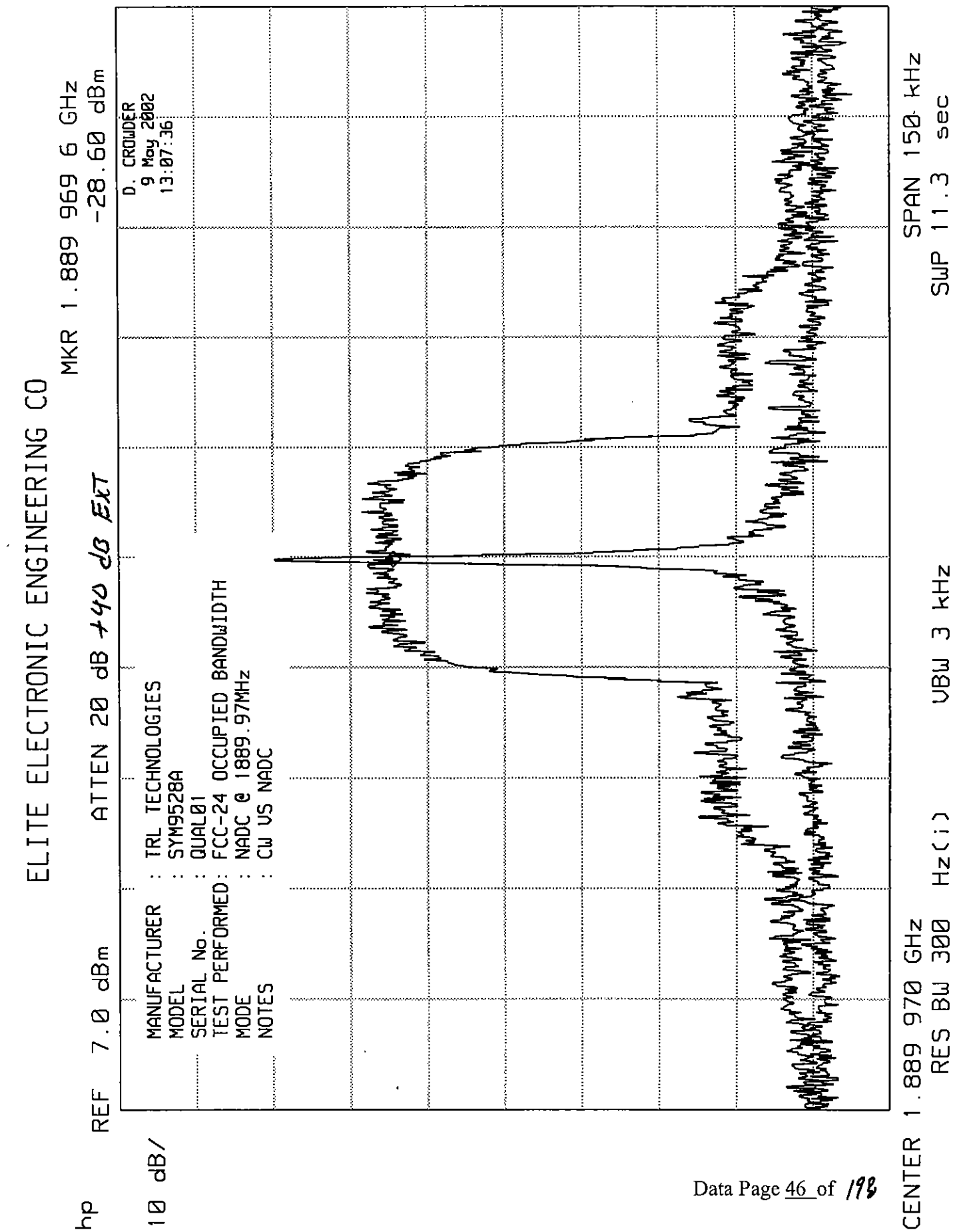

ELITE ELECTRONIC ENGINEERING CO
MKR 1.869 969 9 GHz
-42.80 dBm
REF 7.0 dBm
ATTEN 20 dB +45 dB Ext
10 dB/
D. CROWDER
9 May 2002
09:51:16
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1869.97MHz
NOTES : INPUT
CENTER 1.869 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

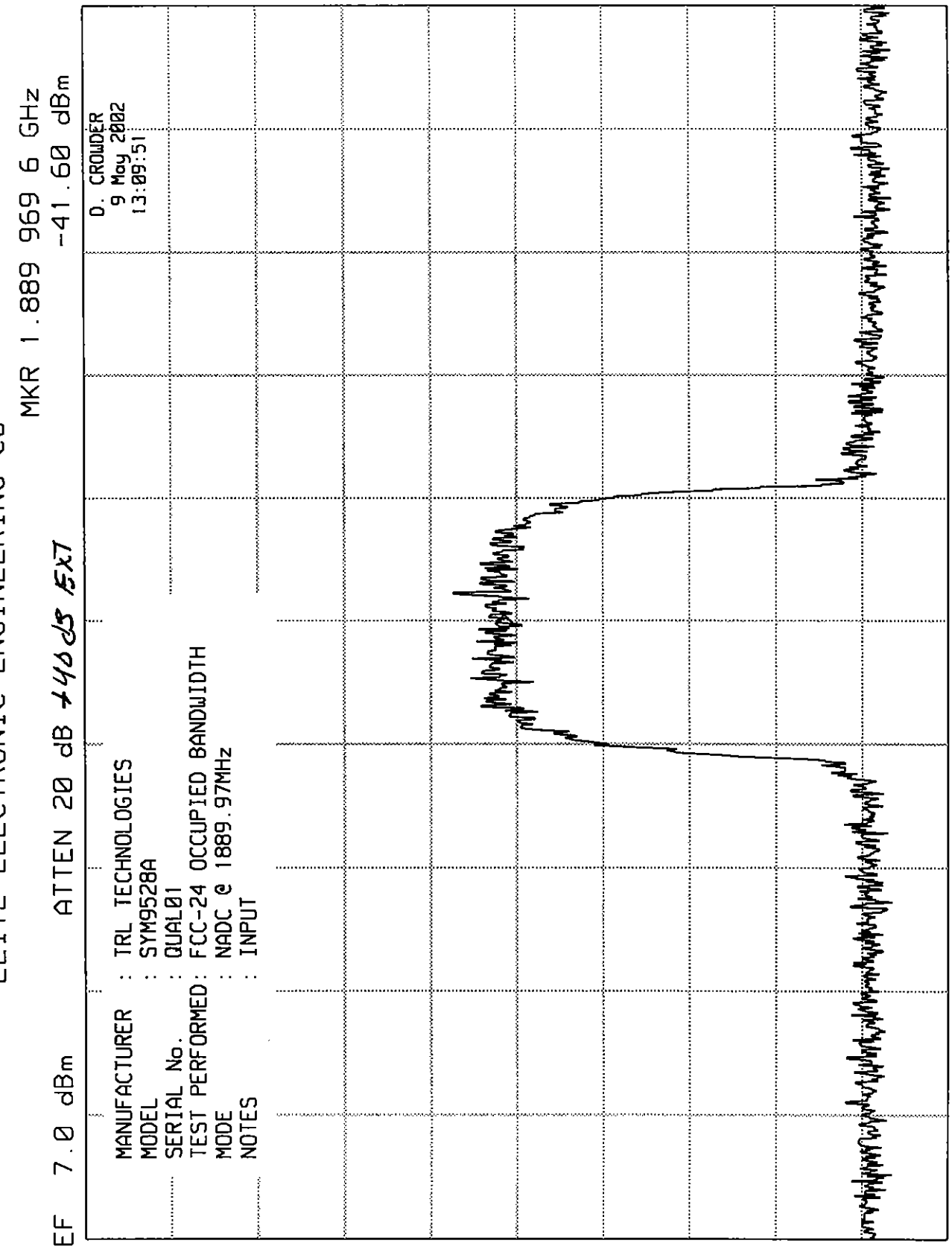

ELITE ELECTRONIC ENGINEERING CO
MKR 1.869 969 9 GHz
-30.70 dBm
D. CROWDER
9 May 2002
09:53:23
hp
REF 7.0 dBm
ATTEN 20 dB 40dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1869.97MHz
NOTES : OUTPUT
40dBc
CENTER 1.869 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

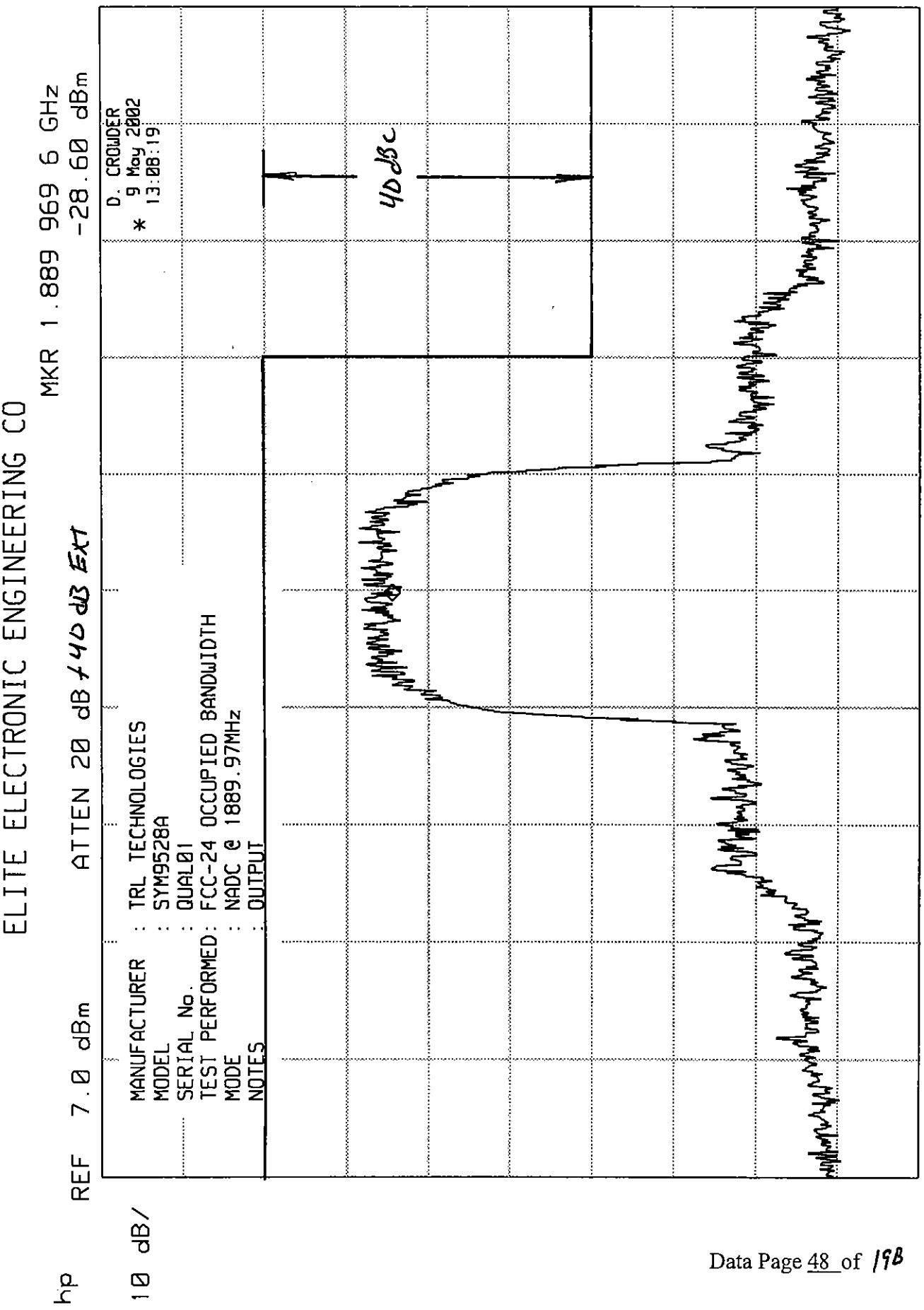

ELITE ELECTRONIC ENGINEERING CO
MKR 1.870 029 9 GHz
-27.90 dBm
REF 7.0 dBm
ATTEN 20 dB +40 dB EXT
10 dB/
D. CROWDER
9 May 2002
09:56:32
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1870.03MHz
NOTES : CW VS NADC
CENTER 1.870 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

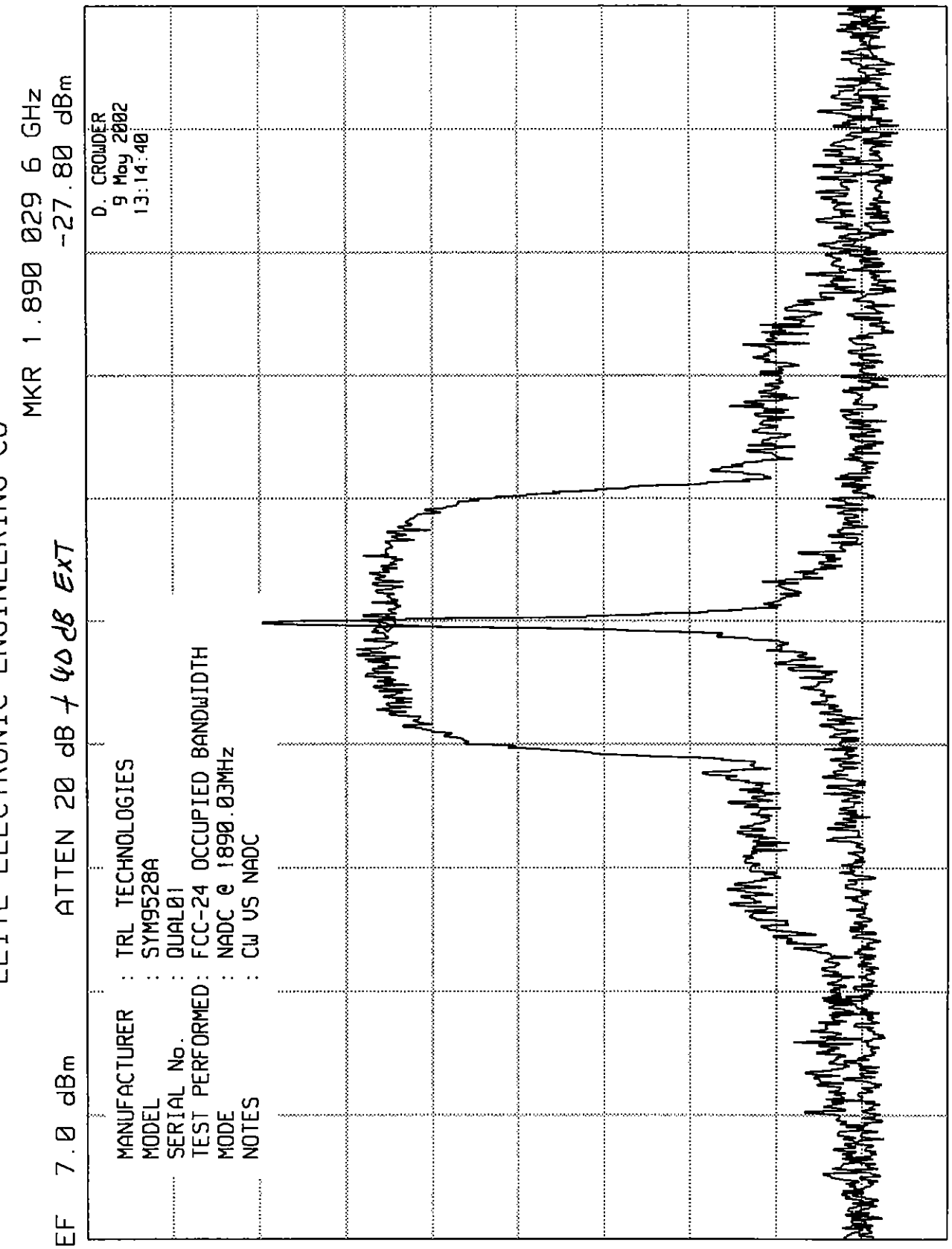

ELITE ELECTRONIC ENGINEERING CO
MKR 1.870 029 9 GHz
-39.90 dBm
D. CROWDER
9 May 2002
09:58:33
REF 7.0 dBm
ATTEN 20 dB
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1870.03MHz
NOTES : INPUT
CENTER 1.870 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.870 029 9 GHz
-27.90 dBm
D. CROWDER
9 May 2002
09:57:13
REF 7.0 dBm
ATTEN 20 dB +11.5 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1870.03MHz
NOTES : OUTPUT
40dBc
CENTER 1.870 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

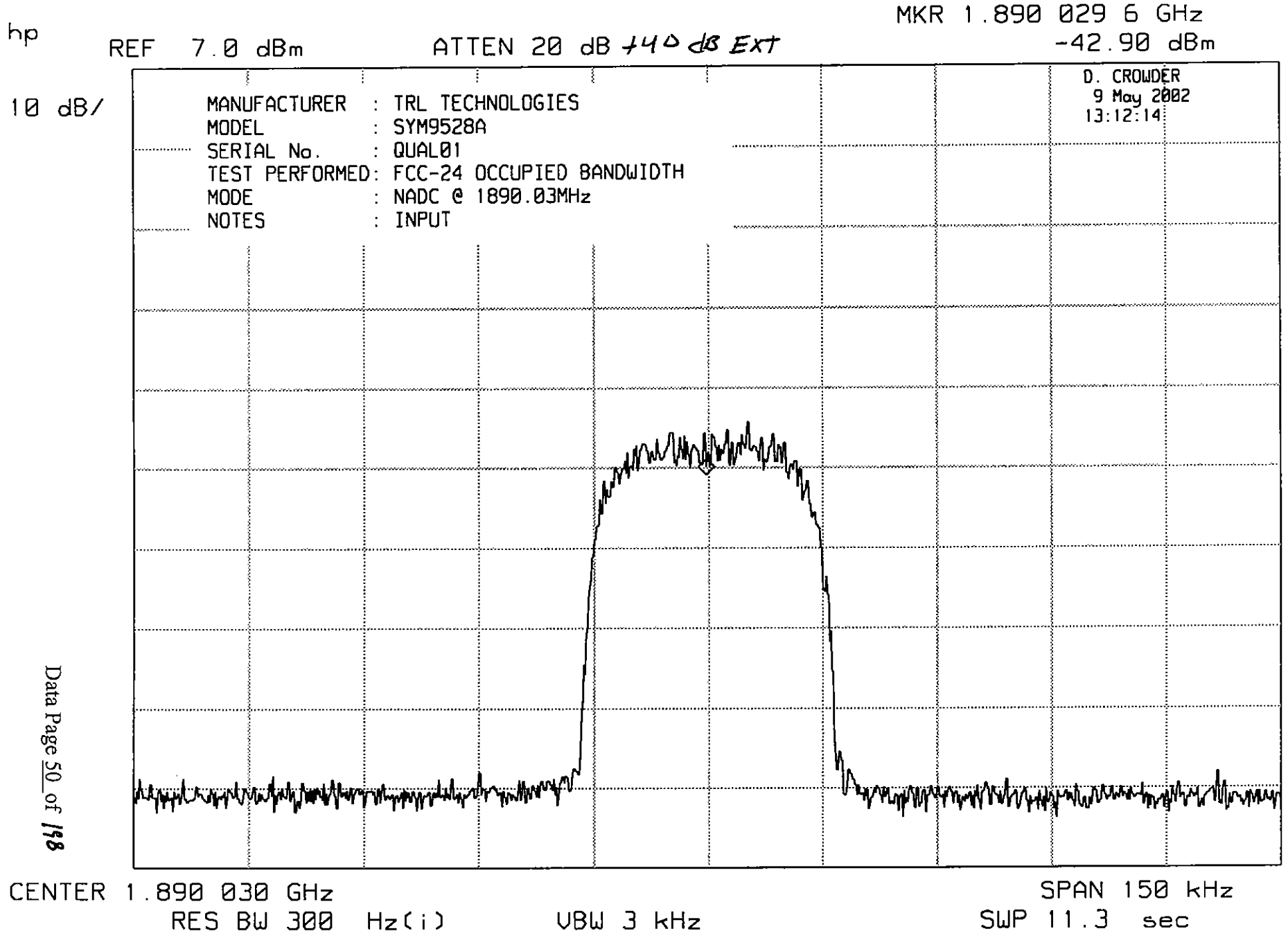

ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 969 6 GHz
-28.60 dBm
D. CROWDER
9 May 2002
13:07:36
hp
REF 7.0 dBm
ATTEN 20 dB +40 dB EXT
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1889.97MHz
NOTES : CW VS NADC
CENTER 1.889 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 969 6 GHz
-41.60 dBm
hp
REF 7.0 dBm
ATTEN 20 dB
10 dB/
D. CROWDER
9 May 2002
13:09:51
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1889.97MHz
NOTES : INPUT
CENTER 1.889 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 969 6 GHz
-28.60 dBm
D. CROWDER
9 May 2002
* 13:08:19
hp
REF 7.0 dBm
ATTEN 20 dB 40 dB EXT
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1889.97MHz
NOTES : OUTPUT
40 dBc
CENTER 1.889 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.890 029 6 GHz
-27.80 dBm
REF 7.0 dBm
ATTEN 20 dB + 40 dB EXT
10 dB/
D. CROWDER
9 May 2002
13:14:40
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1890.03MHz
NOTES : CW VS NADC
CENTER 1.890 030 GHz
SPAN 150 kHz
RES BW 300 Hz(i)
VBW 3 kHz
SWP 11.3 sec

ELITE ELECTRONIC ENGINEERING CO



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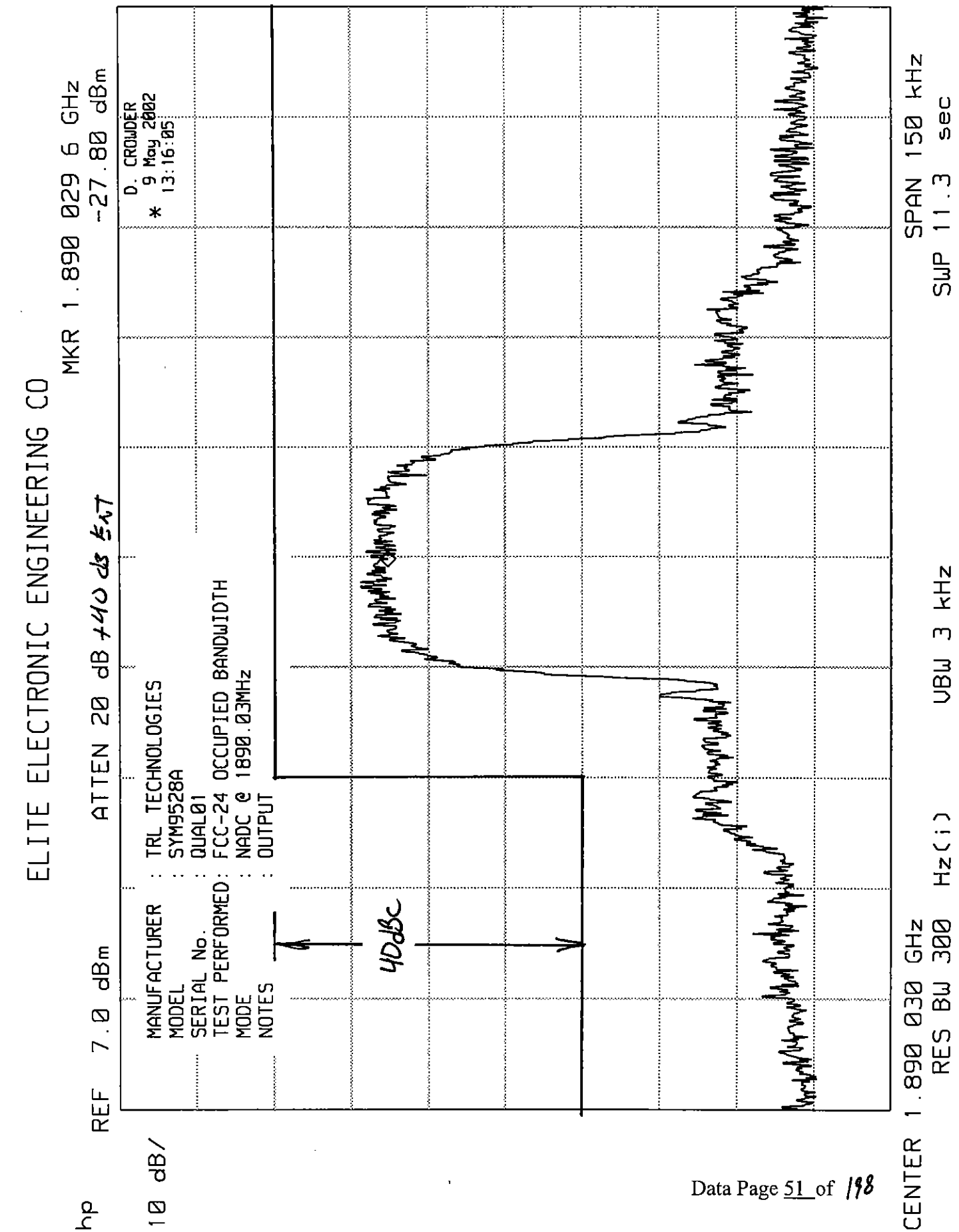
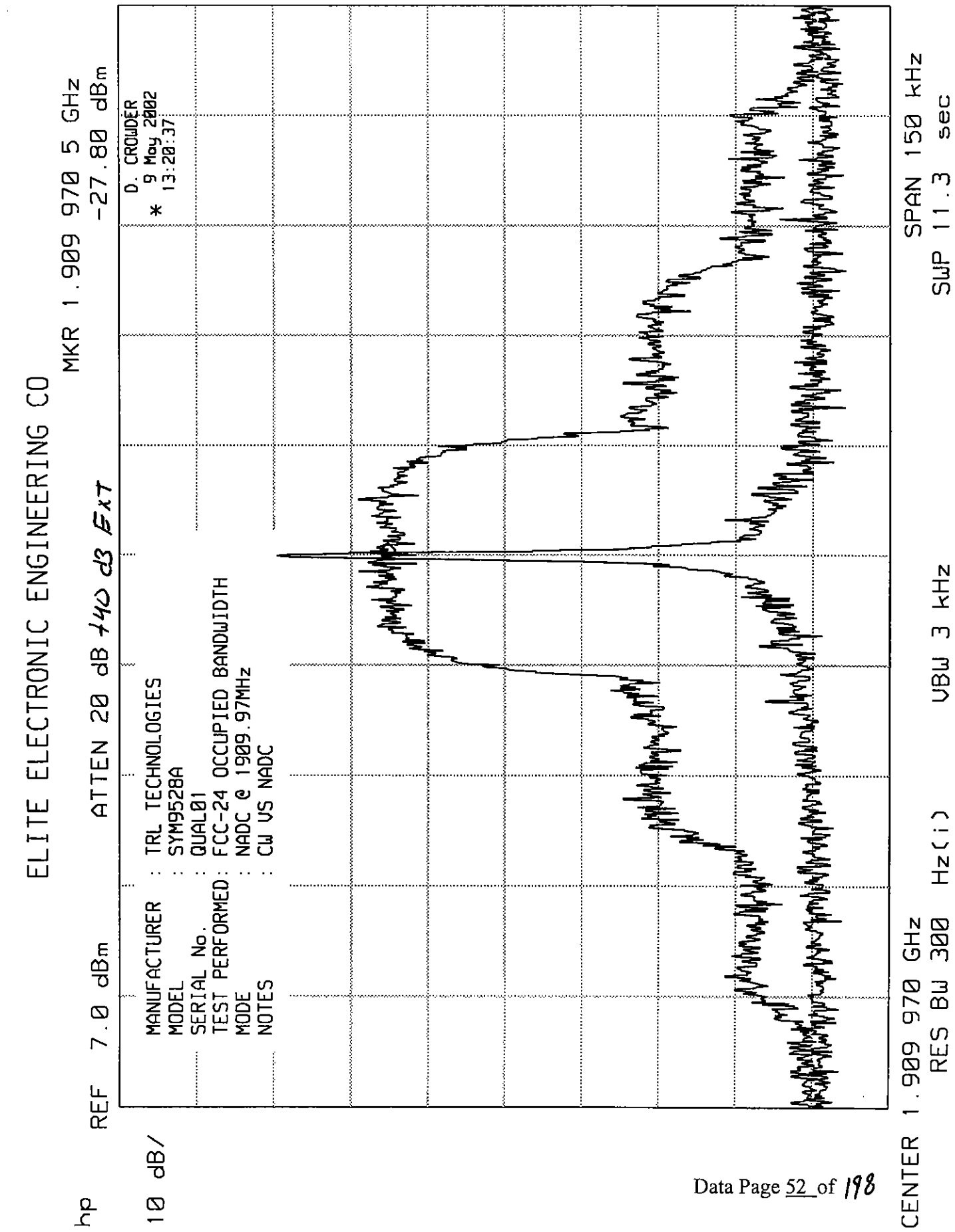
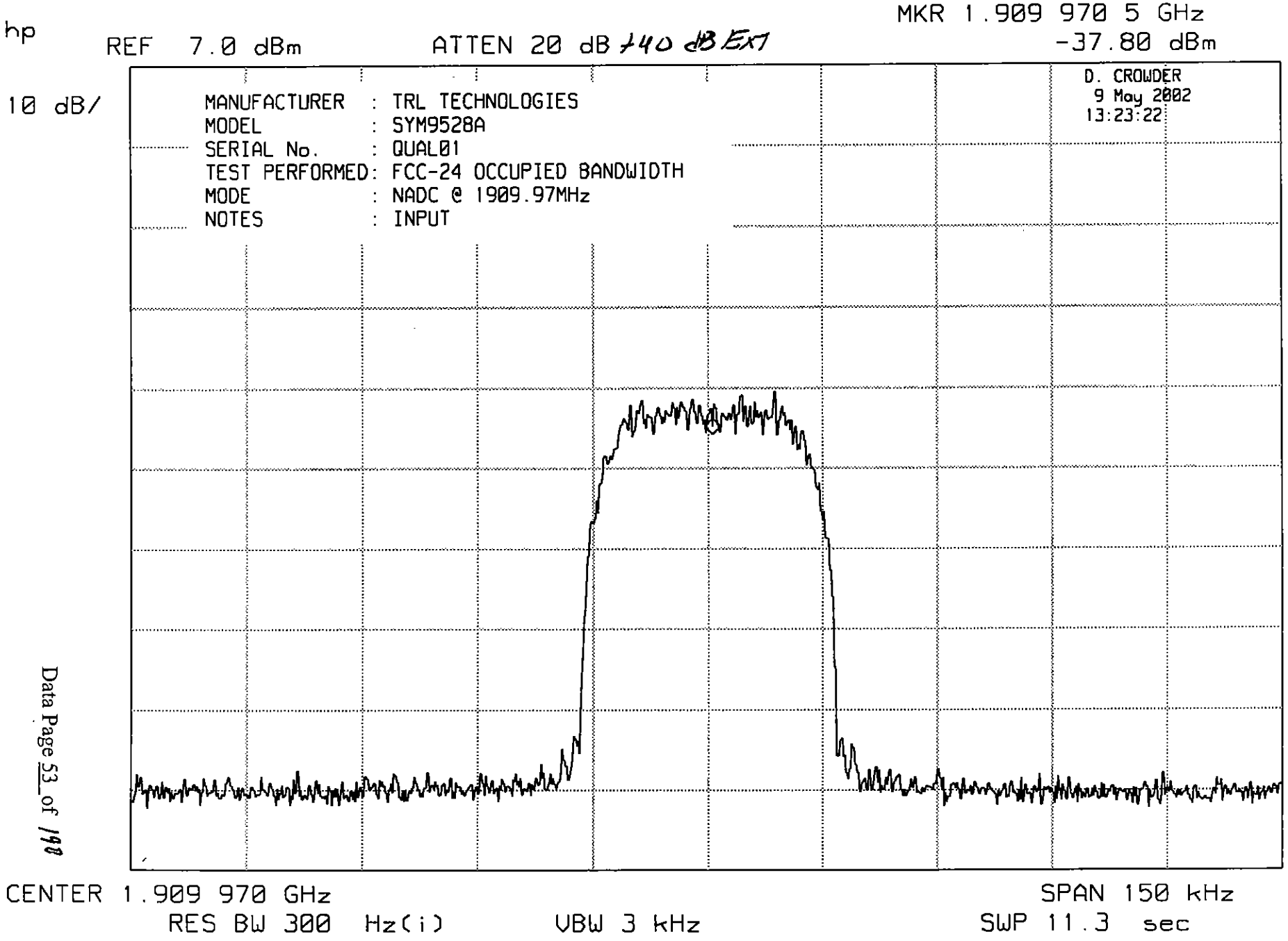

ELITE ELECTRONIC ENGINEERING CO
MKR 1.890 029 6 GHz
-27.80 dBm
D. CROWDER
* 9 May 2002
13:16:05
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1890.03MHz
NOTES : OUTPUT
40dBc
CENTER 1.890 030 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.909 970 5 GHz
-27.80 dBm
D. CROWDER
9 May 2002
13:20:37
REF 7.0 dBm
ATTEN 20 dB 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1909.97MHz
NOTES : CW VS NADC
CENTER 1.909 970 GHz
RES BW 300 Hz(i)
VBW 3 kHz
SPAN 150 kHz
SWP 11.3 sec

ELITE ELECTRONIC ENGINEERING CO



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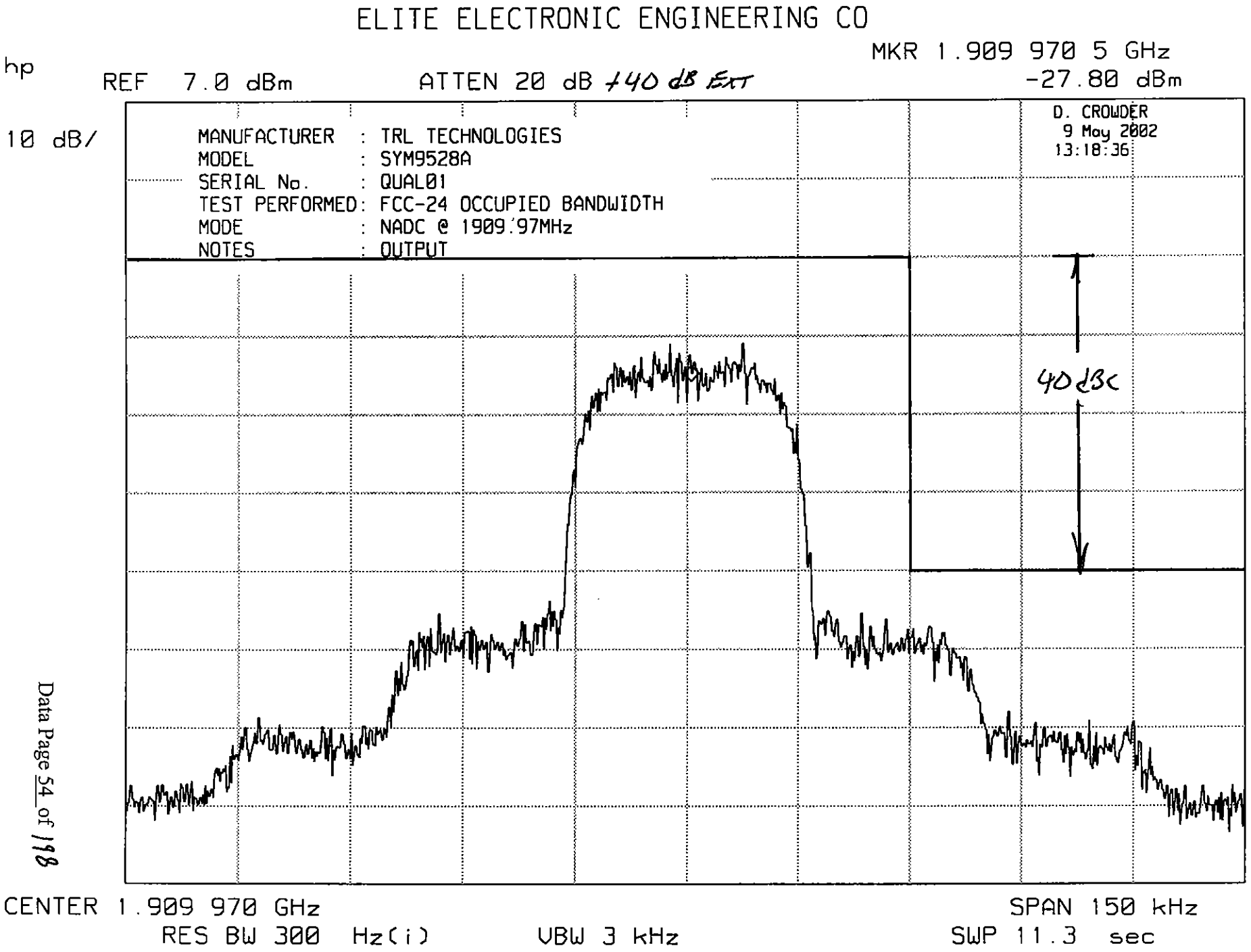
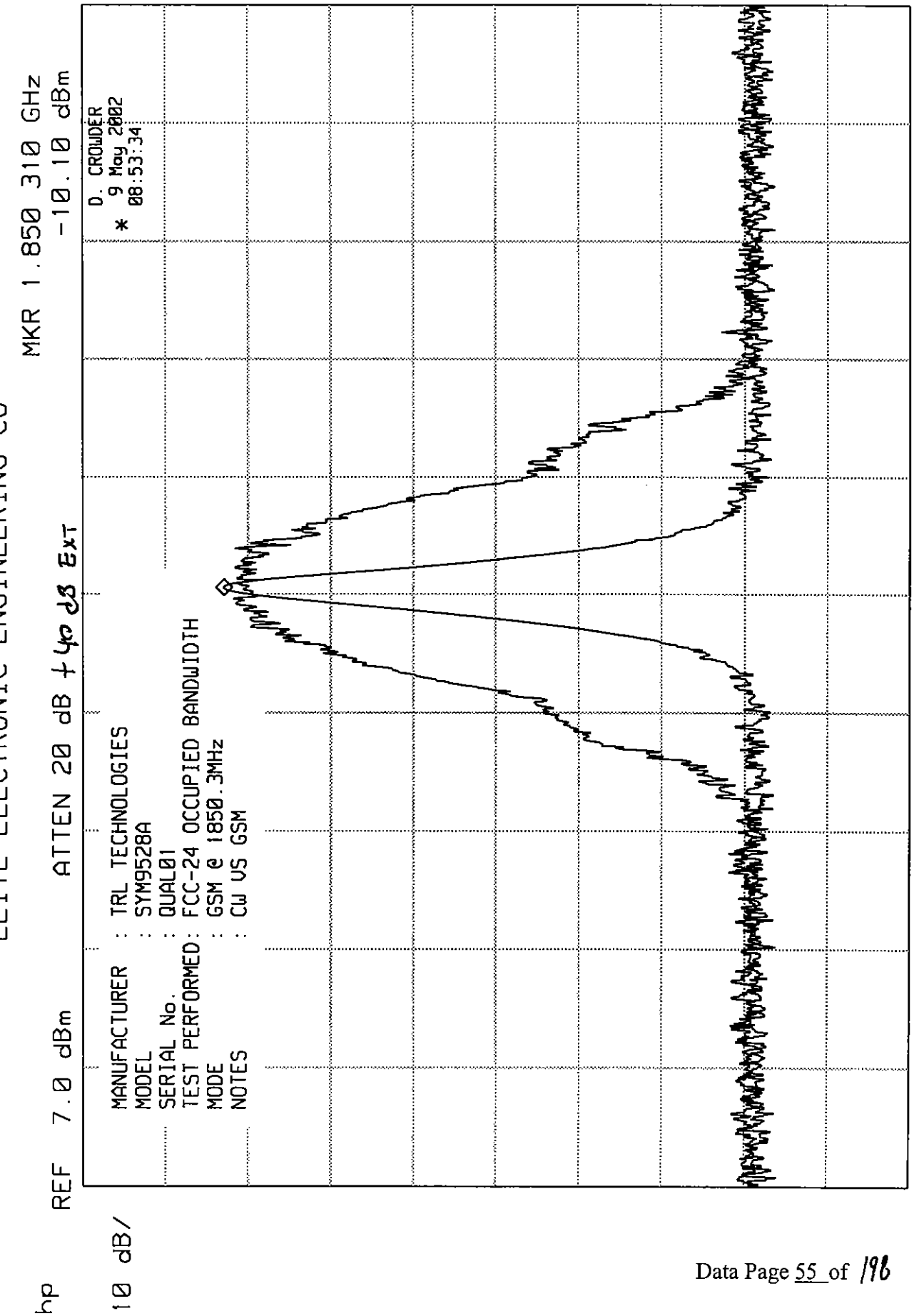
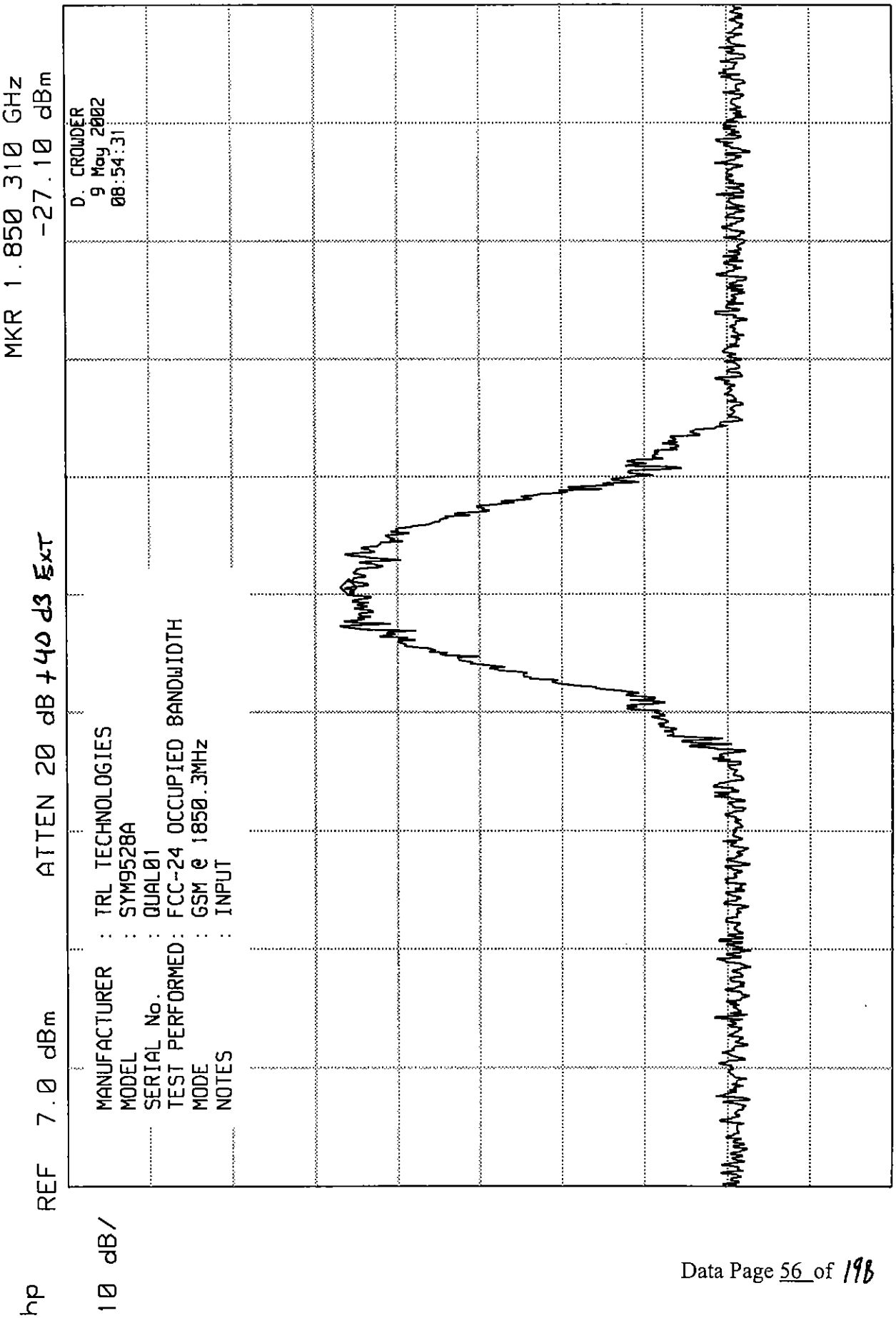
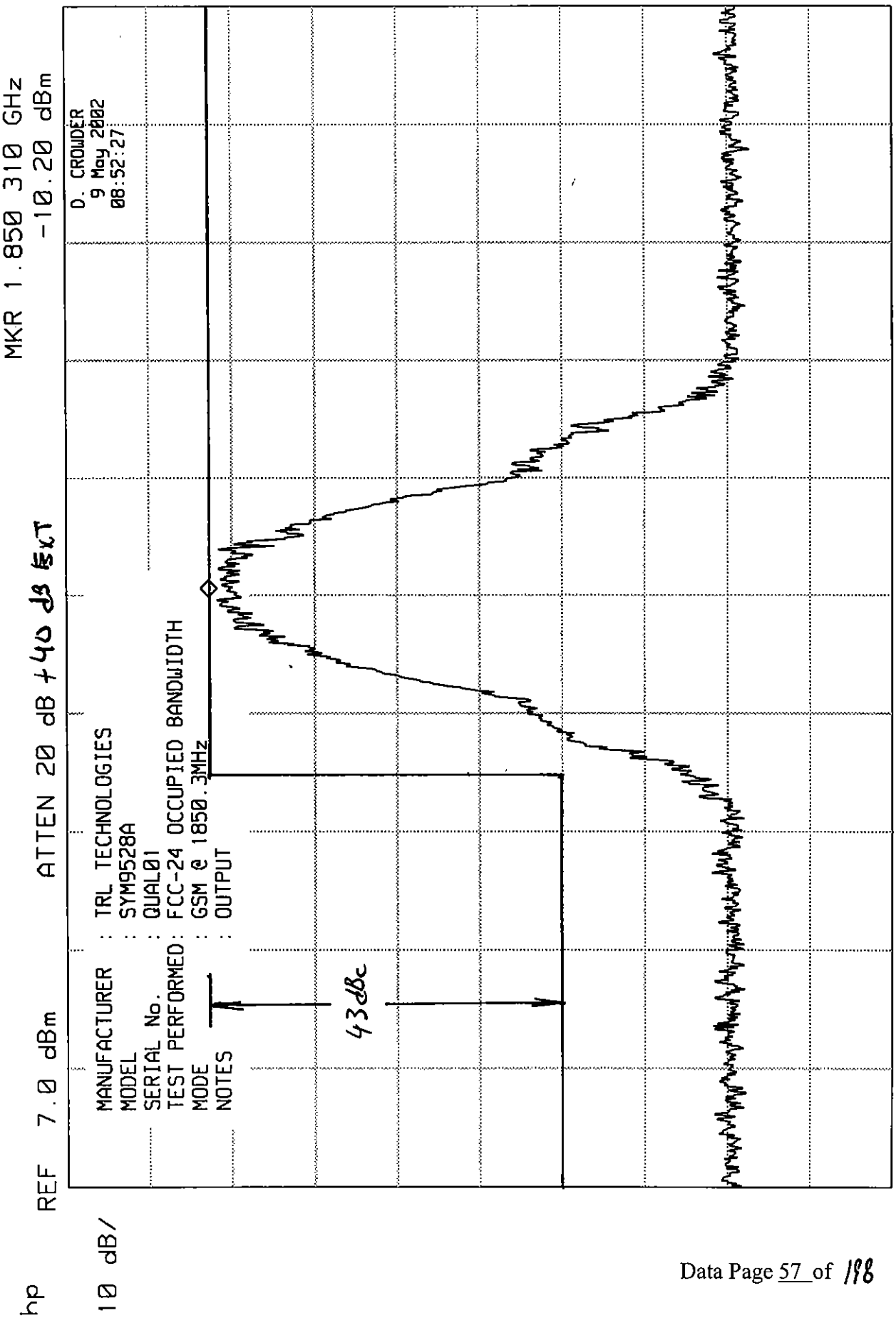

ELITE ELECTRONIC ENGINEERING CO
hp
MKR 1.909 970 5 GHz
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
-27.80 dBm
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : NADC @ 1909.97MHz
NOTES : OUTPUT
D. CROWDER
9 May 2002
13:18:36
40 dBc
CENTER 1.909 970 GHz
SPAN 150 kHz
RES BW 300 Hz(i)
VBW 3 kHz
SWP 11.3 sec

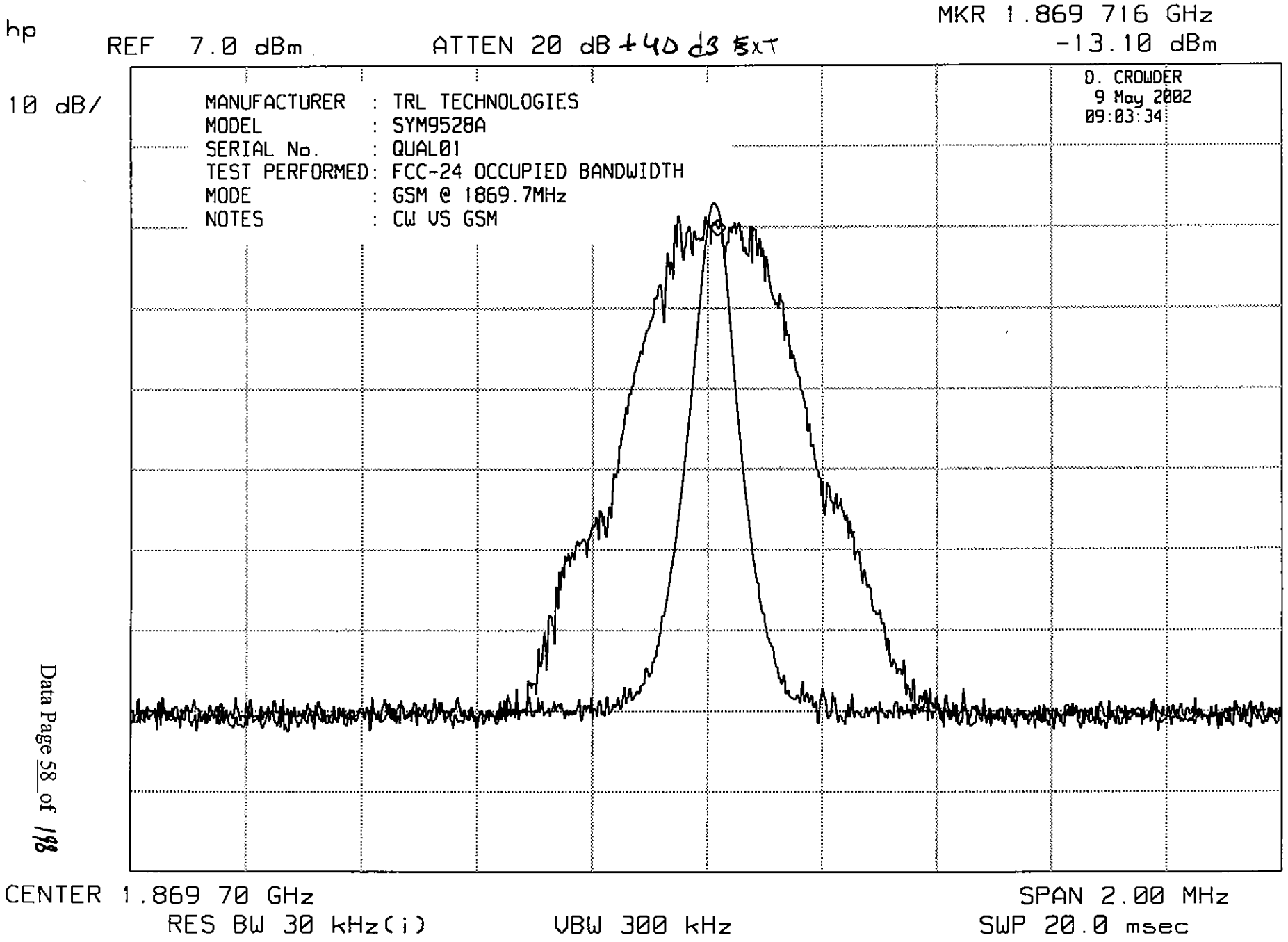
ETR 30980-01


ELITE ELECTRONIC ENGINEERING CO
MKR 1.850 310 GHz
-10.10 dBm
D. CROWDER
9 May 2002
08:53:34
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1850.3MHz
NOTES : CW VS GSM
CENTER 1.850 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.850 310 GHz
-27.10 dBm
D. CROWDER
9 May 2002
08:54:31
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1850.3MHz
NOTES : INPUT
CENTER 1.850 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.850 310 GHz
-10.20 dBm
D. CROWDER
9 May 2002
08:52:27
hp
10 dB/
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1850.3MHz
NOTES : OUTPUT
43dBc
CENTER 1.850 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

ELITE ELECTRONIC ENGINEERING CO



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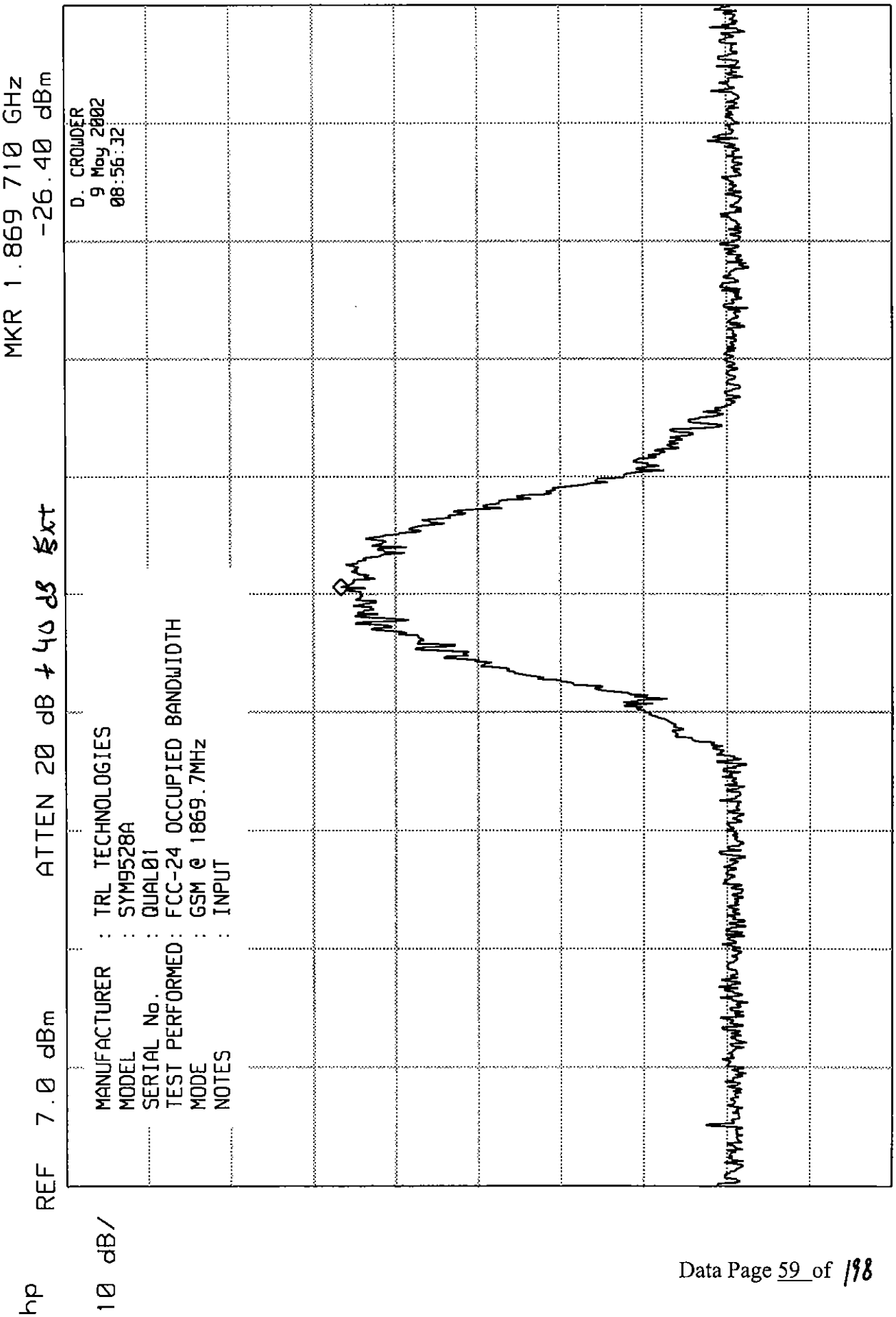
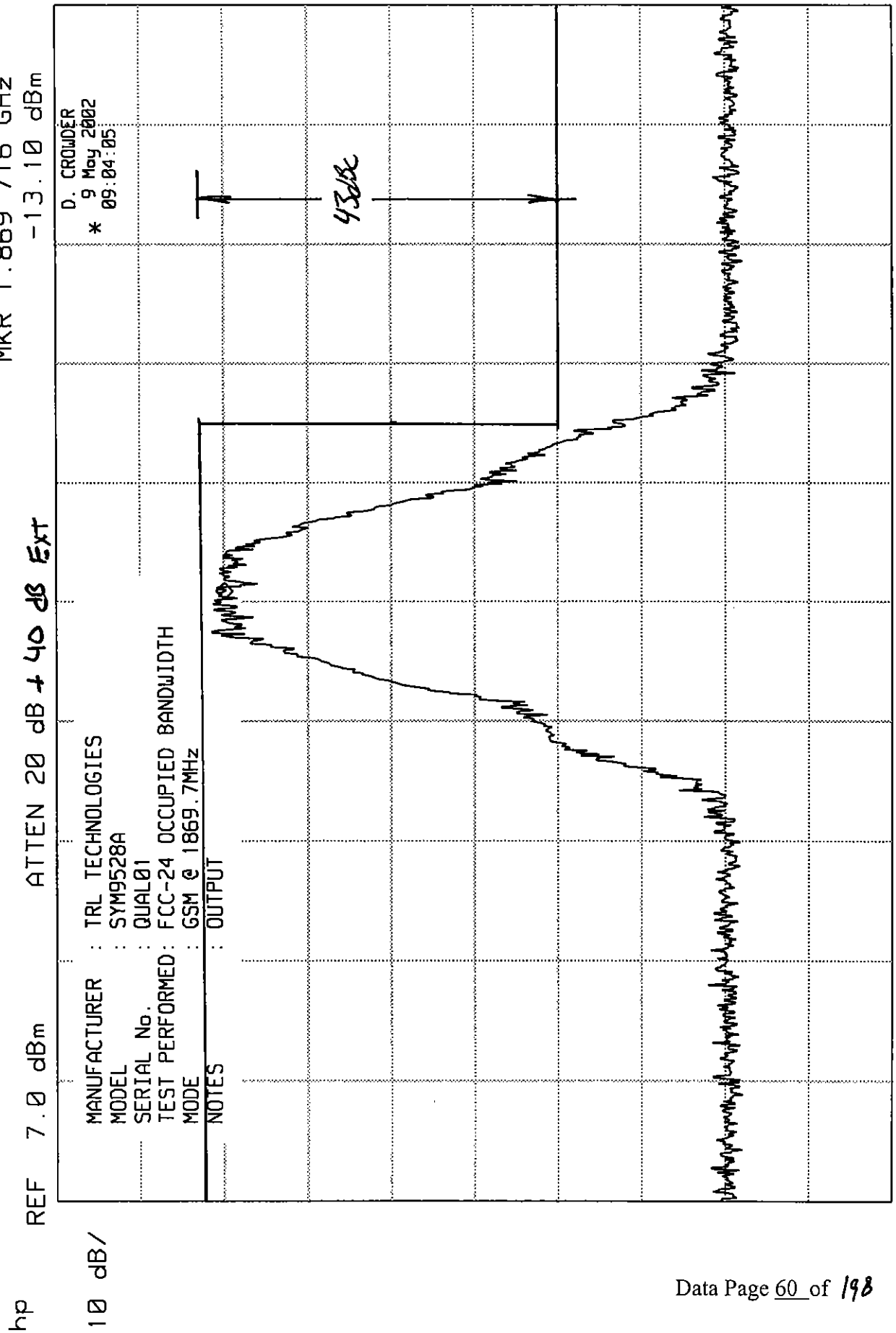
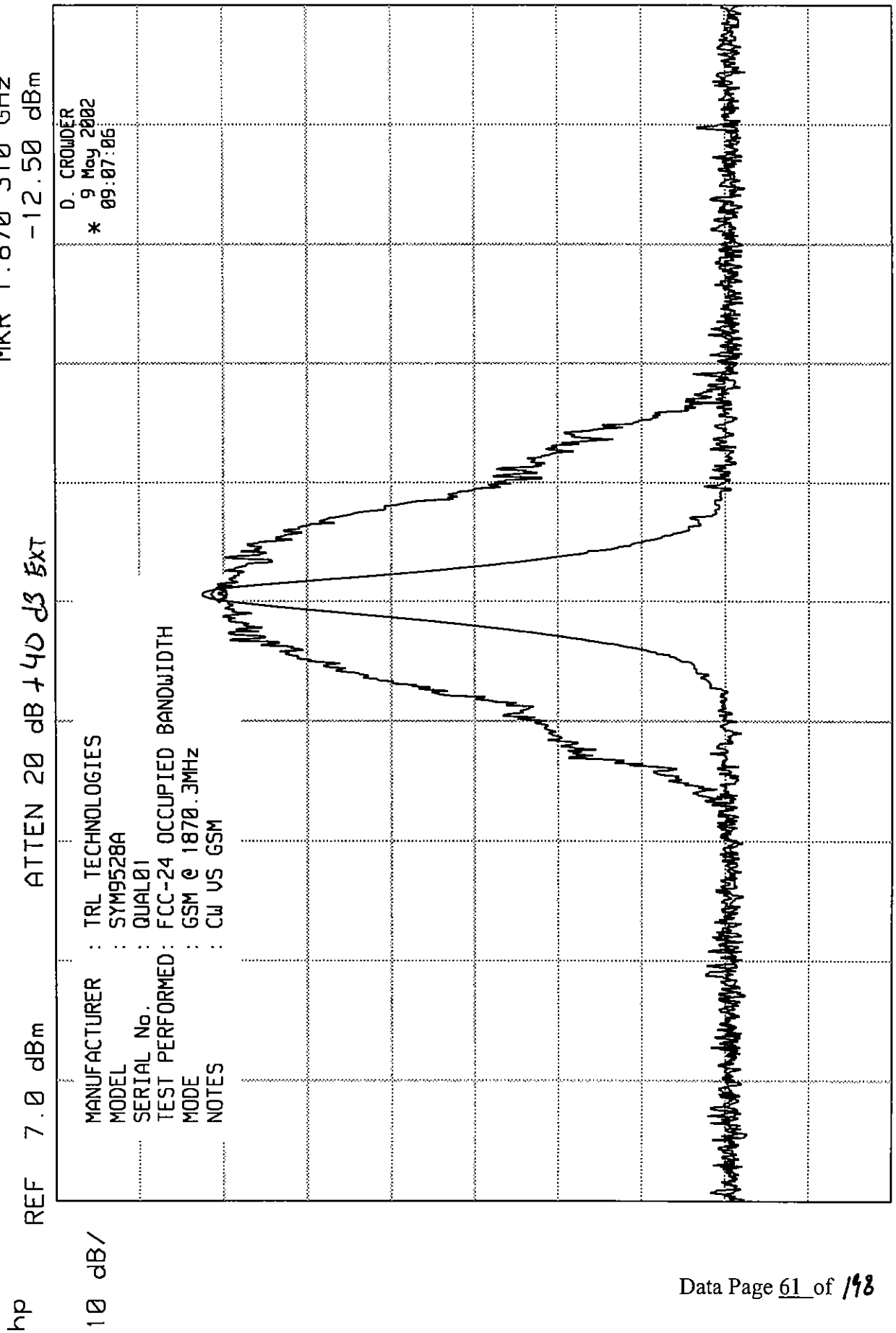
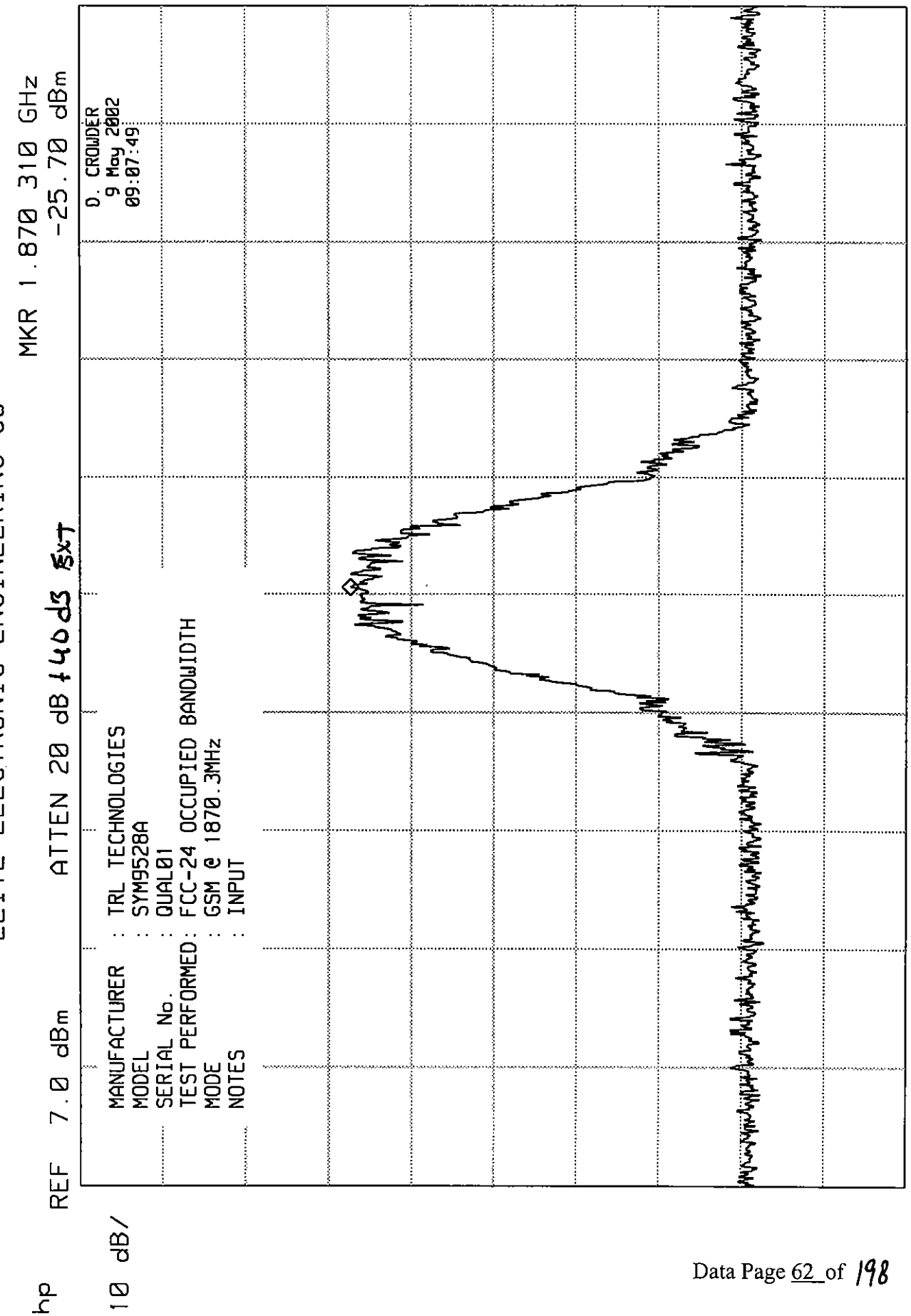
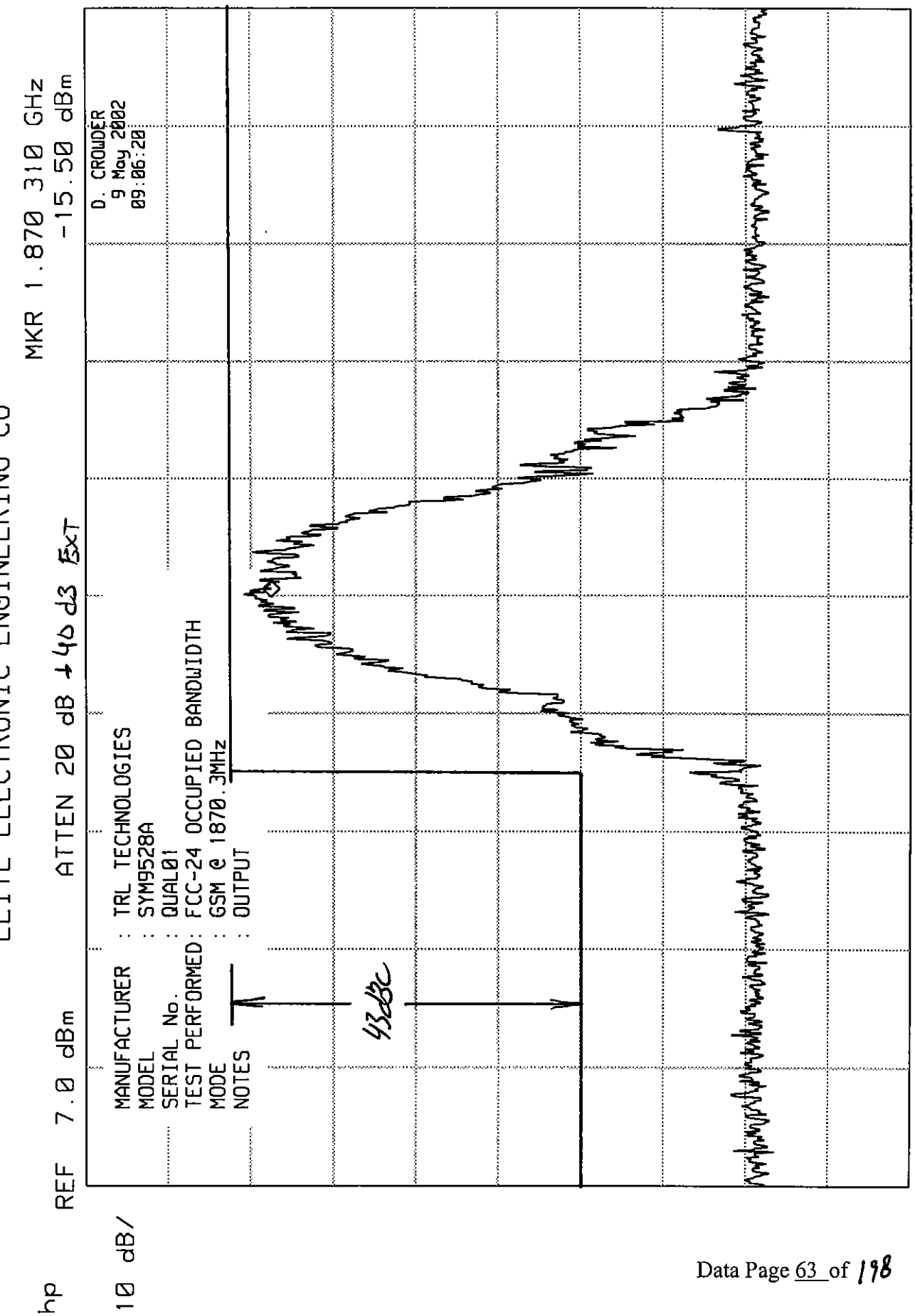
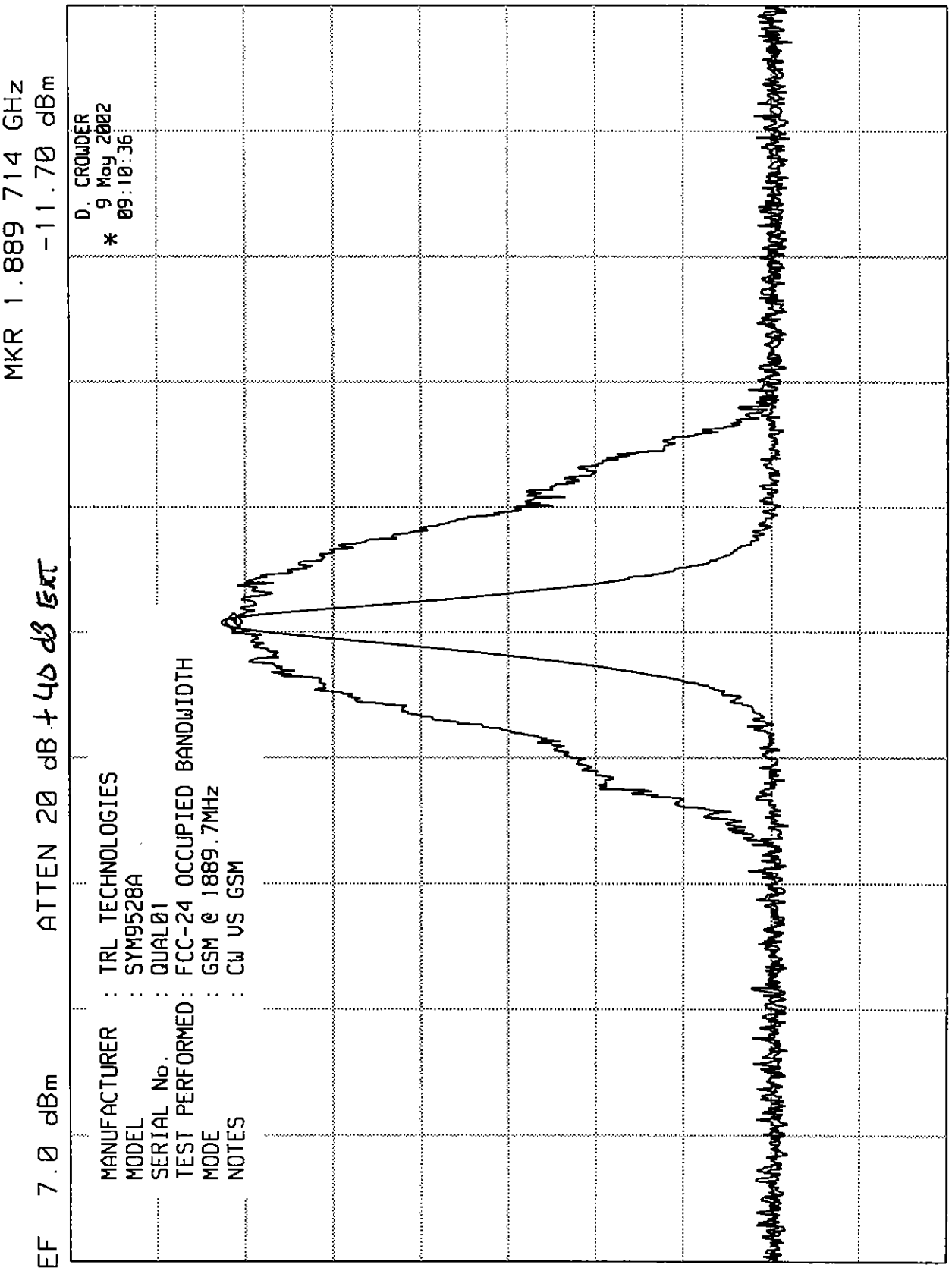

ELITE ELECTRONIC ENGINEERING CO
MKR 1.869 710 GHz
-26.40 dBm
D. CROWDER
9 May 2002
08:56:32
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1869.7MHz
NOTES : INPUT
CENTER 1.869 70 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

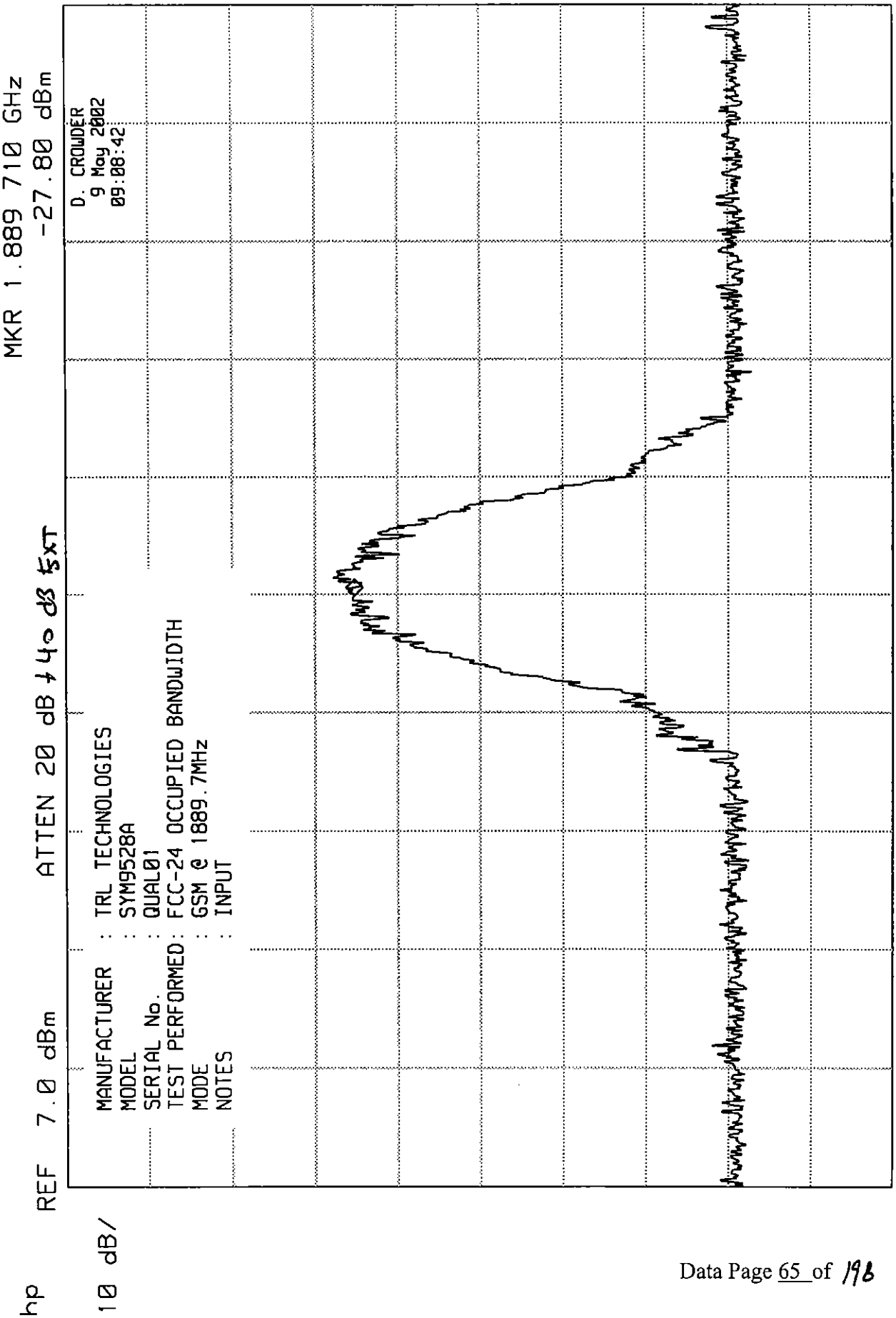

ELITE ELECTRONIC ENGINEERING CO
MKR 1.869 716 GHz
-13.10 dBm
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
D. CROWDER
9 May 2002
09:04:05
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1869.7MHz
NOTES : OUTPUT
43dBc
CENTER 1.869 70 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

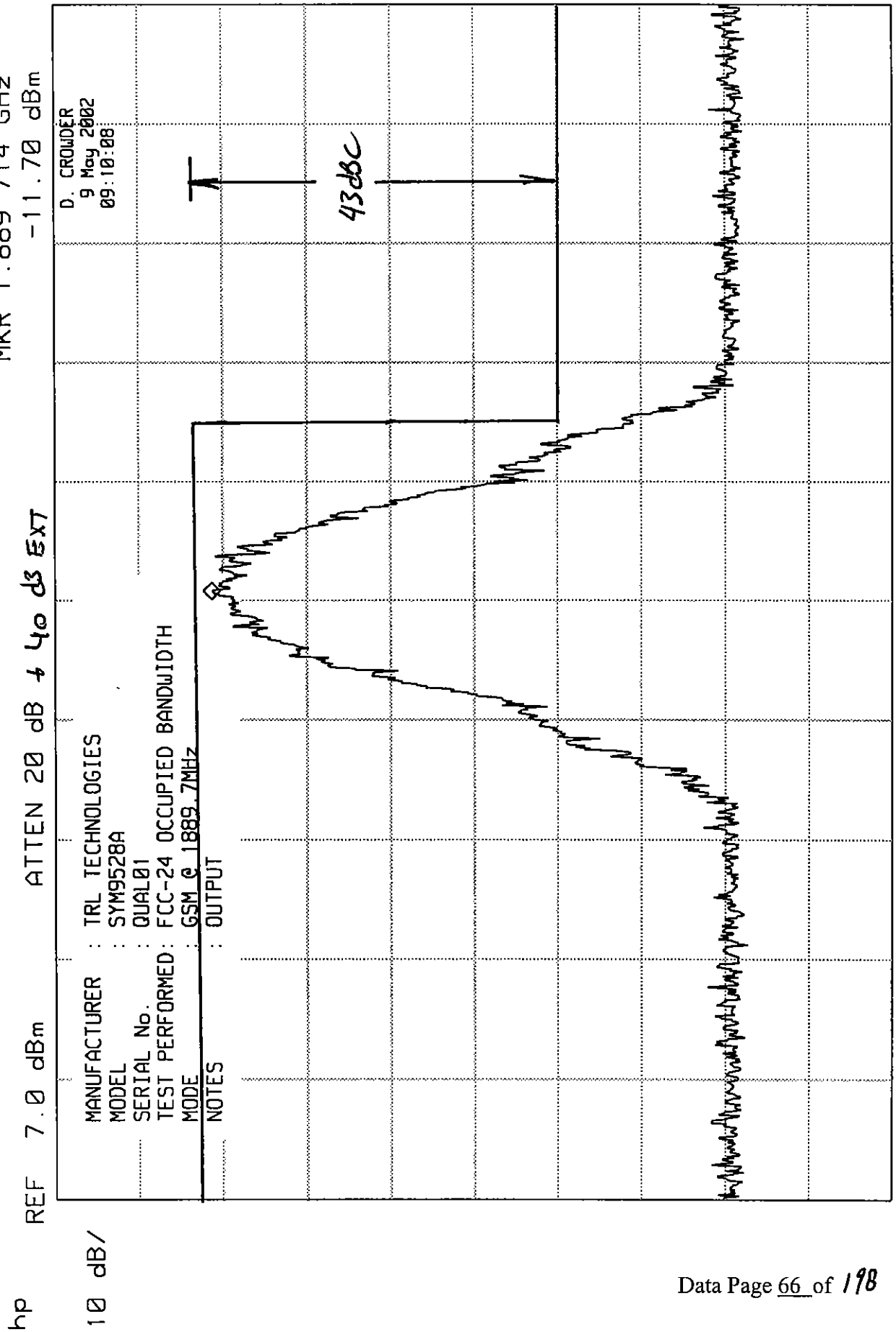

ELITE ELECTRONIC ENGINEERING CO
hp
REF 7.0 dBm
ATTEN 20 dB 140 dB EXT
MKR 1.870 310 GHz
-12.50 dBm
10 dB/
D. CROWDER
9 May 2002
09:07:06
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1870.3MHz
NOTES : CW VS GSM
CENTER 1.870 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

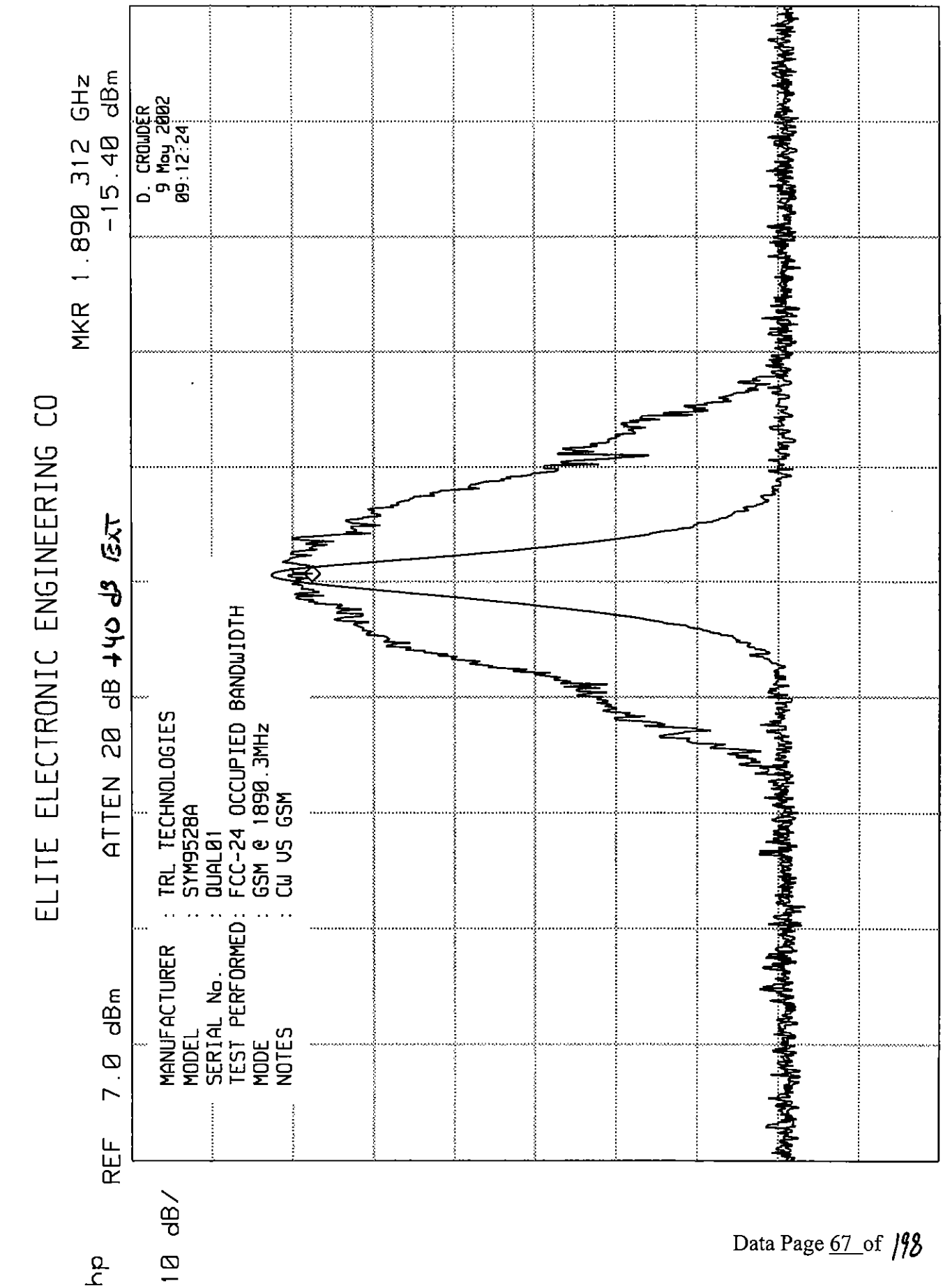

ELITE ELECTRONIC ENGINEERING CO
MKR 1.870 310 GHz
-25.70 dBm
D. CROWDER
9 May 2002
09:07:49
REF 7.0 dBm
ATTEN 20 dB 140 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1870.3MHz
NOTES : INPUT
CENTER 1.870 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

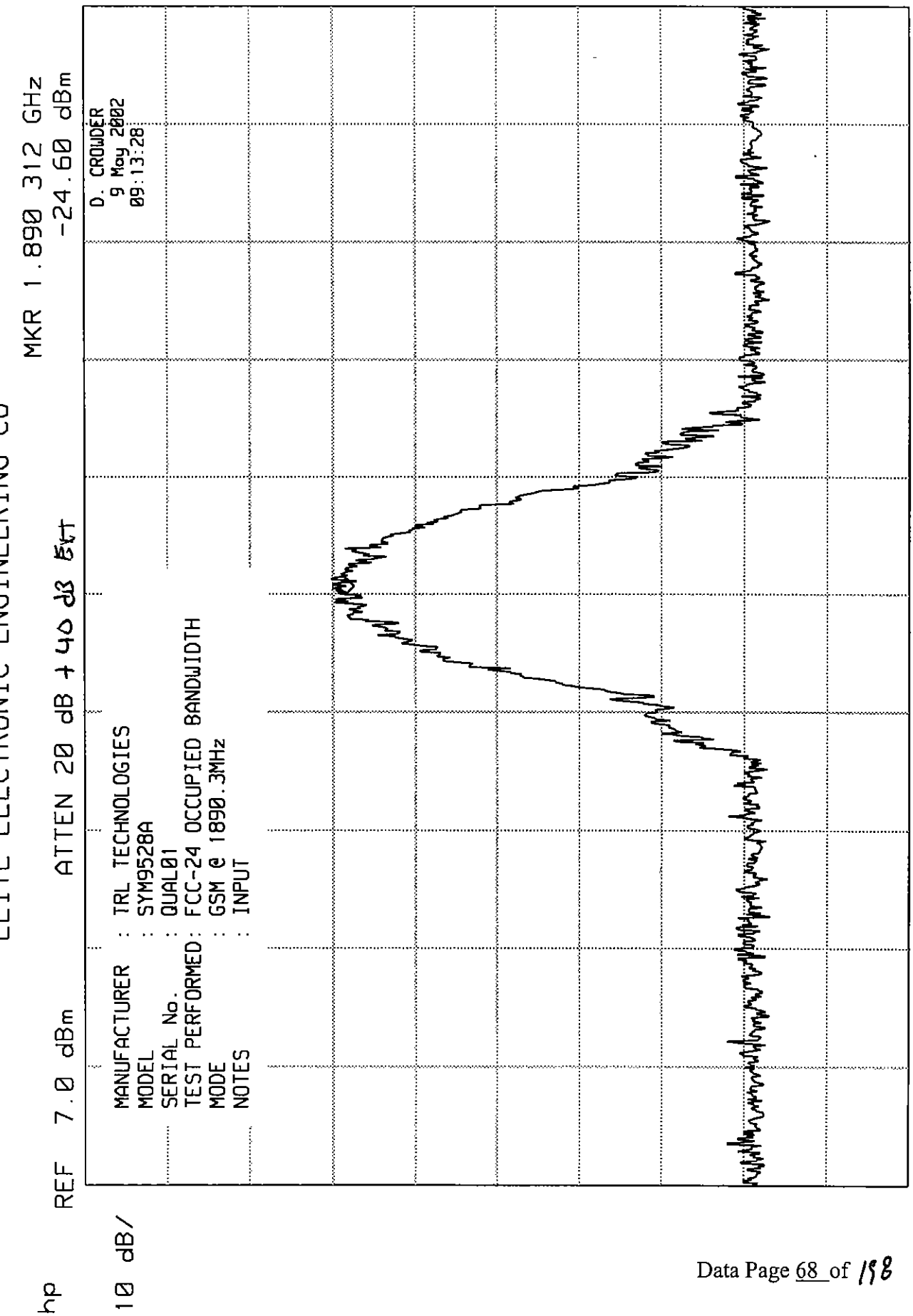

ELITE ELECTRONIC ENGINEERING CO
MKR 1.870 310 GHz
-15.50 dBm
REF 7.0 dBm
ATTEN 20 dB
10 dB/
D. CROWDER
9 May 2002
09:06:20
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1870.3MHz
NOTES : OUTPUT
CENTER 1.870 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

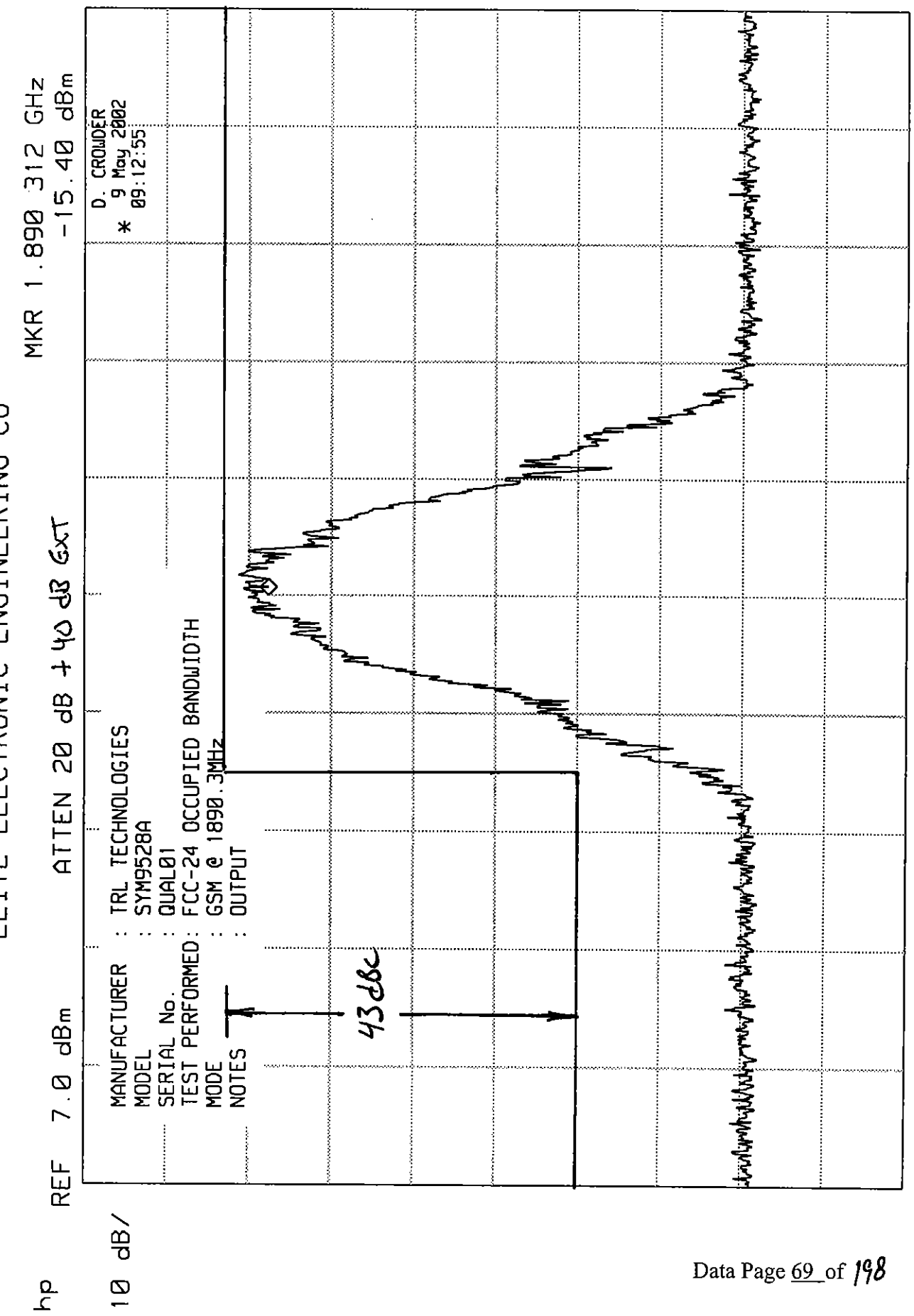

hp
ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 714 GHz
-11.70 dBm
D. CROWDER
9 May 2002
09:10:36
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1889.7MHz
NOTES : CW VS GSM
CENTER 1.889 70 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

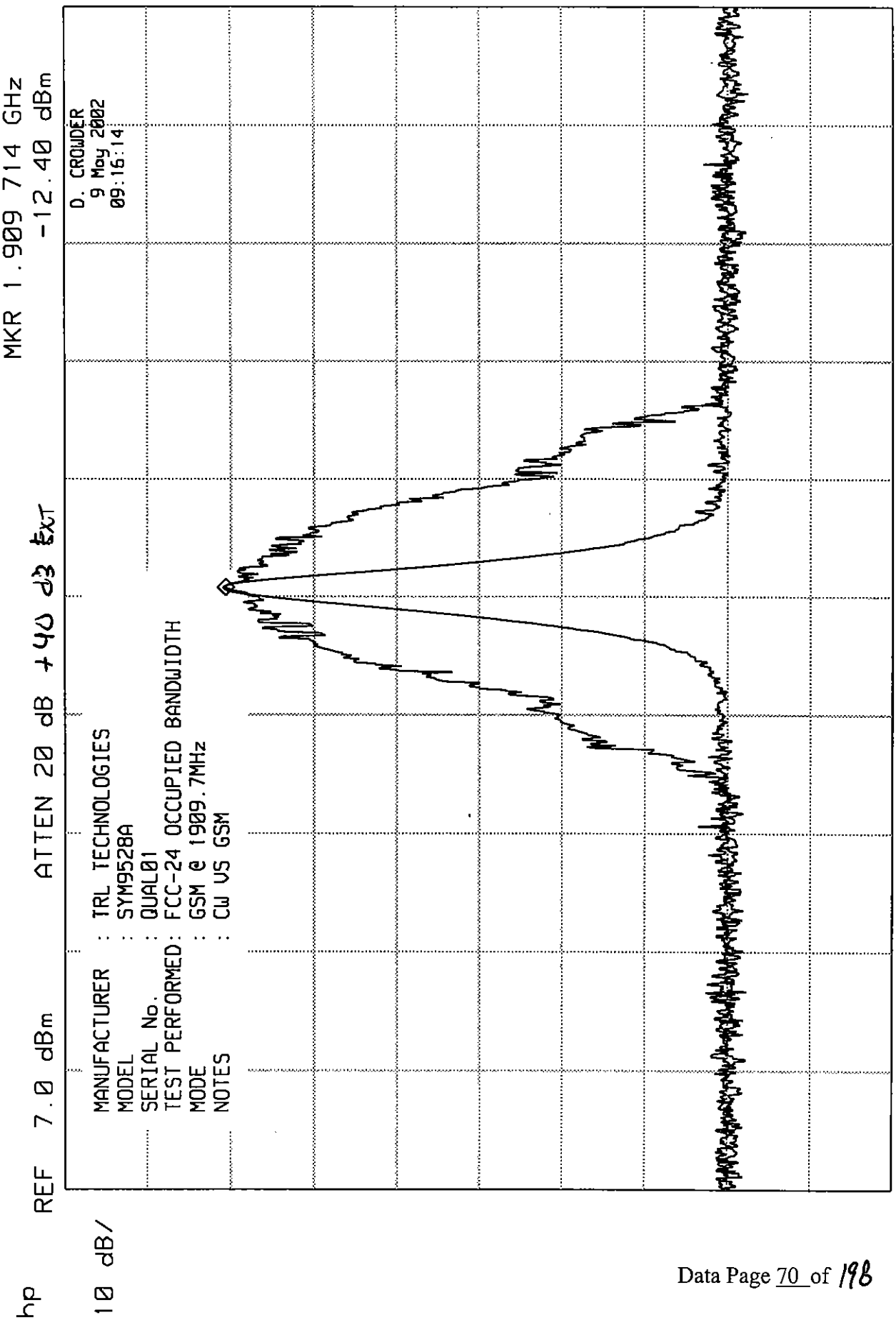

ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 710 GHz
-27.80 dBm
D. CROWDER
9 May 2002
09:08:42
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1889.7MHz
NOTES : INPUT
CENTER 1.889 70 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.889 714 GHz
-11.70 dBm
D. CROWDER
9 May 2002
09:10:08
43dBc
hp
10 dB/
REF 7.0 dBm
ATTEN 20 dB + 40 dB EXT
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1889.7MHz
NOTES : OUTPUT
CENTER 1.889 70 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

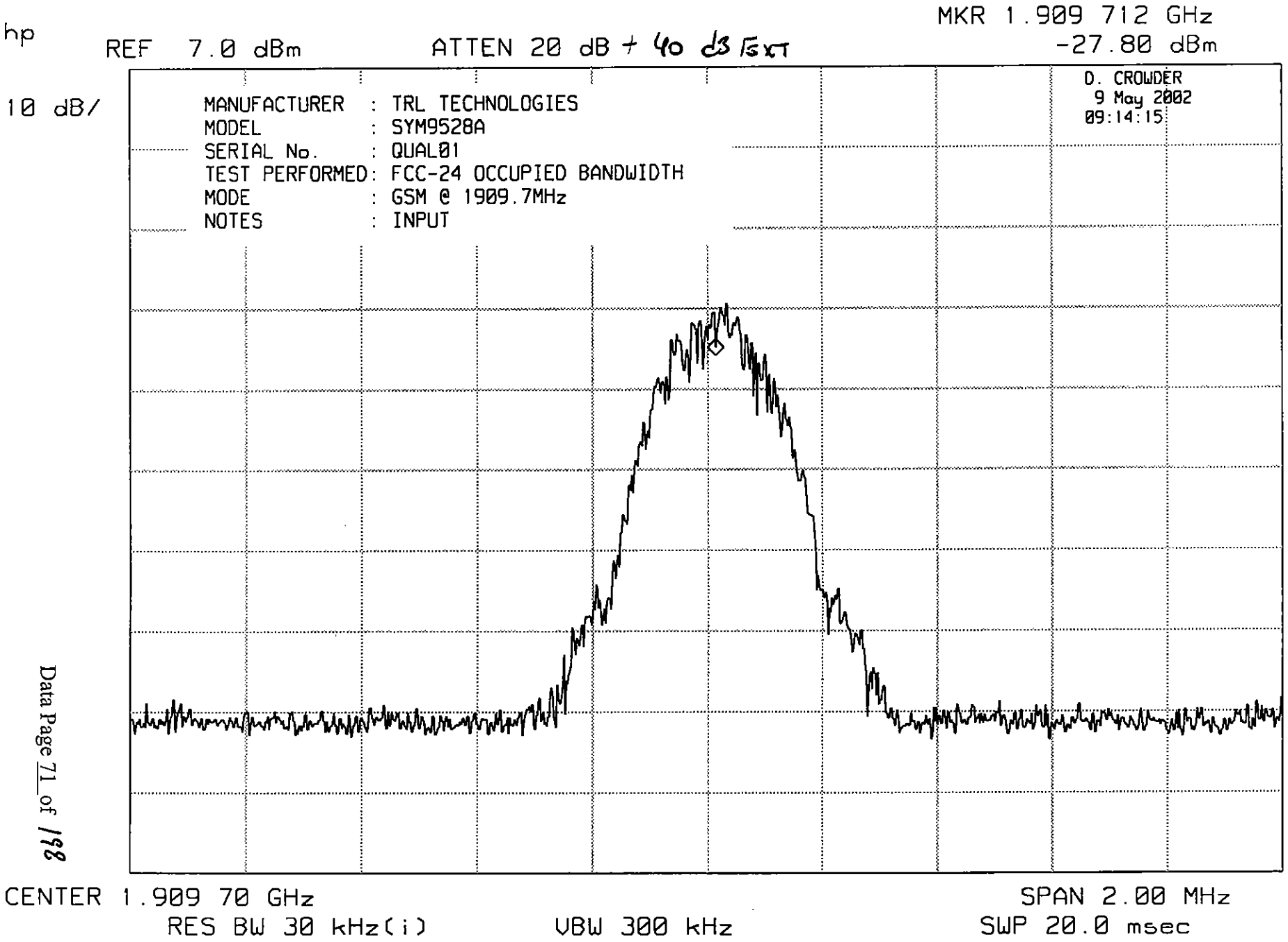

ELITE ELECTRONIC ENGINEERING CO
MKR 1.890 312 GHz
-15.40 dBm
D. CROWDER
9 May 2002
09:12:24
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1890.3MHz
NOTES : CW VS GSM
CENTER 1.890 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.890 312 GHz
-24.60 dBm
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
D. CROWDER
9 May 2002
09:13:28
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1890.3MHz
NOTES : INPUT
CENTER 1.890 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.890 312 GHz
-15.40 dBm
D. CROWDER
9 May 2002
09:12:55
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1890.3MHz
NOTES : OUTPUT
43 dBc
CENTER 1.890 30 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.909 714 GHz
-12.40 dBm
D. CROWDER
9 May 2002
09:16:14
hp
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1909.7MHz
NOTES : CW VS GSM
CENTER 1.909 70 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

ELITE ELECTRONIC ENGINEERING CO



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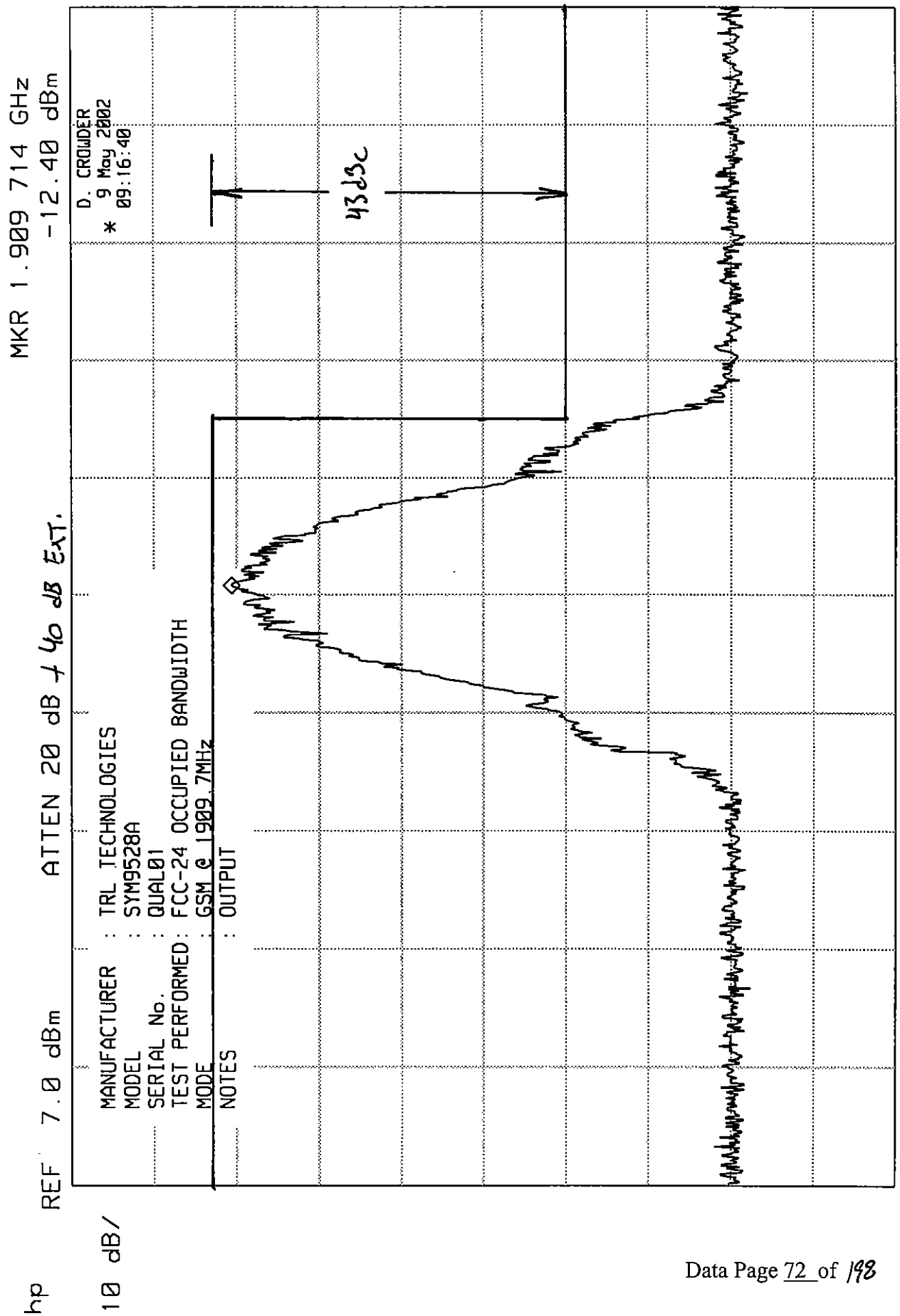
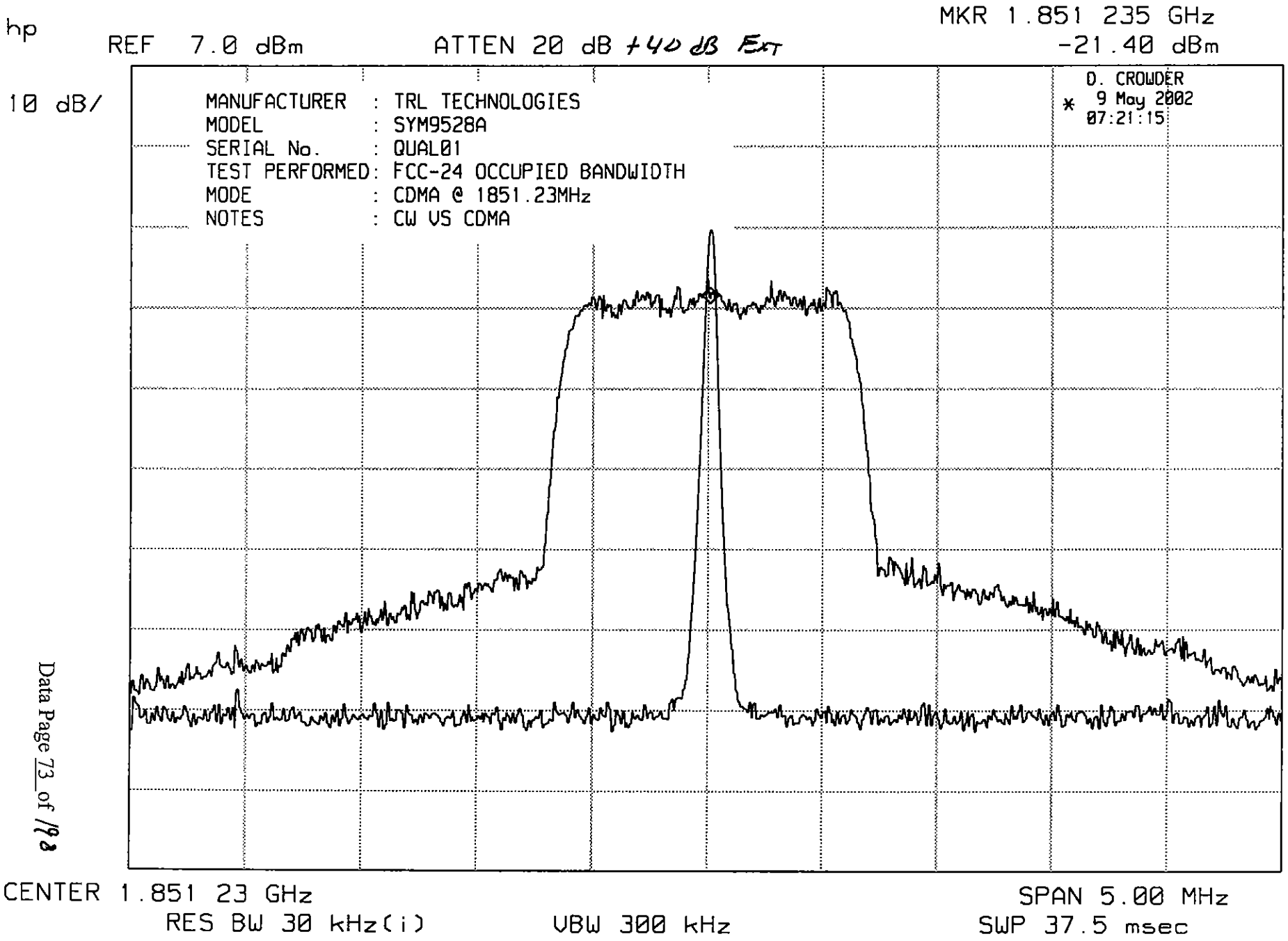

ELITE ELECTRONIC ENGINEERING CO
MKR 1.909 714 GHz
-12.40 dBm
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext.
10 dB/
D. CROWDER
9 May 2002
* 09:16:40
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : GSM @ 1909.7MHz
NOTES : OUTPUT
43dBc
CENTER 1.909 70 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 2.00 MHz
SWP 20.0 msec

ELITE ELECTRONIC ENGINEERING CO



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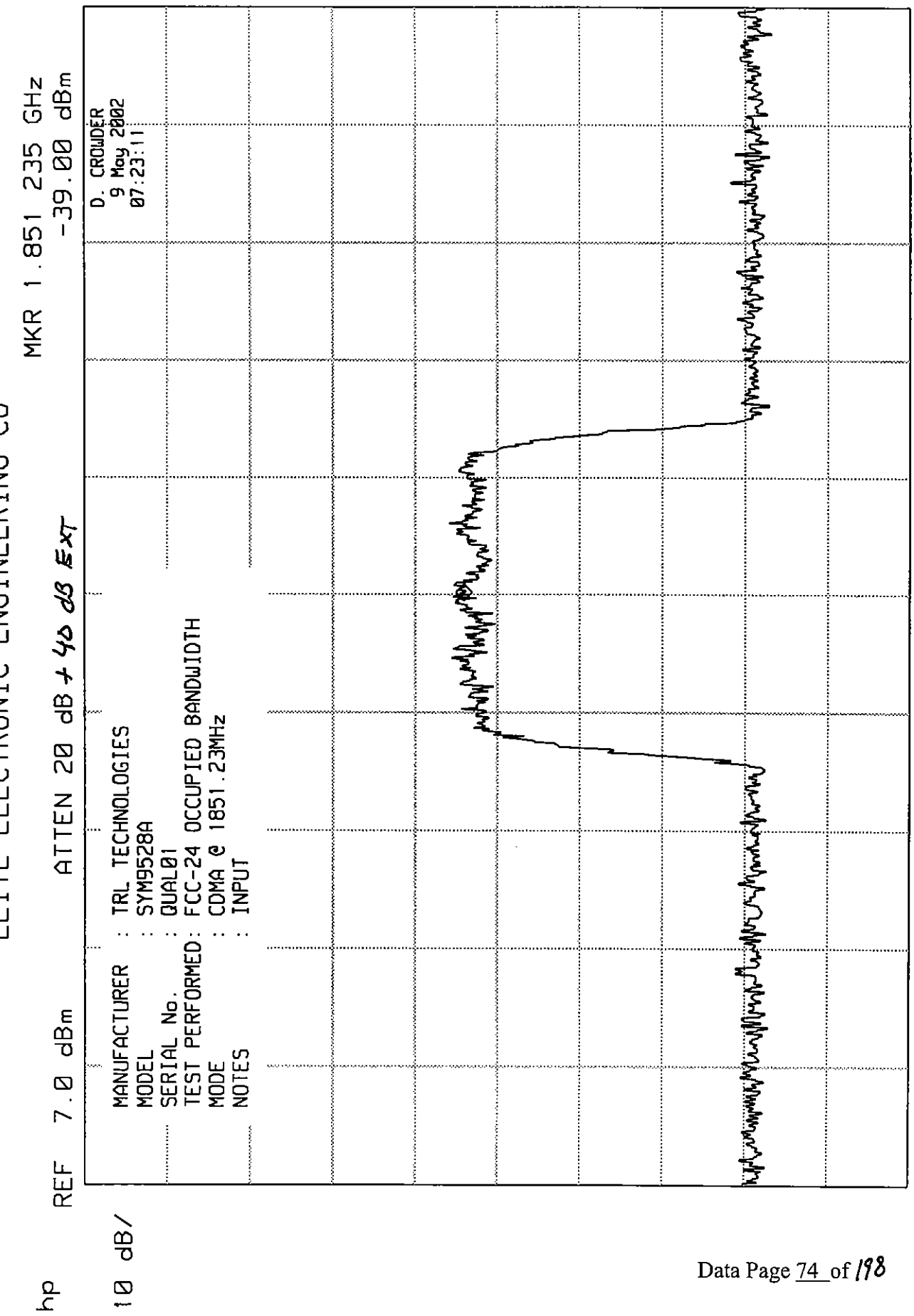
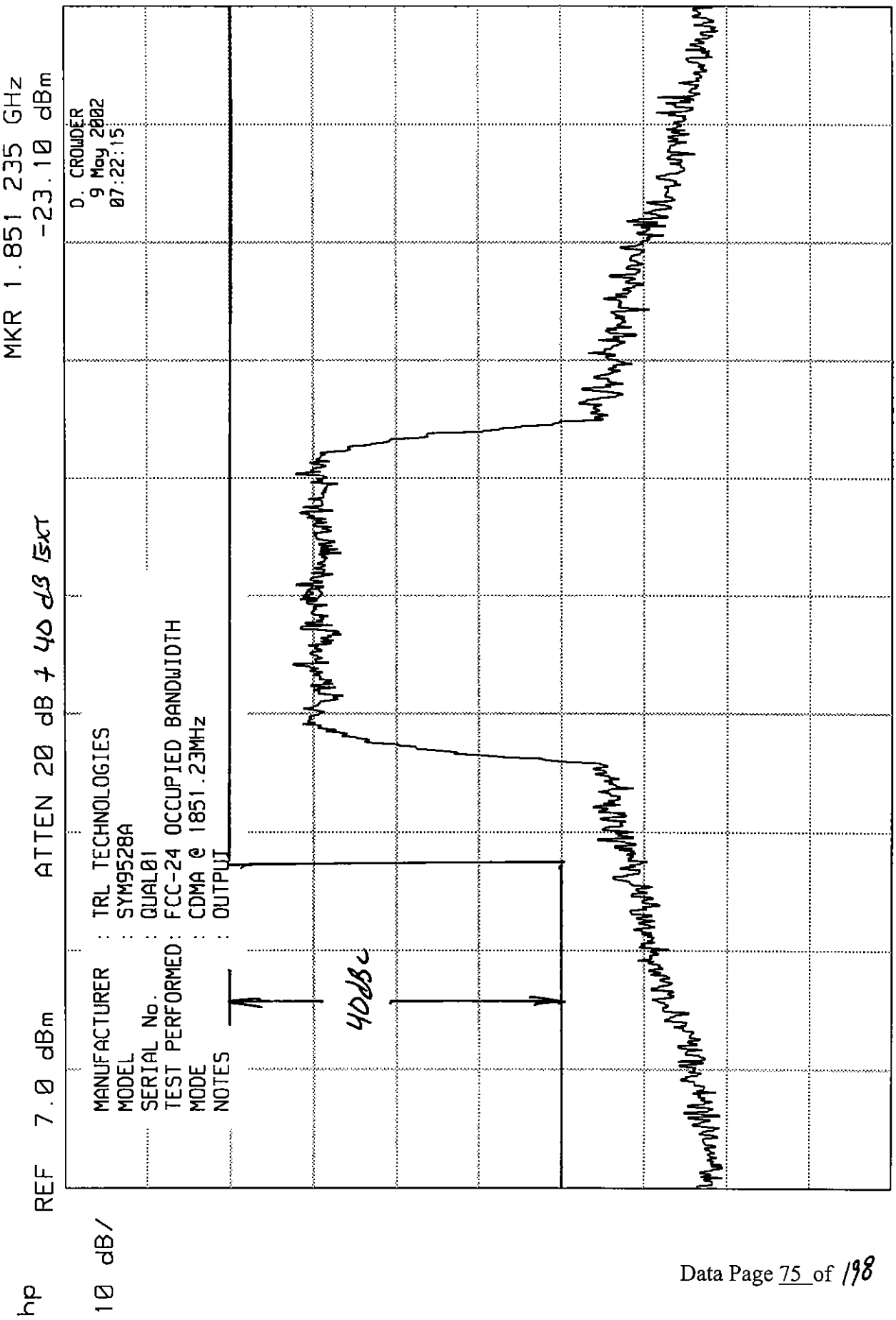
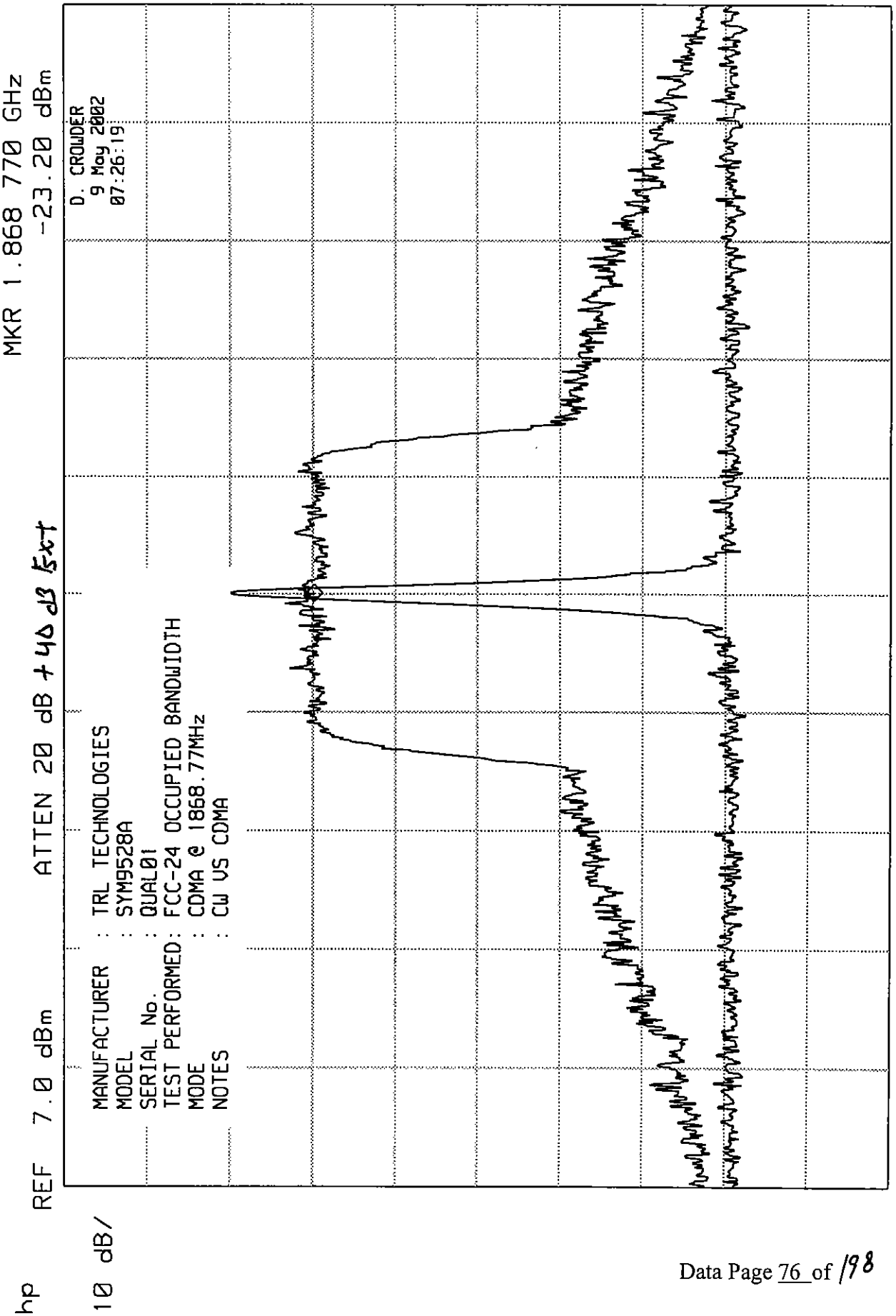
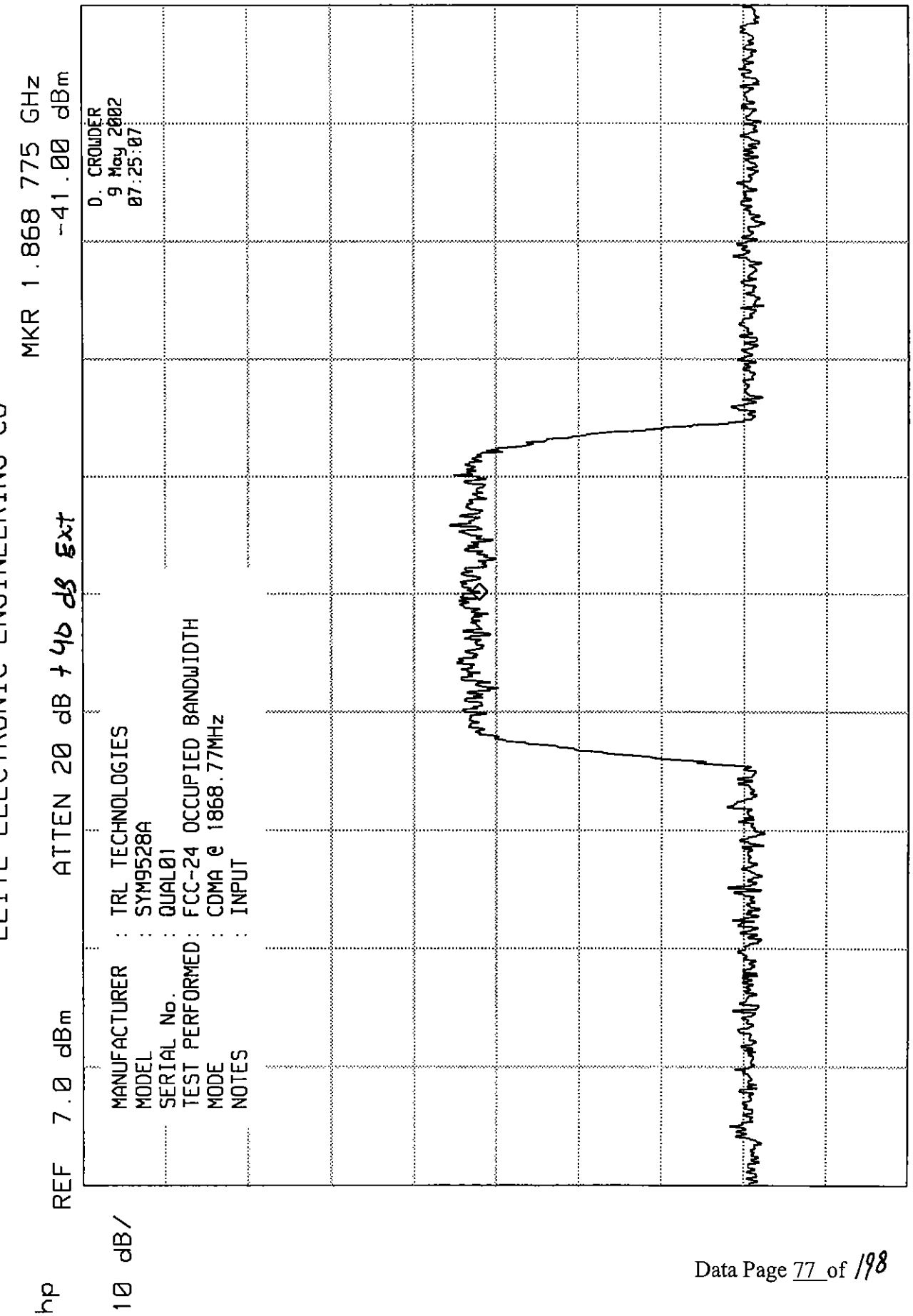
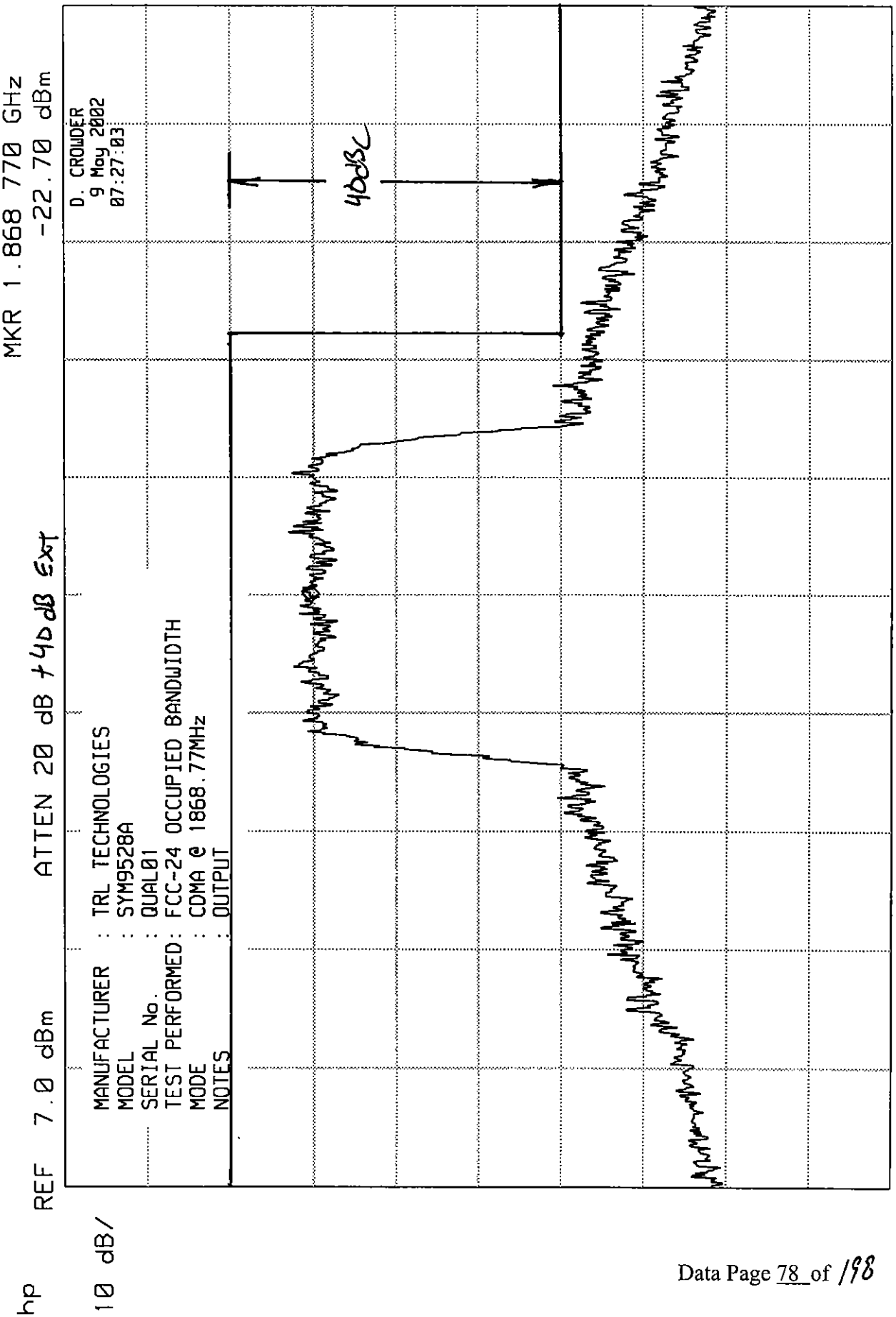
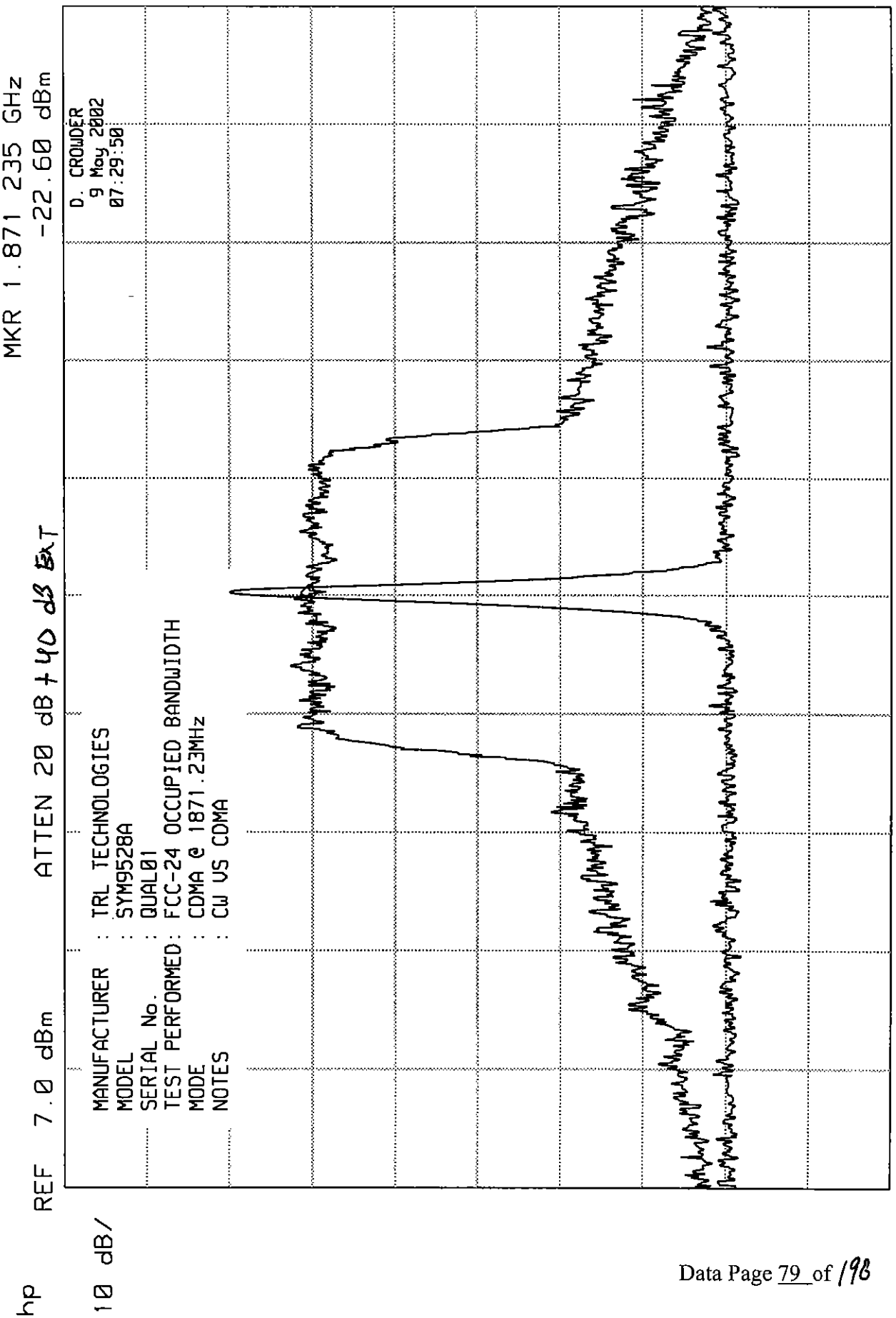

ELITE ELECTRONIC ENGINEERING CO
hp
REF 7.0 dBm
ATTEN 20 dB + 40 dB EXT
MKR 1.851 235 GHz
-39.00 dBm
10 dB/
D. CROWDER
9 May 2002
07:23:11
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1851.23MHz
NOTES : INPUT
CENTER 1.851 23 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec

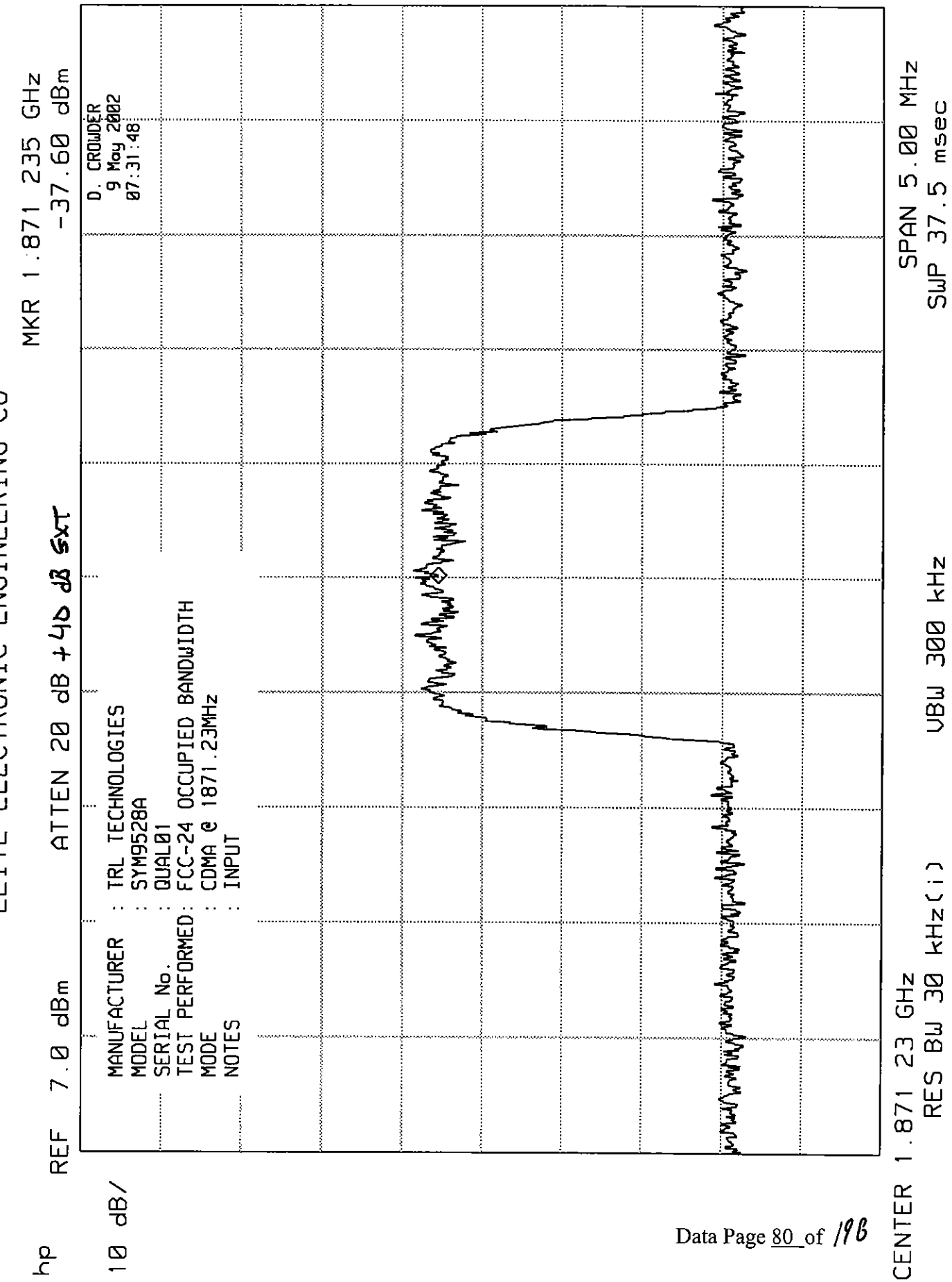

ELITE ELECTRONIC ENGINEERING CO
MKR 1.851 235 GHz
-23.10 dBm
D. CROWDER
9 May 2002
07:22:15
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1851.23MHz
NOTES : OUTPUT
40dBc
CENTER 1.851 23 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec

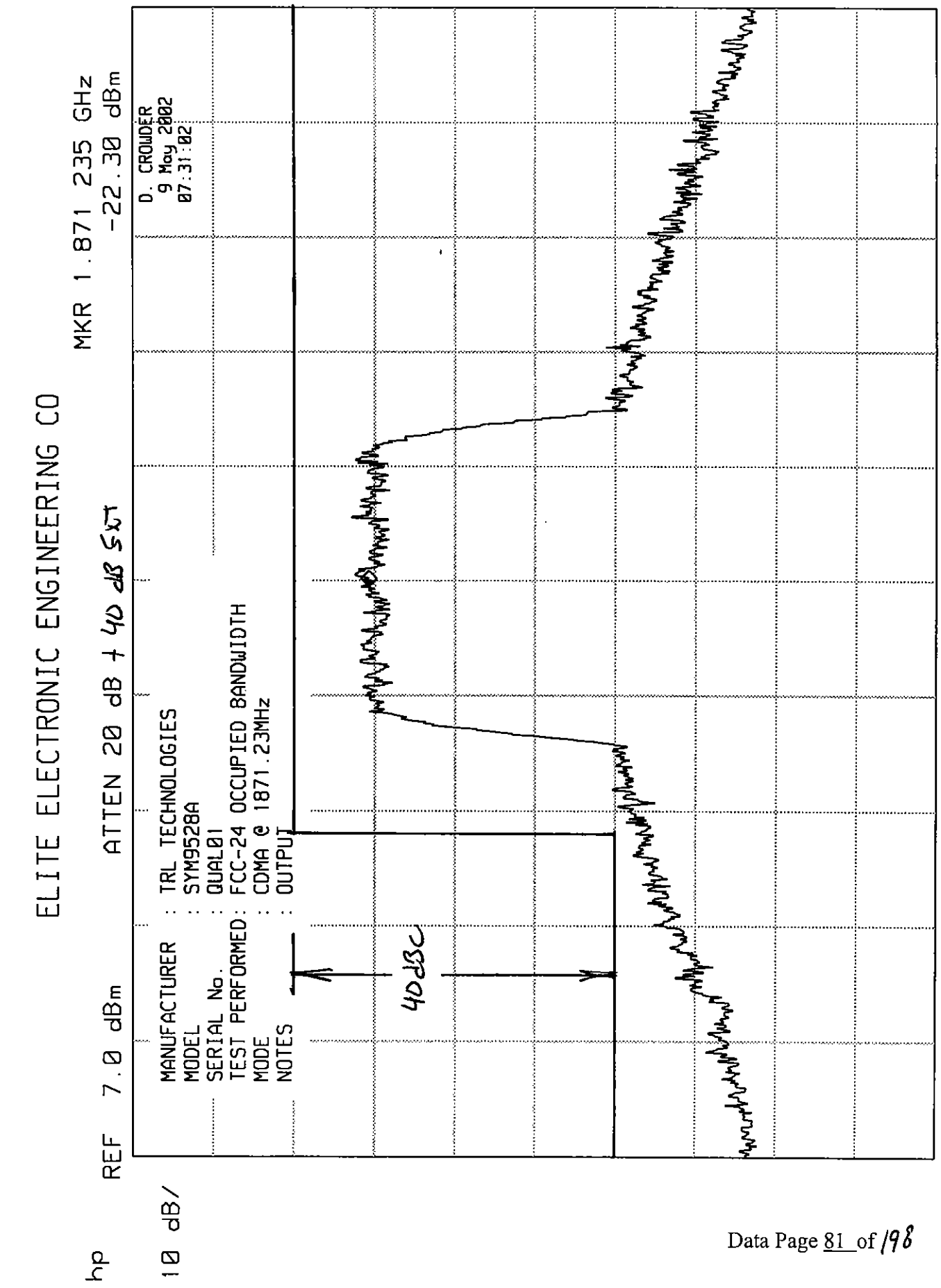

hp
ELITE ELECTRONIC ENGINEERING CO
MKR 1.868 770 GHz
-23.20 dBm
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
D. CROWDER
9 May 2002
07:26:19
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1868.77MHz
NOTES : CW VS CDMA
CENTER 1.868 77 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec

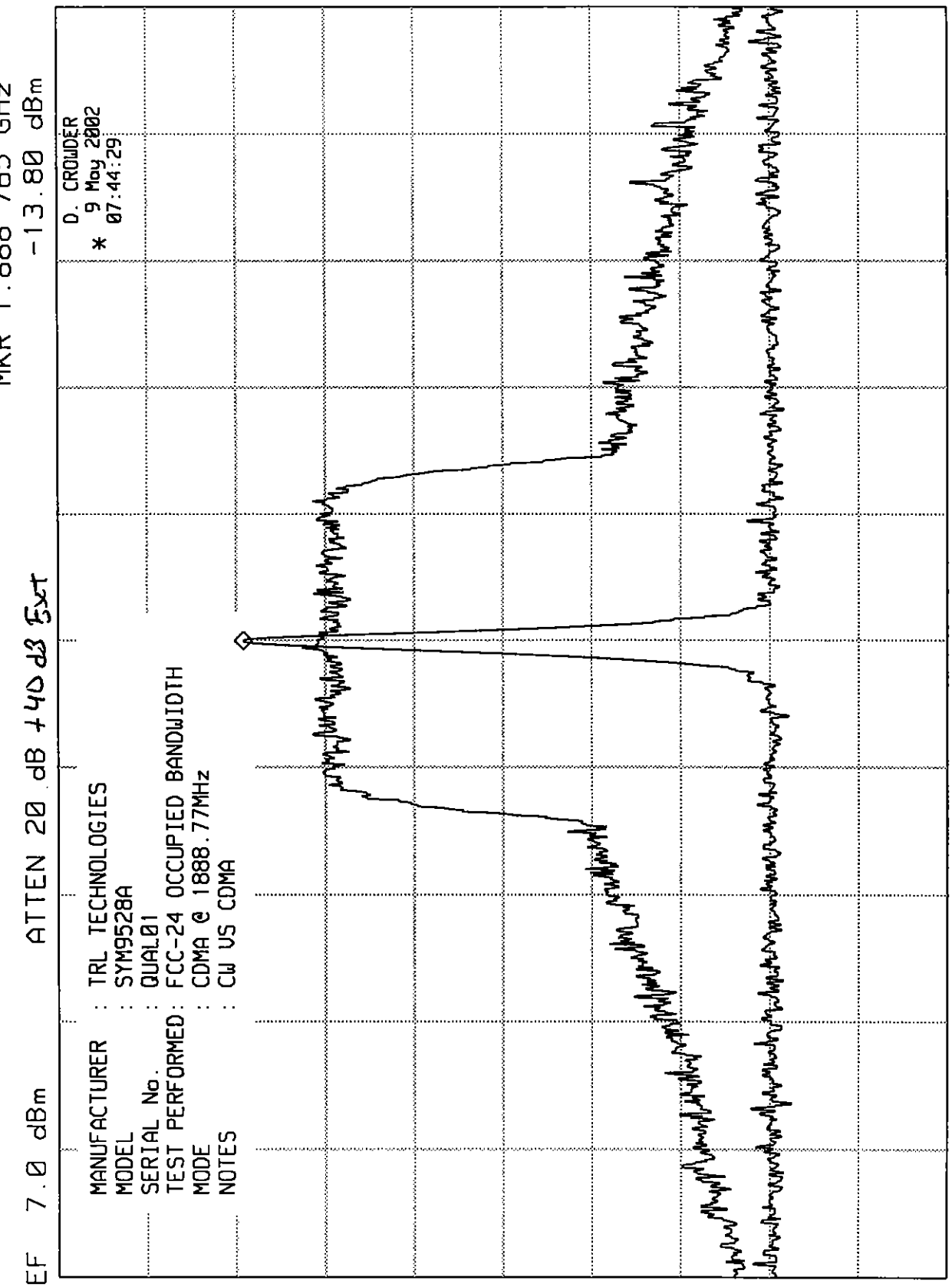

ELITE ELECTRONIC ENGINEERING CO
MKR 1.868 775 GHz
-41.00 dBm
hp
REF 7.0 dBm
ATTEN 20 dB + 40 dB ext
10 dB/
D. CROWDER
9 May 2002
07:25:07
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1868.77MHz
NOTES : INPUT
CENTER 1.868 77 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.868 770 GHz
-22.70 dBm
D. CROWDER
9 May 2002
07:27:03
hp
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1868.77MHz
NOTES : OUTPUT
40dBc
SPAN 5.00 MHz
SWP 37.5 msec
CENTER 1.868 77 GHz
RES BW 30 kHz(i)
VBW 300 kHz

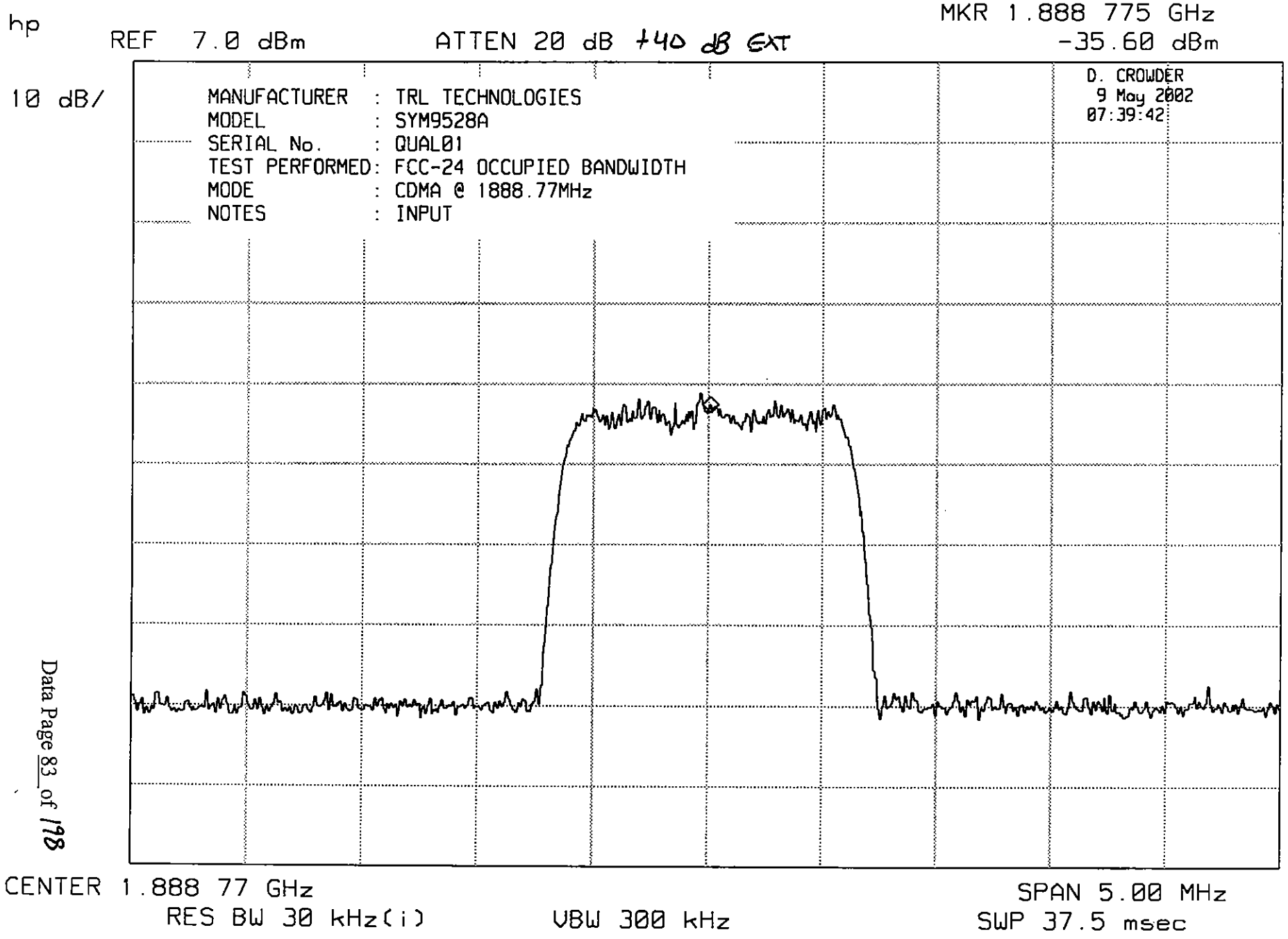

hp
ELITE ELECTRONIC ENGINEERING CO
REF 7.0 dBm
ATTEN 20 dB + 40 dB EXT
MKR 1.871 235 GHz
-22.60 dBm
10 dB/
D. CROWDER
9 May 2002
07:29:50
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1871.23MHz
NOTES : CW US CDMA
CENTER 1.871 23 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec


ELITE ELECTRONIC ENGINEERING CO
hp
REF 7.0 dBm
ATTEN 20 dB +45 dB Ext
MKR 1.871 235 GHz
-37.60 dBm
10 dB/
D. CROWDER
9 May 2002
07:31:48
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1871.23MHz
NOTES : INPUT
CENTER 1.871 23 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec


ELITE ELECTRONIC ENGINEERING CO
hp
REF 7.0 dBm
ATTEN 20 dB + 40 dB SET
MKR 1.871 235 GHz
-22.30 dBm
10 dB/
D. CROWDER
9 May 2002
07:31:02
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1871.23MHz
NOTES : OUTPUT
40dBc
CENTER 1.871 23 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.888 765 GHz
-13.80 dBm
REF 7.0 dBm
ATTEN 20 dB +40 dB Ext
10 dB/
D. CROWDER
9 May 2002
07:44:29
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1888.77MHz
NOTES : CW US CDMA
CENTER 1.888 77 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec

ELITE ELECTRONIC ENGINEERING CO



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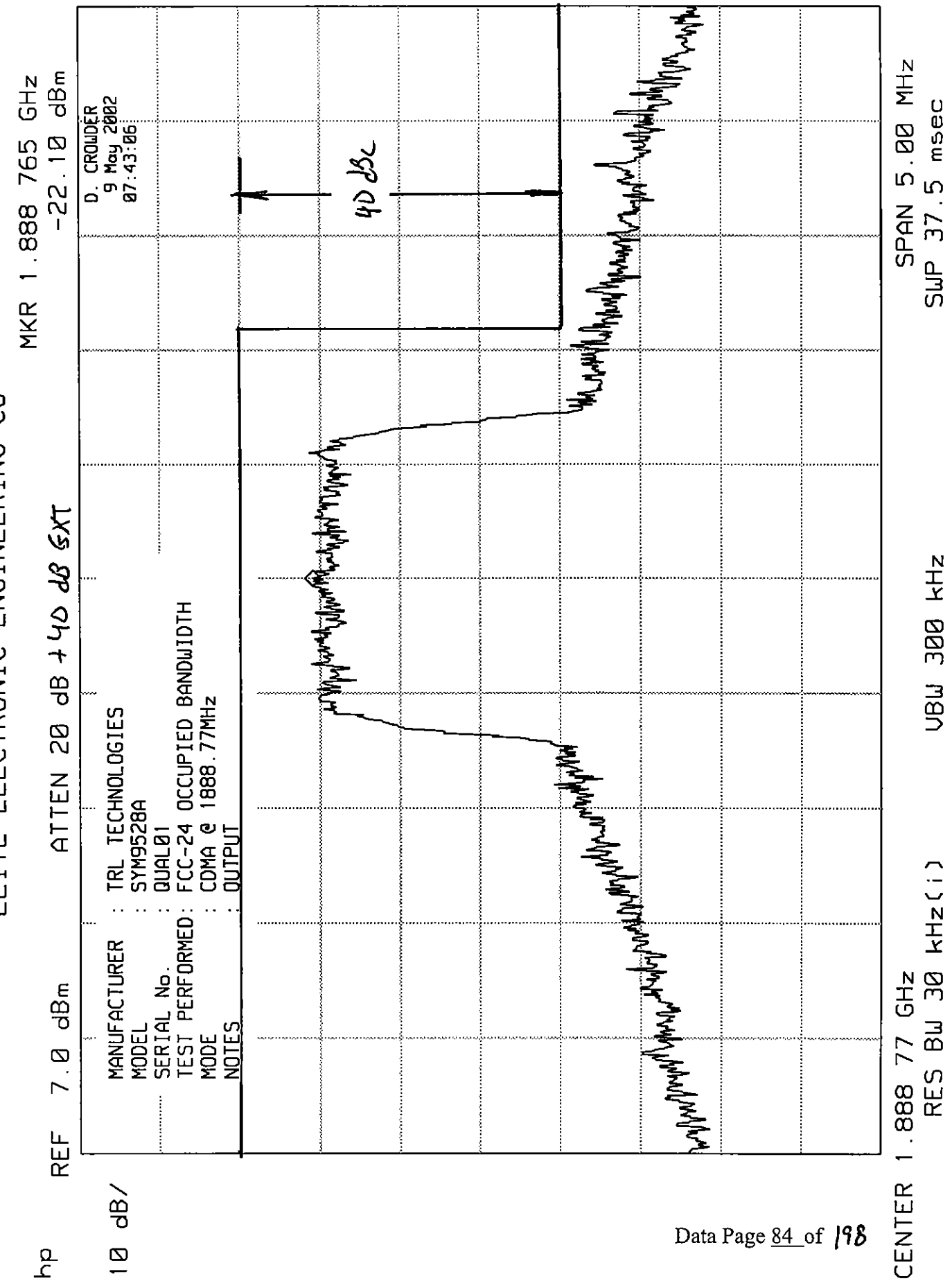
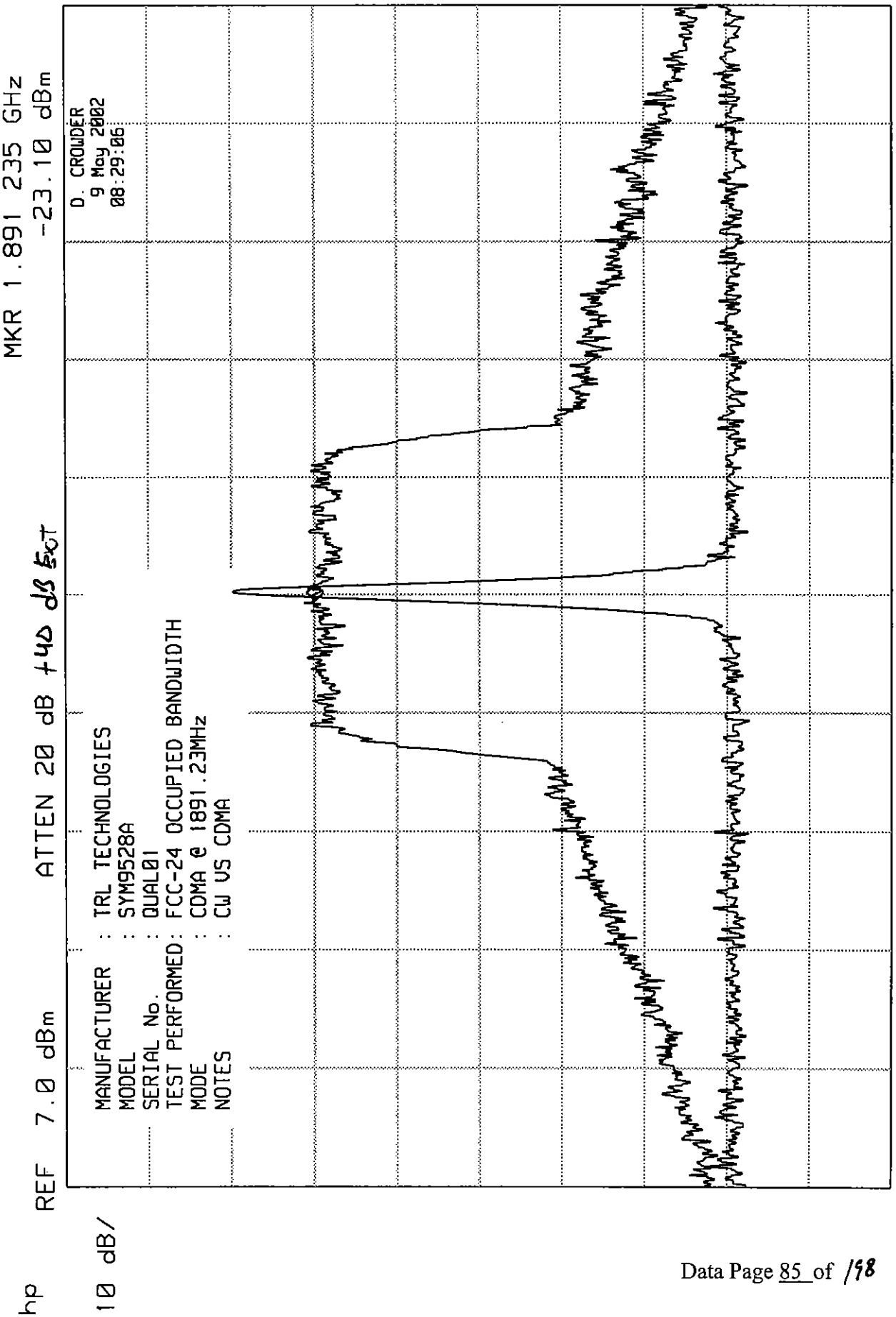
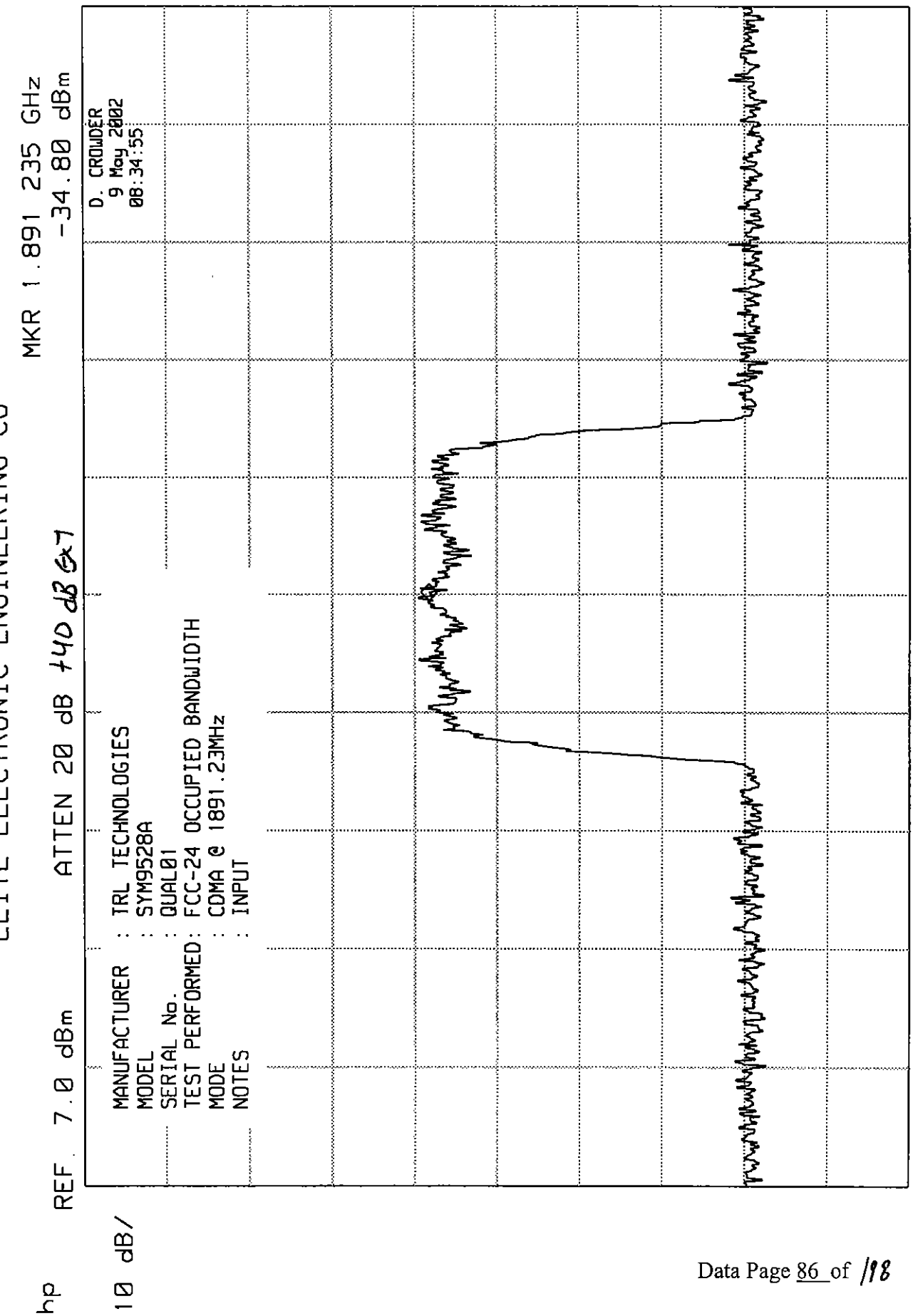
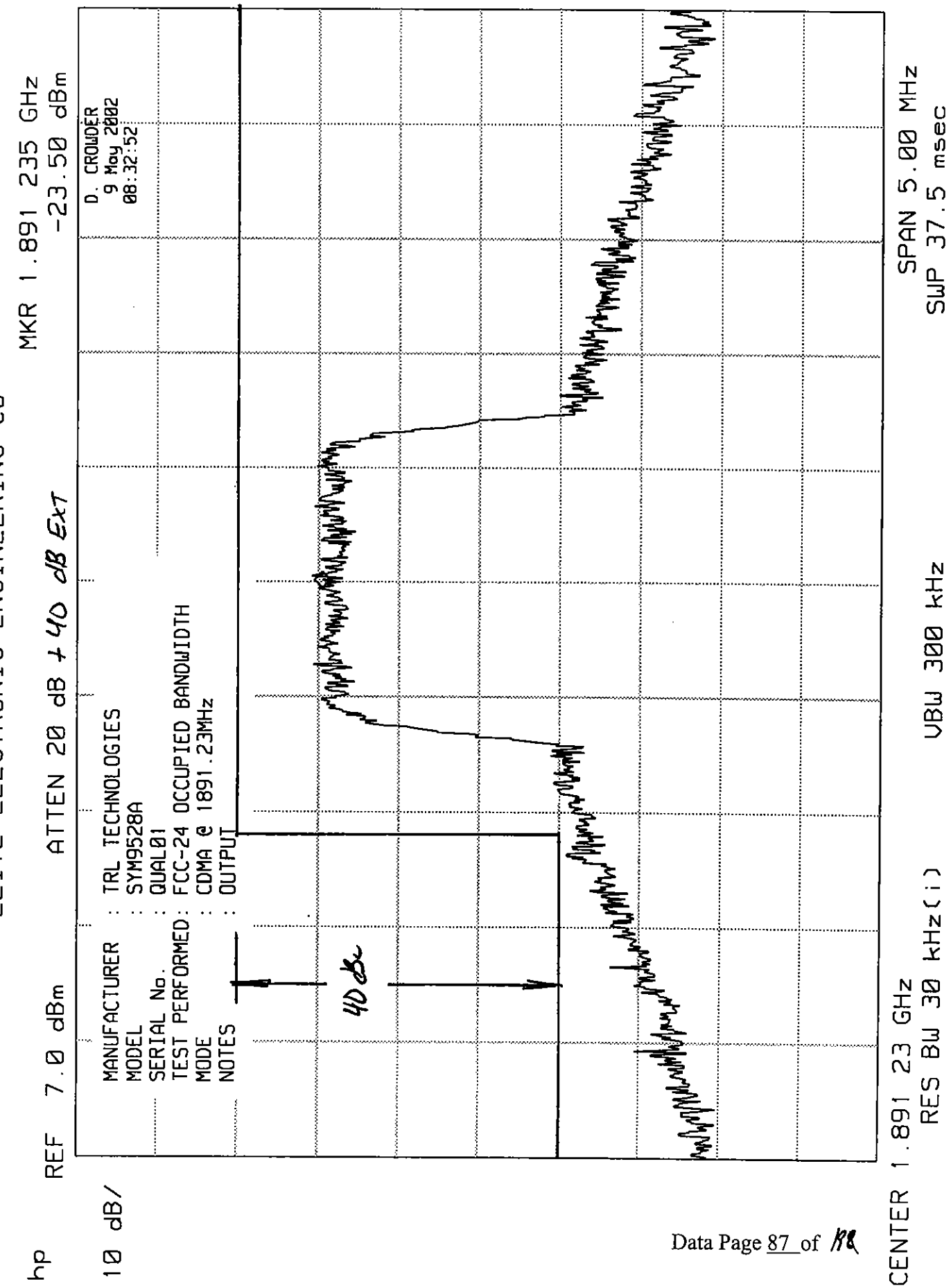
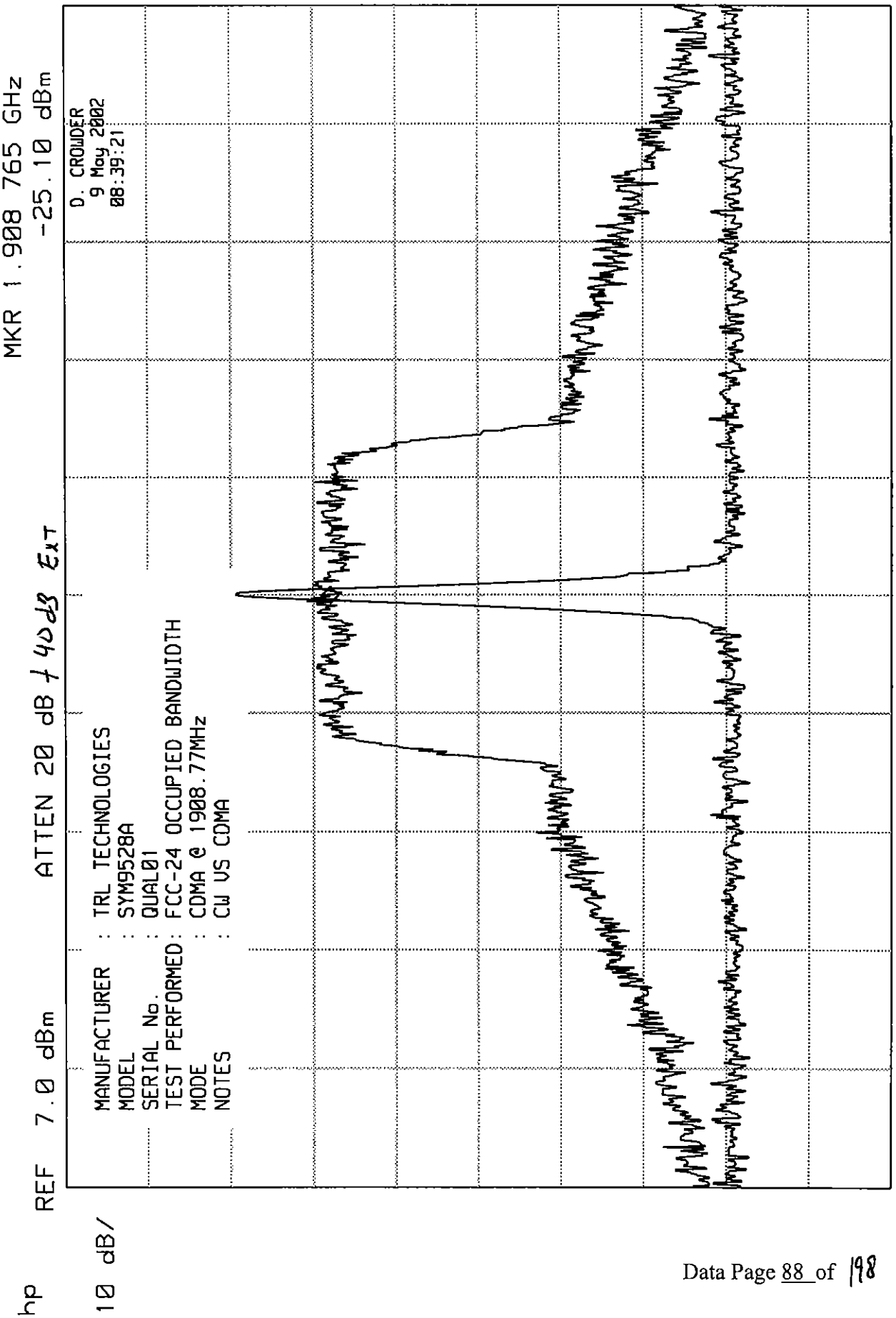
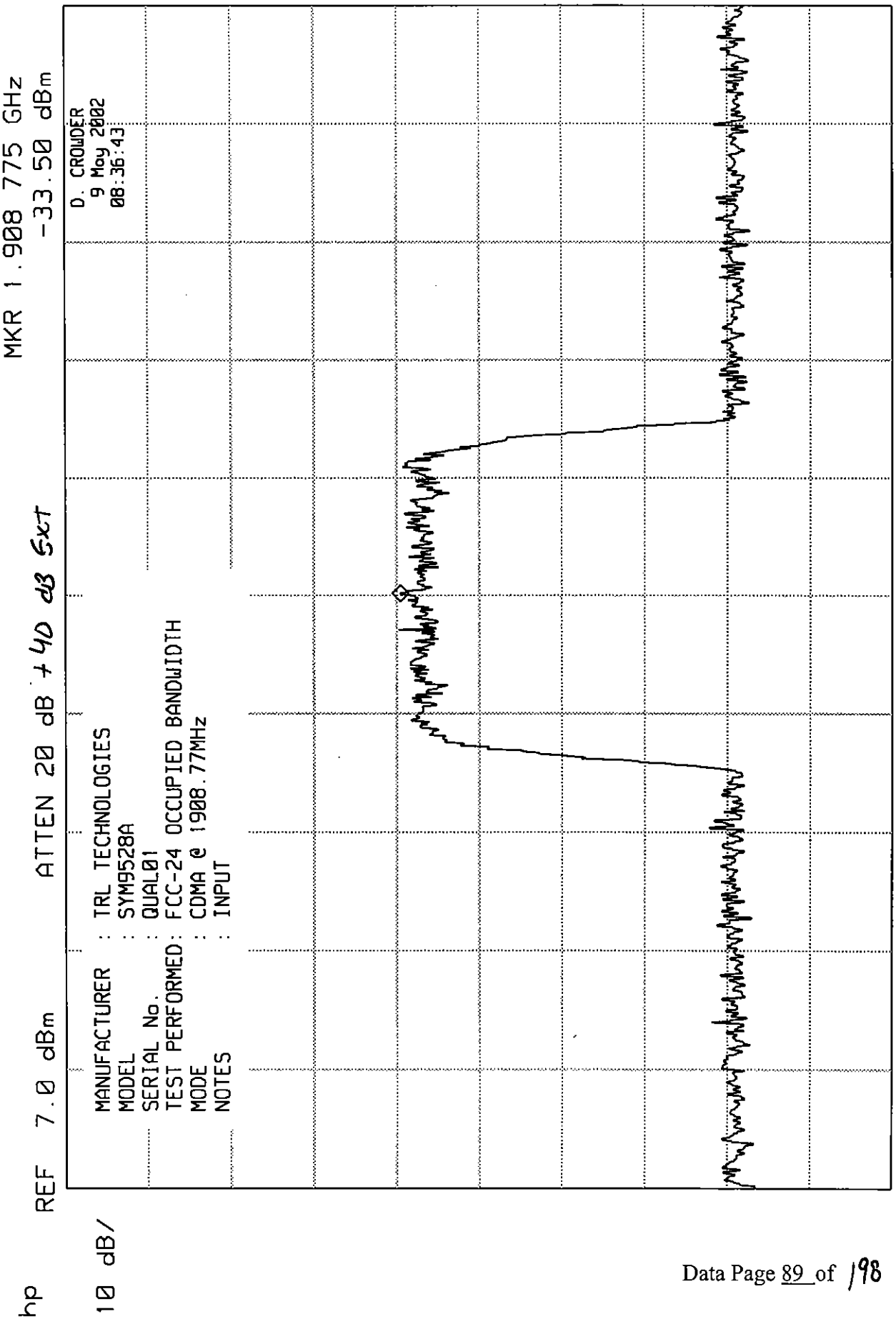

ELITE ELECTRONIC ENGINEERING CO
MKR 1.888 765 GHz
-22.10 dBm
REF 7.0 dBm
ATTEN 20 dB + 40 dB EXT
10 dB/
D. CROWDER
9 May 2002
07:43:06
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1888.77MHz
NOTES : OUTPUT
40 dBc
CENTER 1.888 77 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec

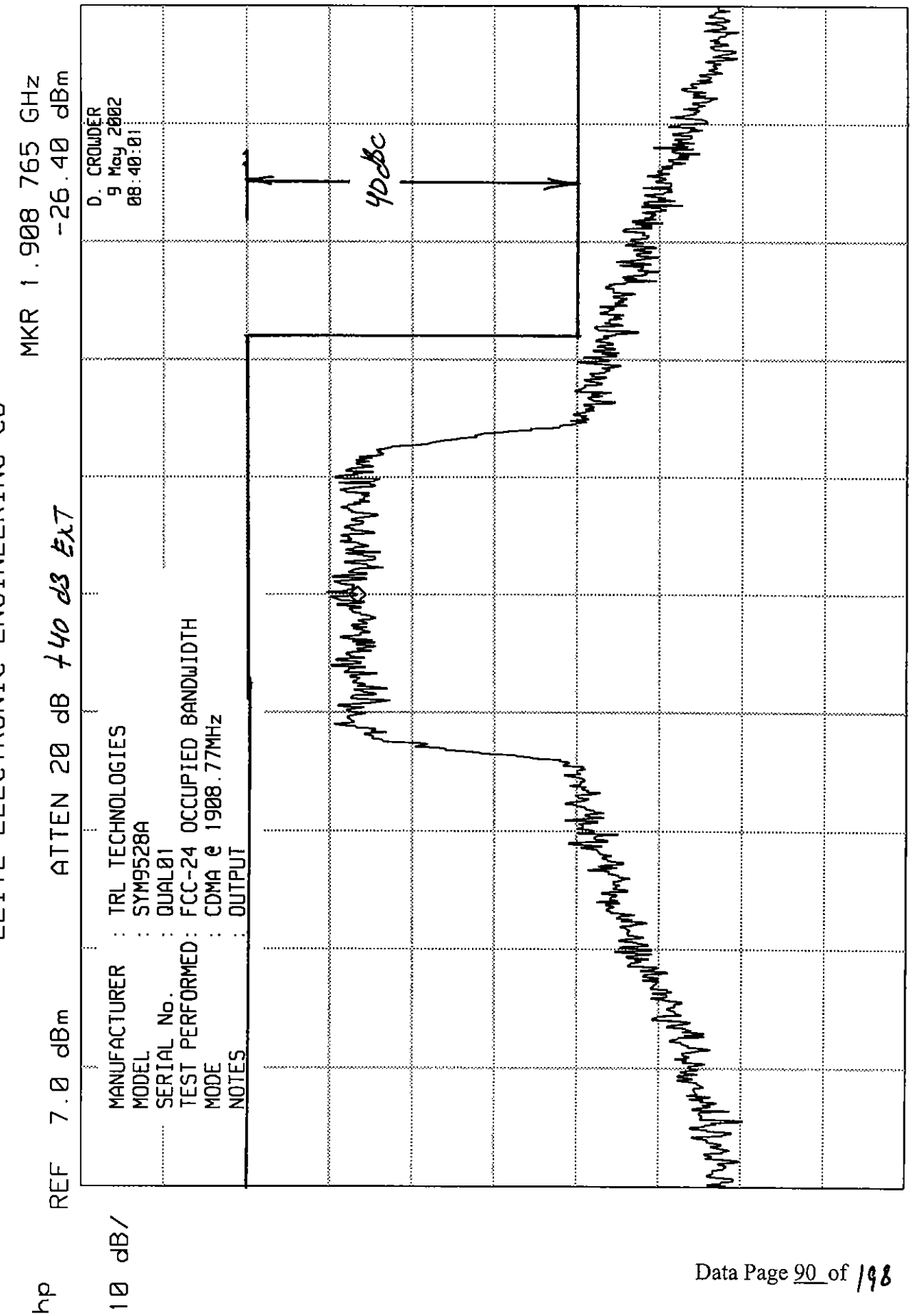

ELITE ELECTRONIC ENGINEERING CO
hp
REF 7.0 dBm
ATTEN 20 dB
MKR 1.891 235 GHz
-23.10 dBm
+45 dB Ext
10 dB/
D. CROWDER
9 May 2002
08:29:06
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1891.23MHz
NOTES : CW VS CDMA
CENTER 1.891 23 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.891 235 GHz
-34.80 dBm
REF 7.0 dBm
ATTEN 20 dB +40 dB ext
10 dB/
D. CROWDER
9 May 2002
08:34:55
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1891.23MHz
NOTES : INPUT
CENTER 1.891 23 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec

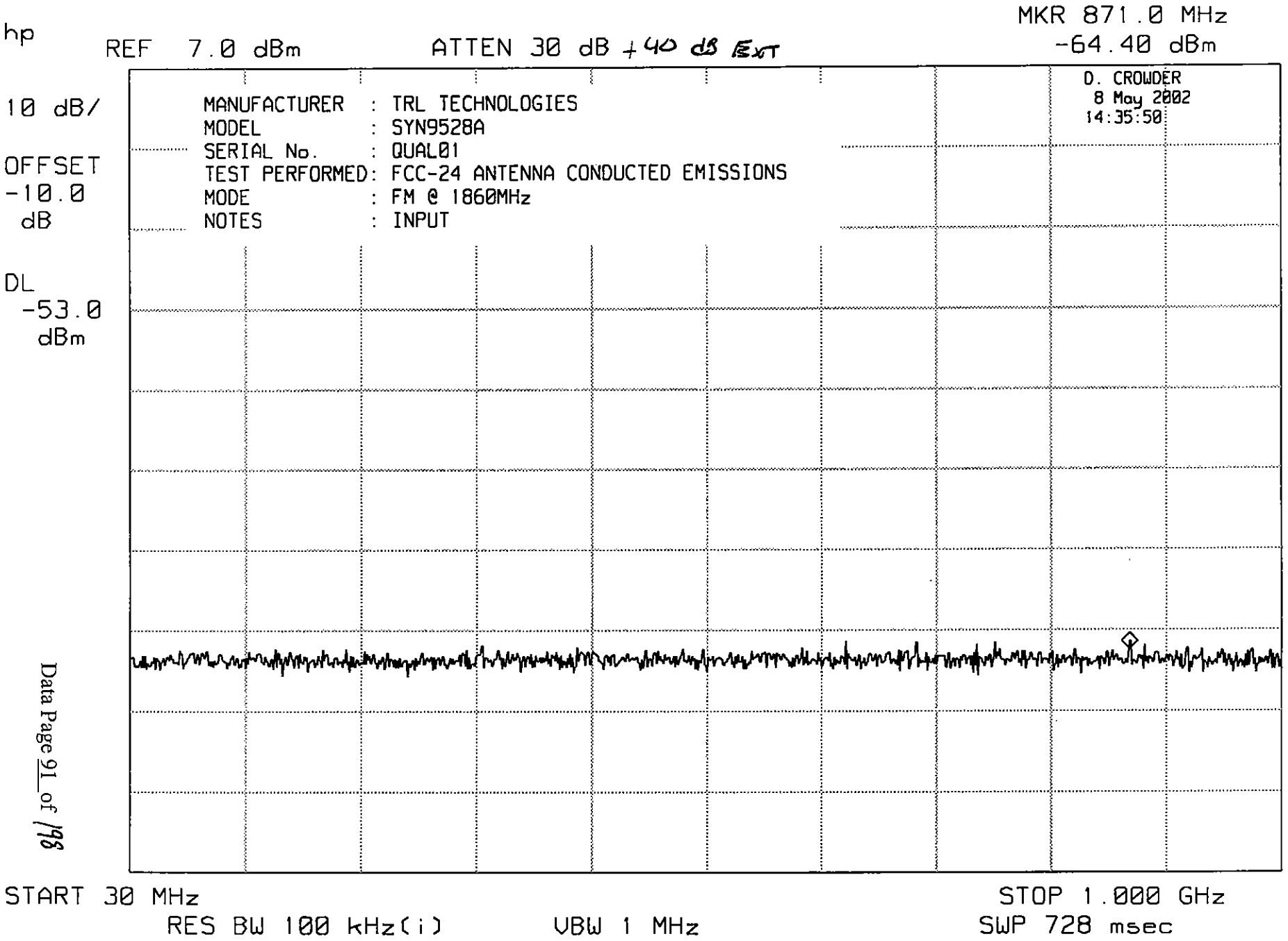

ELITE ELECTRONIC ENGINEERING CO
hp
10 dB/
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
MKR 1.891 235 GHz
-23.50 dBm
D. CROWDER
9 May 2002
08:32:52
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1891.23MHz
NOTES : OUTPUT
40 dBc
CENTER 1.891 23 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.908 765 GHz
-25.10 dBm
D. CROWDER
9 May 2002
08:39:21
REF 7.0 dBm
ATTEN 20 dB 40dB Ext
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1908.77MHz
NOTES : CW VS COMA
10 dB/
CENTER 1.908 77 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec


ELITE ELECTRONIC ENGINEERING CO
hp
REF 7.0 dBm
ATTEN 20 dB + 40 dB Ext
MKR 1.908 775 GHz
-33.50 dBm
10 dB/
D. CROWDER
9 May 2002
08:36:43
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1908.77MHz
NOTES : INPUT
CENTER 1.908 77 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec


ELITE ELECTRONIC ENGINEERING CO
hp
REF 7.0 dBm
ATTEN 20 dB
MKR 1.908 765 GHz
-26.40 dBm
10 dB/
40dBc
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 OCCUPIED BANDWIDTH
MODE : CDMA @ 1908.77MHz
NOTES : OUTPUT
D. CROWDER
9 May 2002
08:40:01
CENTER 1.908 77 GHz
RES BW 30 kHz(i)
VBW 300 kHz
SPAN 5.00 MHz
SWP 37.5 msec

ELITE ELECTRONIC ENGINEERING CO



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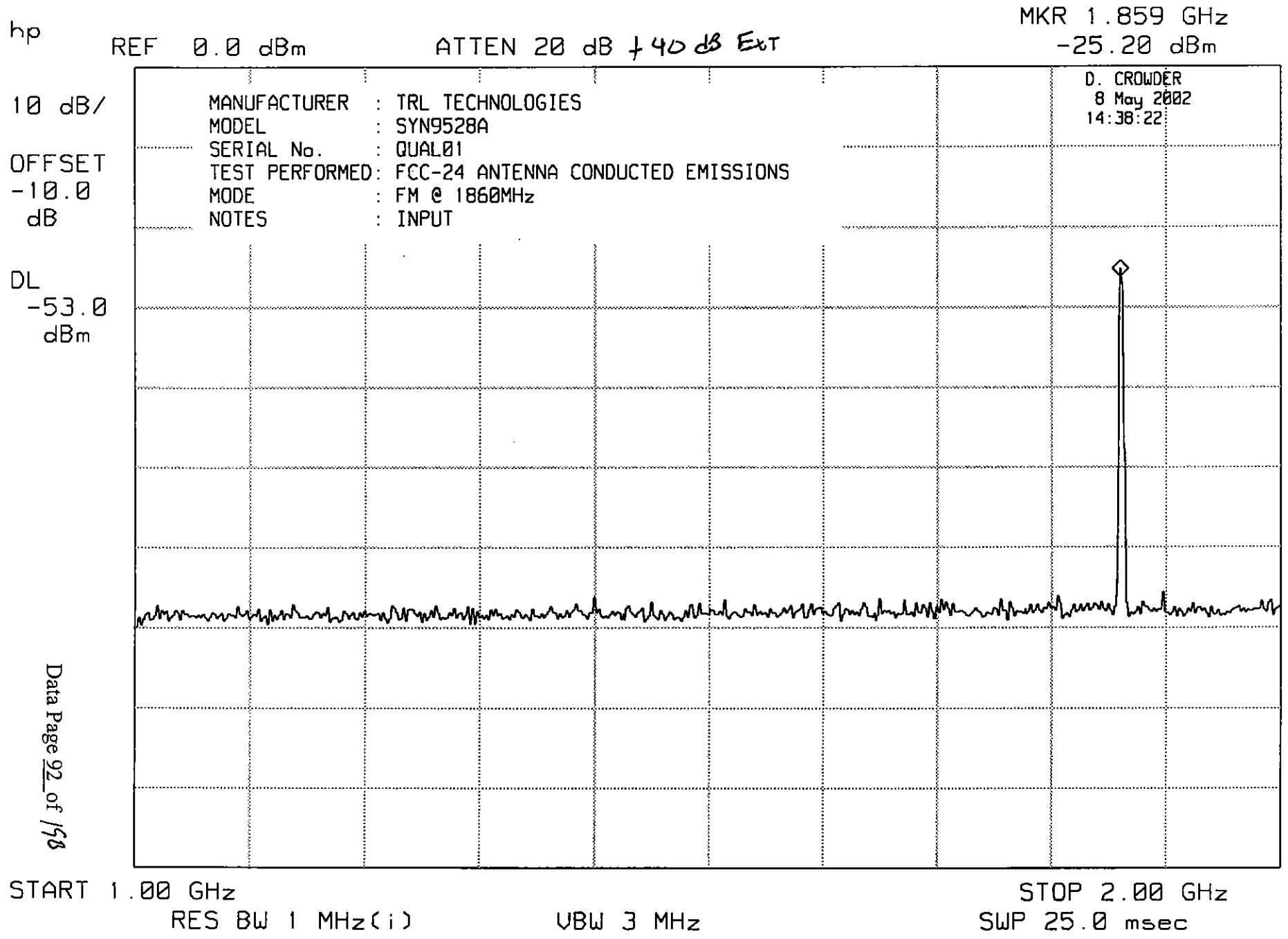
ELITE ELECTRONIC ENGINEERING CO



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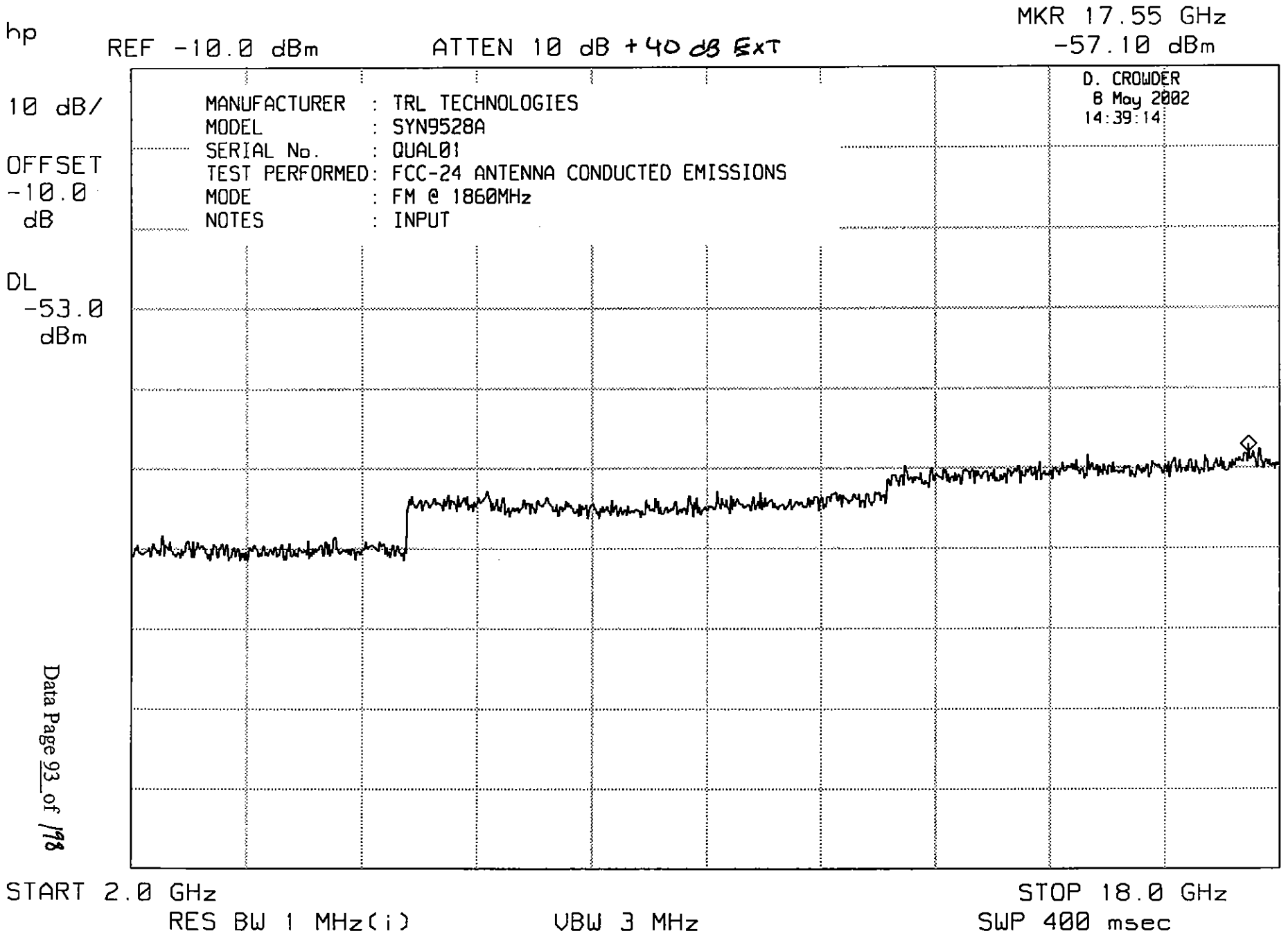
ELITE ELECTRONIC ENGINEERING CO



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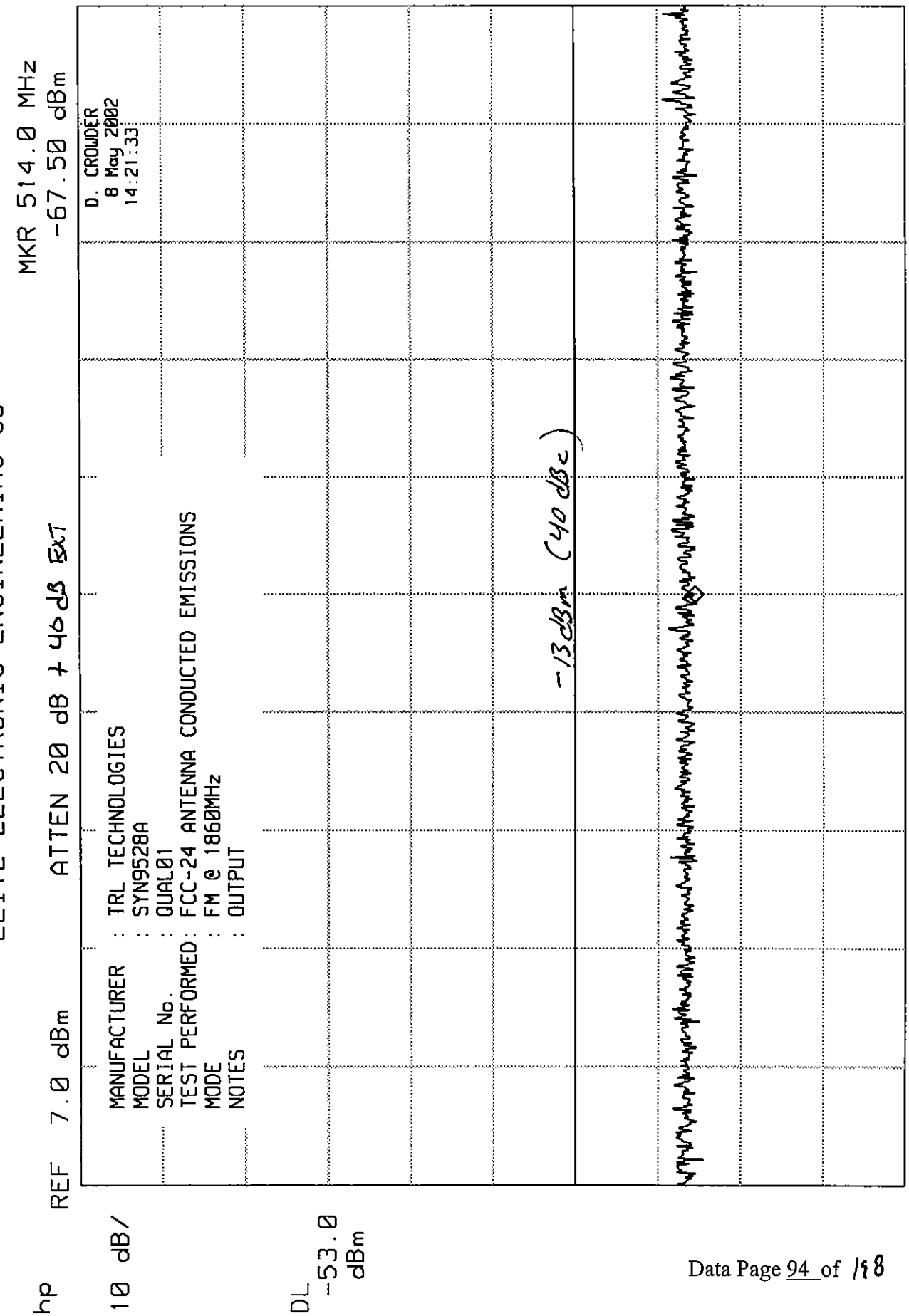
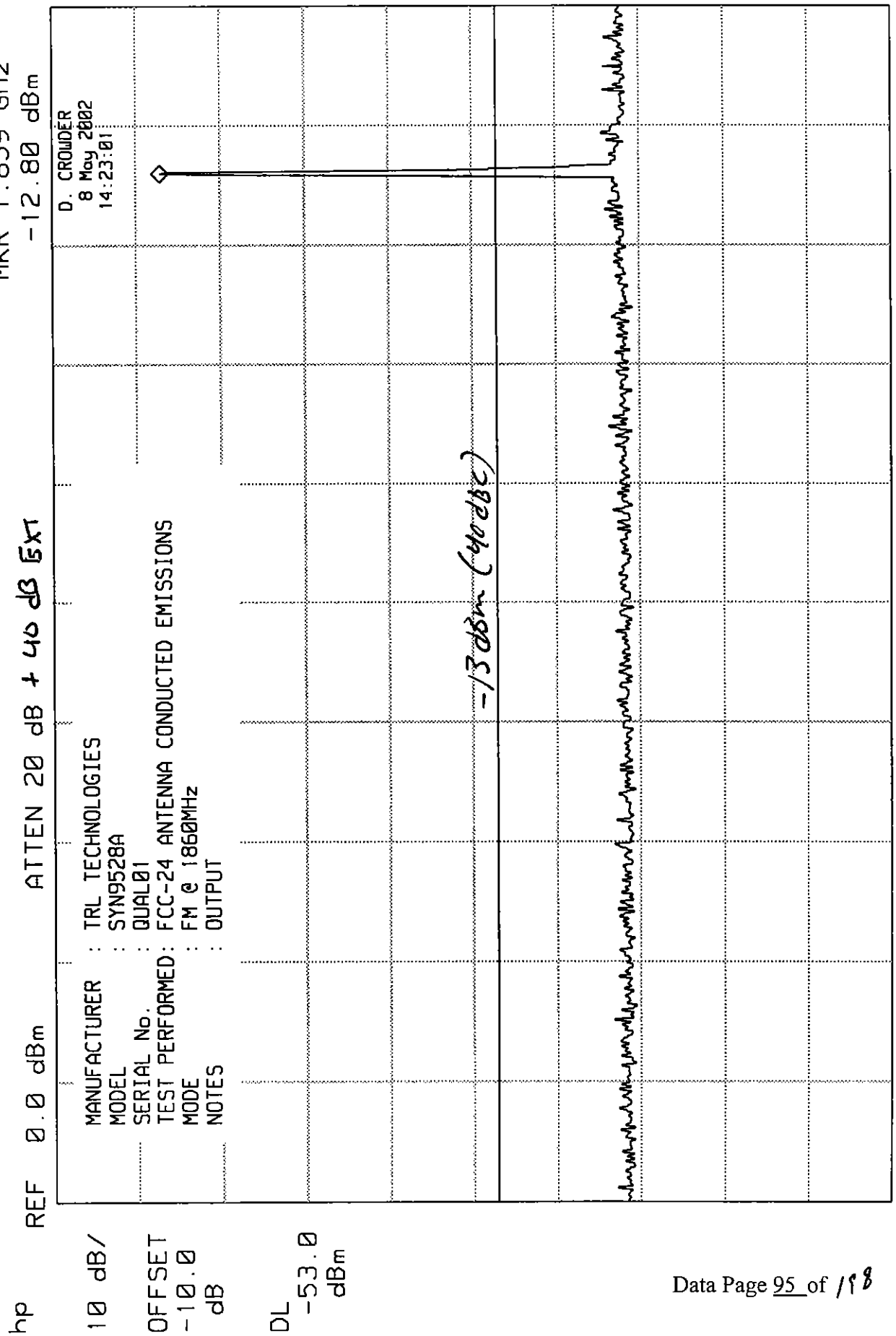
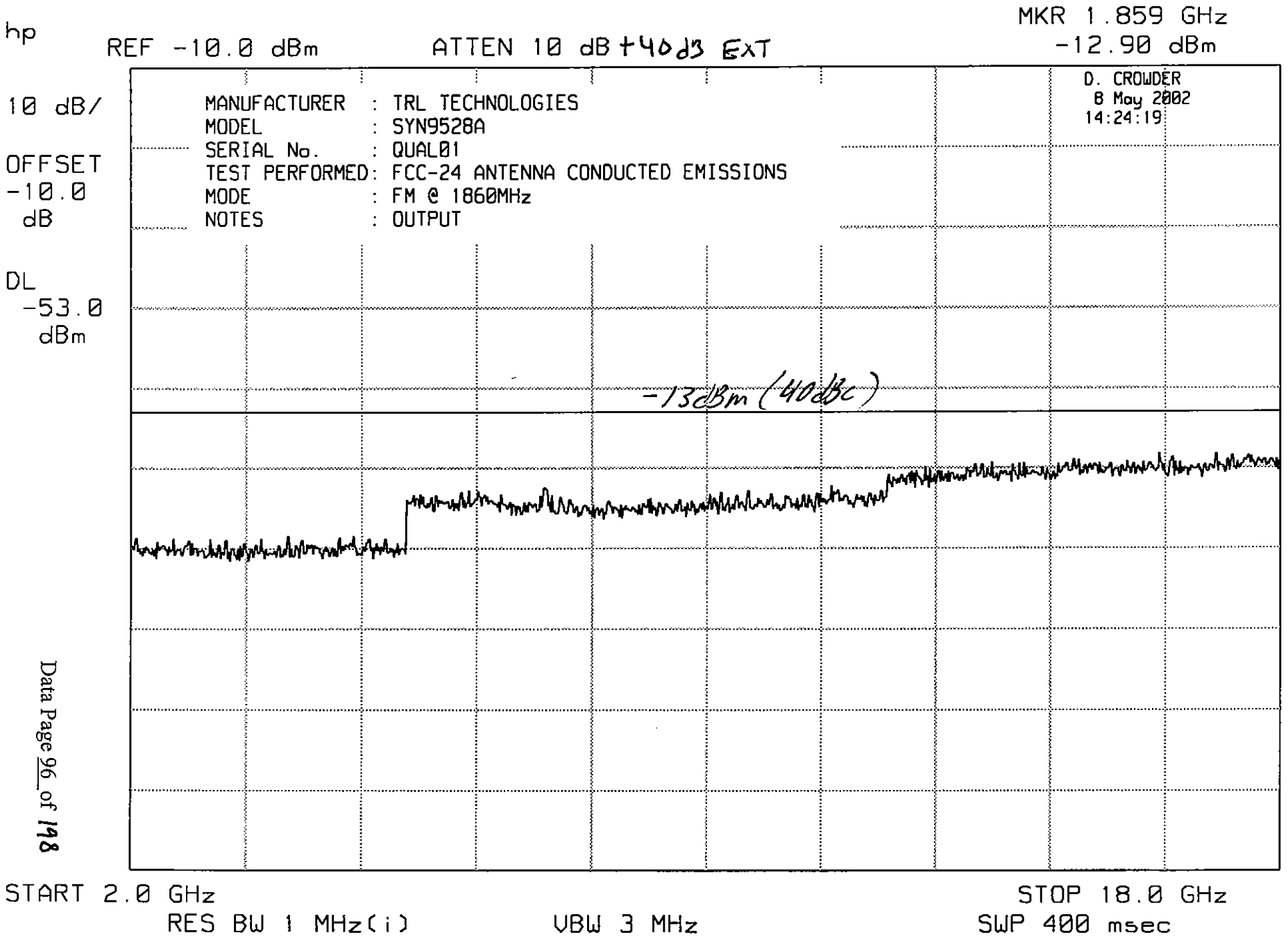

ELITE ELECTRONIC ENGINEERING CO
hp
REF 7.0 dBm
ATTEN 20 dB + 46 dB Ext
MKR 514.0 MHz
-67.50 dBm
10 dB/
DL
-53.0 dBm
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYN9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 ANTENNA CONDUCTED EMISSIONS
MODE : FM @ 1860MHz
NOTES : OUTPUT
D. CROWDER
8 May 2002
14:21:33
-13 dBm (40 dBc)
START 30 MHz
RES BW 100 kHz(i)
VBW 1 MHz
STOP 1.000 GHz
SWP 728 msec


ELITE ELECTRONIC ENGINEERING CO
MKR 1.859 GHz
-12.80 dBm
D. CROWDER
8 May 2002
14:23:01
hp
REF 0.0 dBm
ATTEN 20 dB + 40 dB Ext
10 dB/
OFFSET
-10.0
dB
DL
-53.0
dBm
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYN9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 ANTENNA CONDUCTED EMISSIONS
MODE : FM @ 1860MHz
NOTES : OUTPUT
-13 dBm (40 dBc)
START 1.00 GHz
RES BW 1 MHz(i)
VBW 3 MHz
STOP 2.00 GHz
SWP 25.0 msec

ELITE ELECTRONIC ENGINEERING CO



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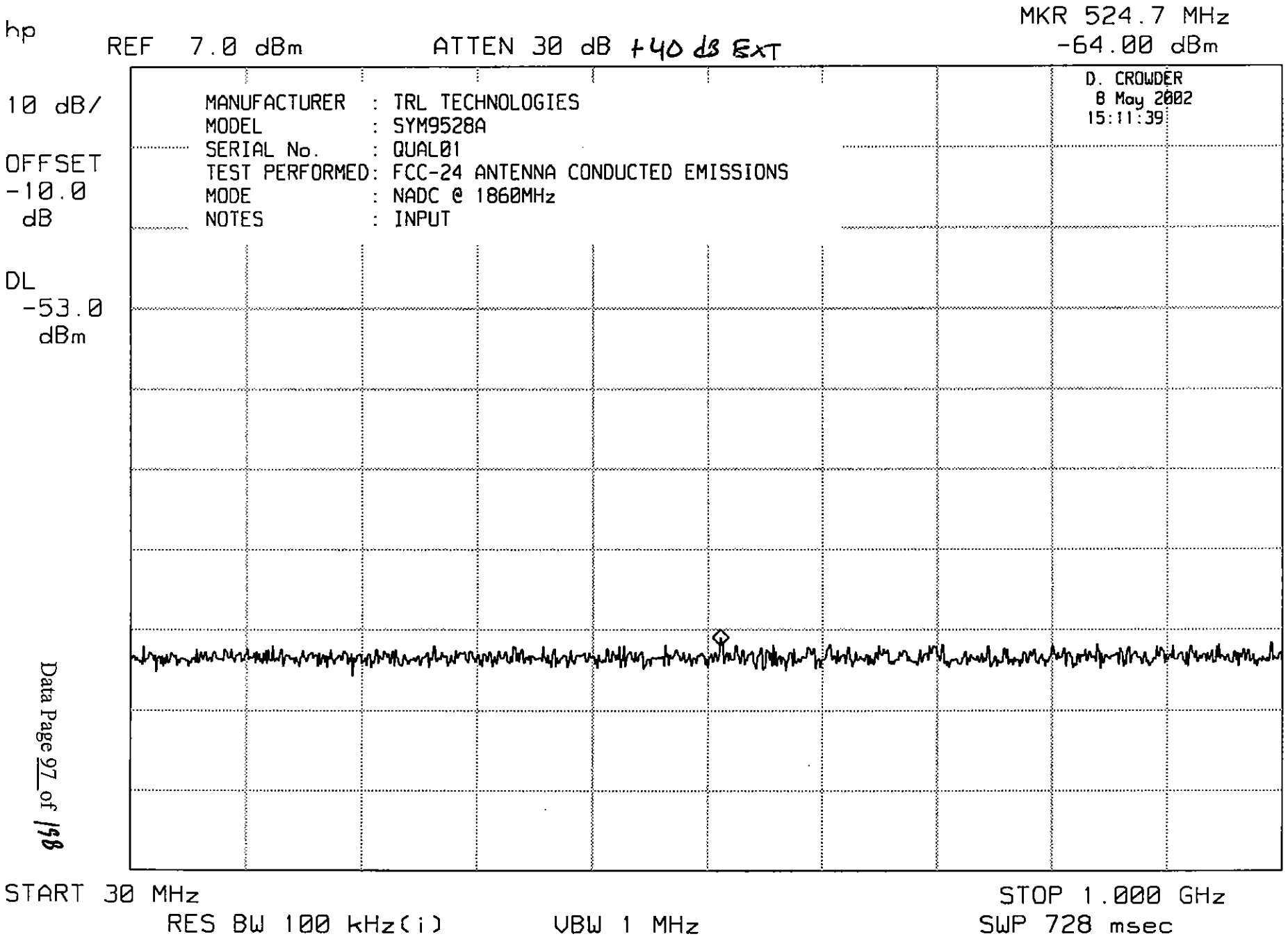
ELITE ELECTRONIC ENGINEERING CO



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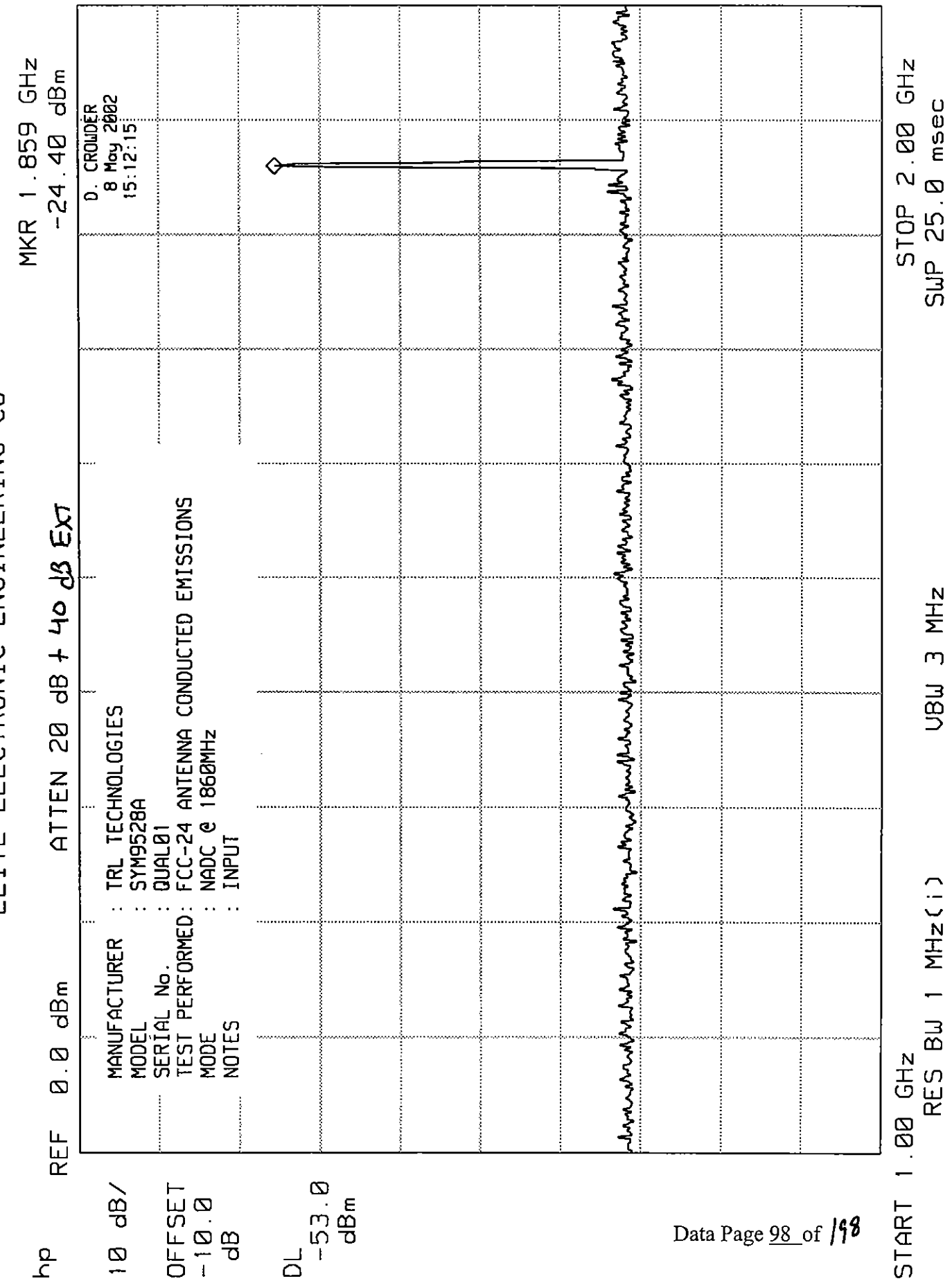
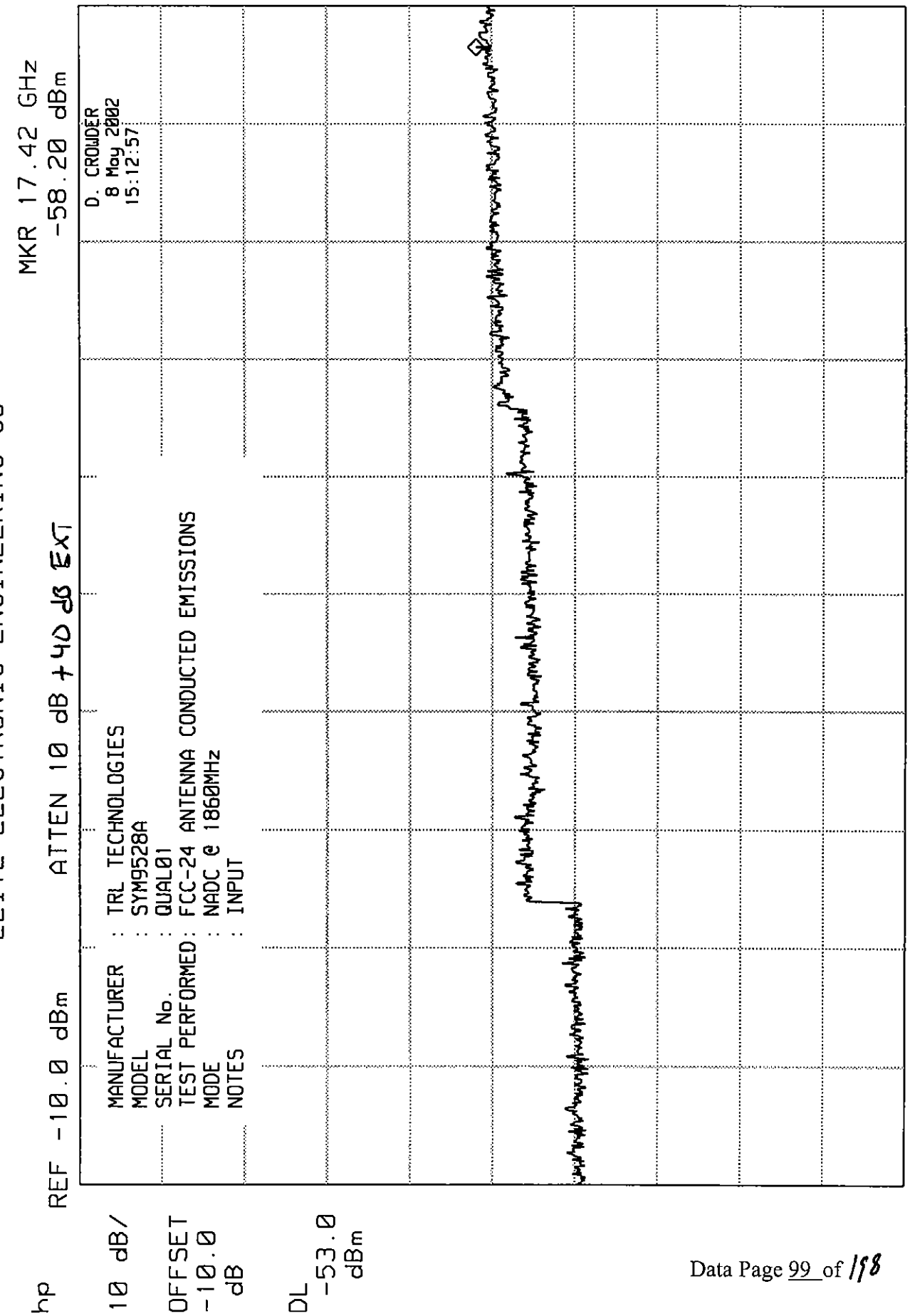
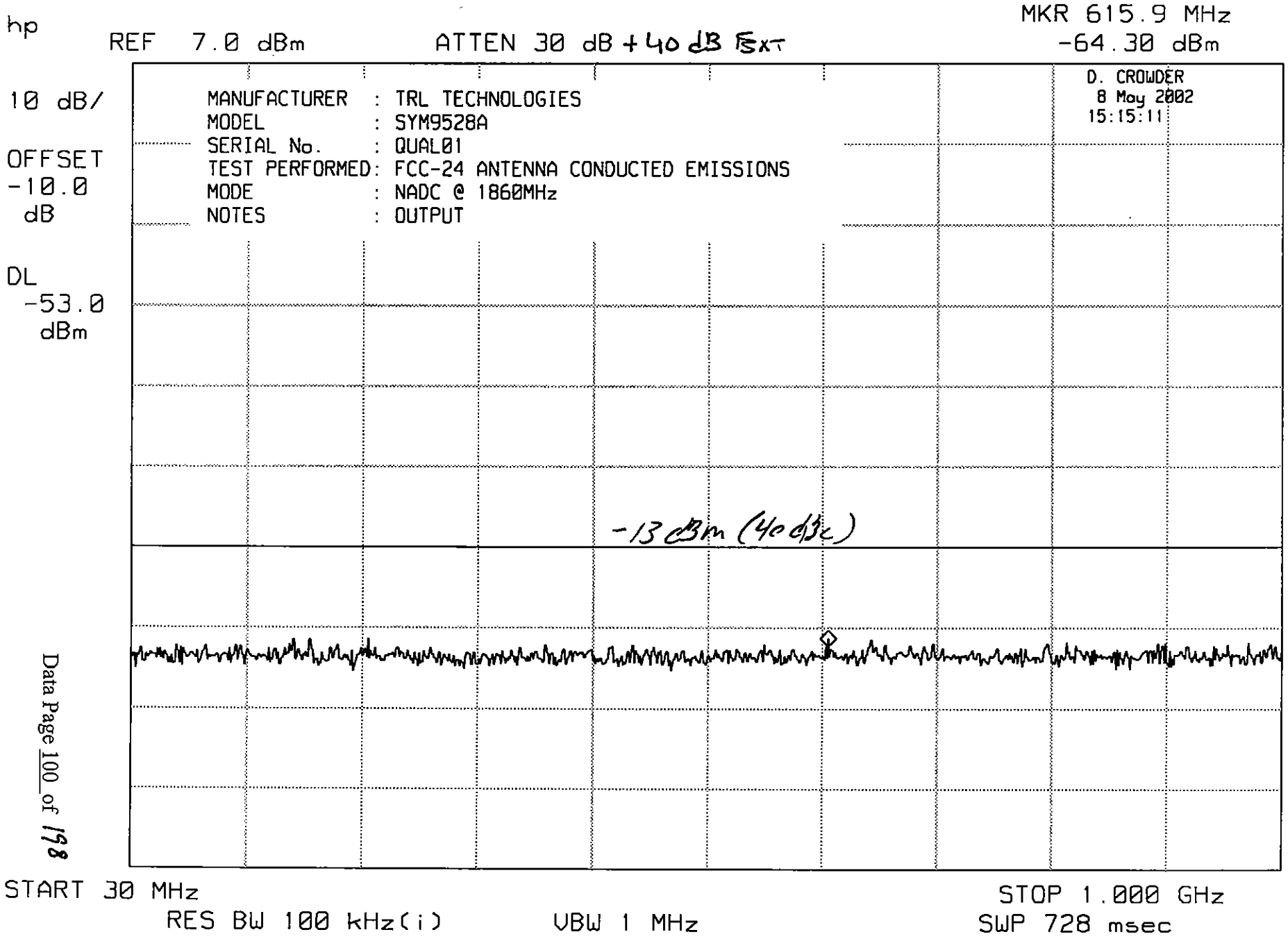

ELITE ELECTRONIC ENGINEERING CO
hp
REF 0.0 dBm
ATTEN 20 dB + 40 dB Ext
MKR 1.859 GHz
-24.40 dBm
10 dB/
OFFSET
-10.0
dB
DL
-53.0
dBm
D. CROWDER
8 May 2002
15:12:15
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 ANTENNA CONDUCTED EMISSIONS
MODE : NADC @ 1860MHz
NOTES : INPUT
START 1.00 GHz
RES BW 1 MHz(i)
VBW 3 MHz
STOP 2.00 GHz
SWP 25.0 msec


hp
ELITE ELECTRONIC ENGINEERING CO
REF -10.0 dBm
ATTEN 10 dB +40 dB EXT
MKR 17.42 GHz
-58.20 dBm
10 dB/
OFFSET
-10.0
dB
DL
-53.0
dBm
MANUFACTURER : TRL TECHNOLOGIES
MODEL : SYM9528A
SERIAL No. : QUAL01
TEST PERFORMED: FCC-24 ANTENNA CONDUCTED EMISSIONS
MODE : NADC @ 1860MHz
NOTES : INPUT
D. CROWDER
8 May 2002
15:12:57
START 2.0 GHz
RES BW 1 MHz(i)
VBW 3 MHz
STOP 18.0 GHz
SWP 400 msec

ELITE ELECTRONIC ENGINEERING CO



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