

EXHIBIT D

[FCC Ref. 2.1033(b)(6)]

"Report of Measurements"

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Exhibit D(2)-1 to D(2)-3 - Test Equipment List and Measurement  
Facility (3 Meter Site)

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## **PRODUCT DESCRIPTION**

The Model 26989XXX-A is a single-line cordless telephone with caller ID and separate charger that operates from 902 MHz to 928 MHz. The antenna used for the base and the handset is permanently attached to the EUT. Its actual frequency range is:

Base: 902.80 MHz to 904.75 MHz

Handset: 925.30 MHz to 927.25 MHz

A complete frequency list is shown on the following pages.

# 900MHz FREQUENCY TABLE (WIDE BAND)

CH	HAND			BASE		
	TX	RX	LOCAL	TX	RX	LOCAL
1	925.3	902.8	892.1	902.8	925.3	936
2	925.35	902.85	892.15	902.85	925.35	936.05
3	925.4	902.9	892.2	902.9	925.4	936.1
4	925.45	902.95	892.25	902.95	925.45	936.15
5	925.5	903	892.3	903	925.5	936.2
6	925.55	903.05	892.35	903.05	925.55	936.25
7	925.6	903.1	892.4	903.1	925.6	936.3
8	925.65	903.15	892.45	903.15	925.65	936.35
9	925.7	903.2	892.5	903.2	925.7	936.4
10	925.75	903.25	892.55	903.25	925.75	936.45
11	925.8	903.3	892.6	903.3	925.8	936.5
12	925.85	903.35	892.65	903.35	925.85	936.55
13	925.9	903.4	892.7	903.4	925.9	936.6
14	925.95	903.45	892.75	903.45	925.95	936.65
15	926	903.5	892.8	903.5	926	936.7
16	926.05	903.55	892.85	903.55	926.05	936.75
17	926.1	903.6	892.9	903.6	926.1	936.8
18	926.15	903.65	892.95	903.65	926.15	936.85
19	926.2	903.7	893	903.7	926.2	936.9
20	926.25	903.75	893.05	903.75	926.25	936.95
21	926.3	903.8	893.1	903.8	926.3	937
22	926.35	903.85	893.15	903.85	926.35	937.05
23	926.4	903.9	893.2	903.9	926.4	937.1
24	926.45	903.95	893.25	903.95	926.45	937.15
25	926.5	904	893.3	904	926.5	937.2
26	926.55	904.05	893.35	904.05	926.55	937.25
27	926.6	904.1	893.4	904.1	926.6	937.3
28	926.65	904.15	893.45	904.15	926.65	937.35
29	926.7	904.2	893.5	904.2	926.7	937.4
30	926.75	904.25	893.55	904.25	926.75	937.45
31	926.8	904.3	893.6	904.3	926.8	937.5
32	926.85	904.35	893.65	904.35	926.85	937.55
33	926.9	904.4	893.7	904.4	926.9	937.6
34	926.95	904.45	893.75	904.45	926.95	937.65
35	927	904.5	893.8	904.5	927	937.7
36	927.05	904.55	893.85	904.55	927.05	937.75
37	927.1	904.6	893.9	904.6	927.1	937.8
38	927.15	904.65	893.95	904.65	927.15	937.85
39	927.2	904.7	894	904.7	927.2	937.9
40	927.25	904.75	894.05	904.75	927.25	937.95

**15.107 (a) POWER LINE CONDUCTED INTERFERENCE****Requirements:**

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 KHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency.

**Test Procedure:**

ANSI STANDARD C63.4-1992. using a 50 $\mu$ H LISN. Both lines were observed with the EUT transmitting. The bandwidth of the spectrum analyzer was 9KHz QP with an appropriate sweep speed. The ambient temperature of the EUT was 24°C with a humidity of 60%.

The spectrum was scanned from 0.15 to 30MHz.

**Test Data:**

The highest emission read for LINE was 31.63 dB $\mu$ V@ 0.15 MHz. (Base)

The highest emission read for NEUTRAL was 31.69 dB $\mu$ V@ 0.15 MHz (Base)

The highest emission read for LINE was 29.11 dB $\mu$ V@ 0.15 MHz. (Charge Unit)

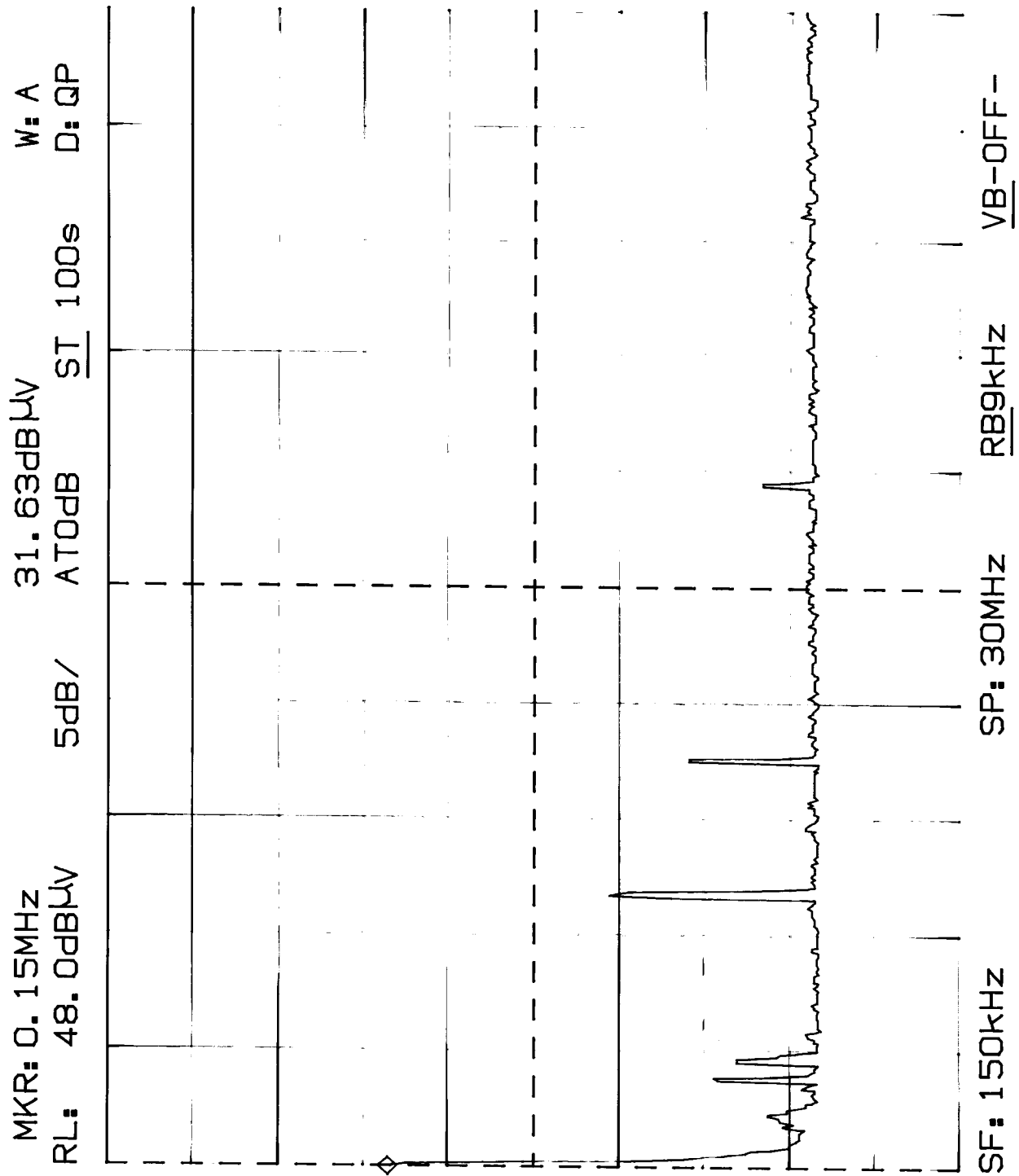
The highest emission read for NEUTRAL was 28.88 dB $\mu$ V@ 0.15 MHz.(Charge Unit)

The graphs on Exhibit D(1)-5 to -8 represent the emissions taken for this device.

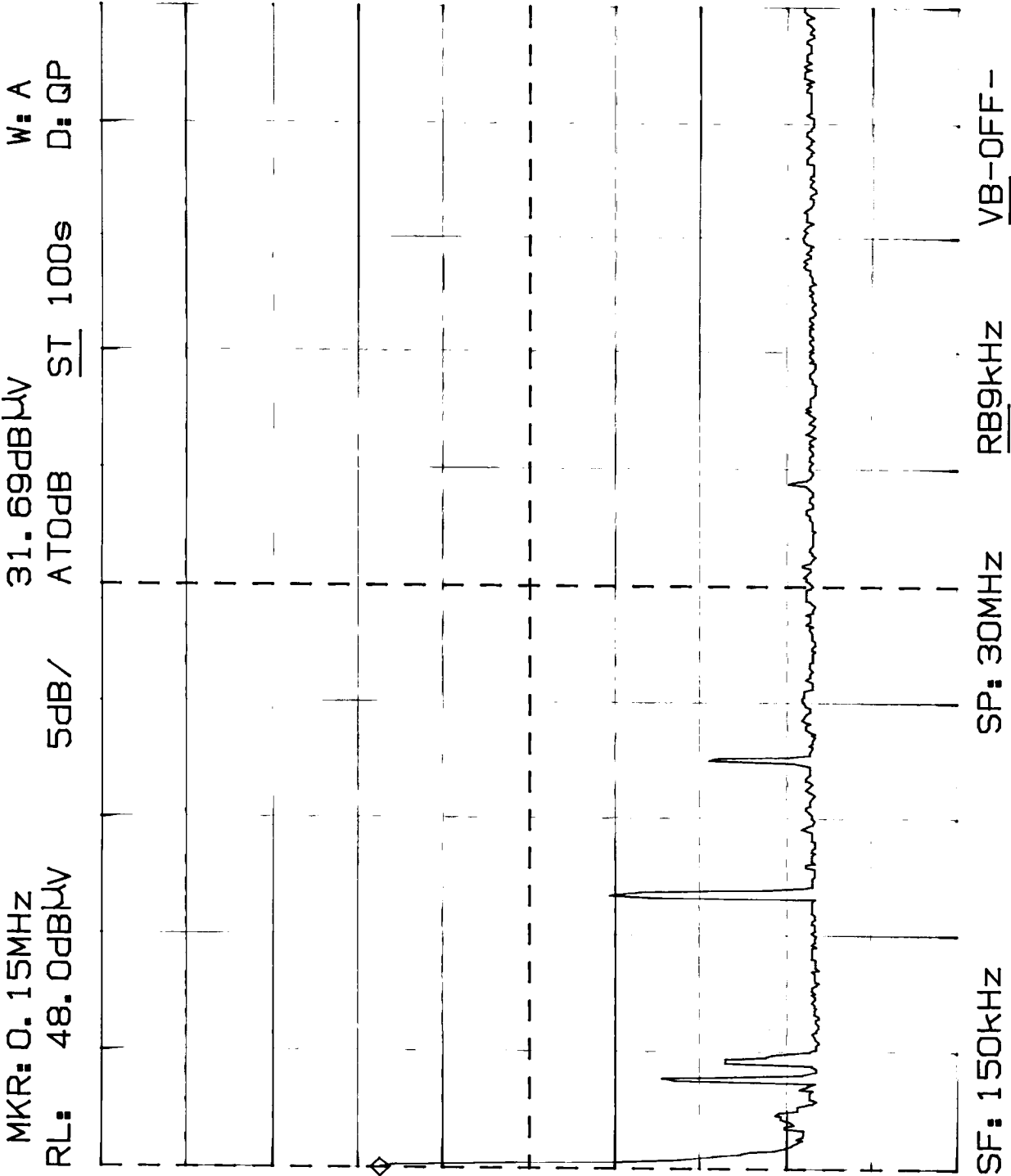
**Test Results:**

Both lines were observed. The measurements indicate that the unit DOES appear to meet the FCC requirements for this class of equipment.

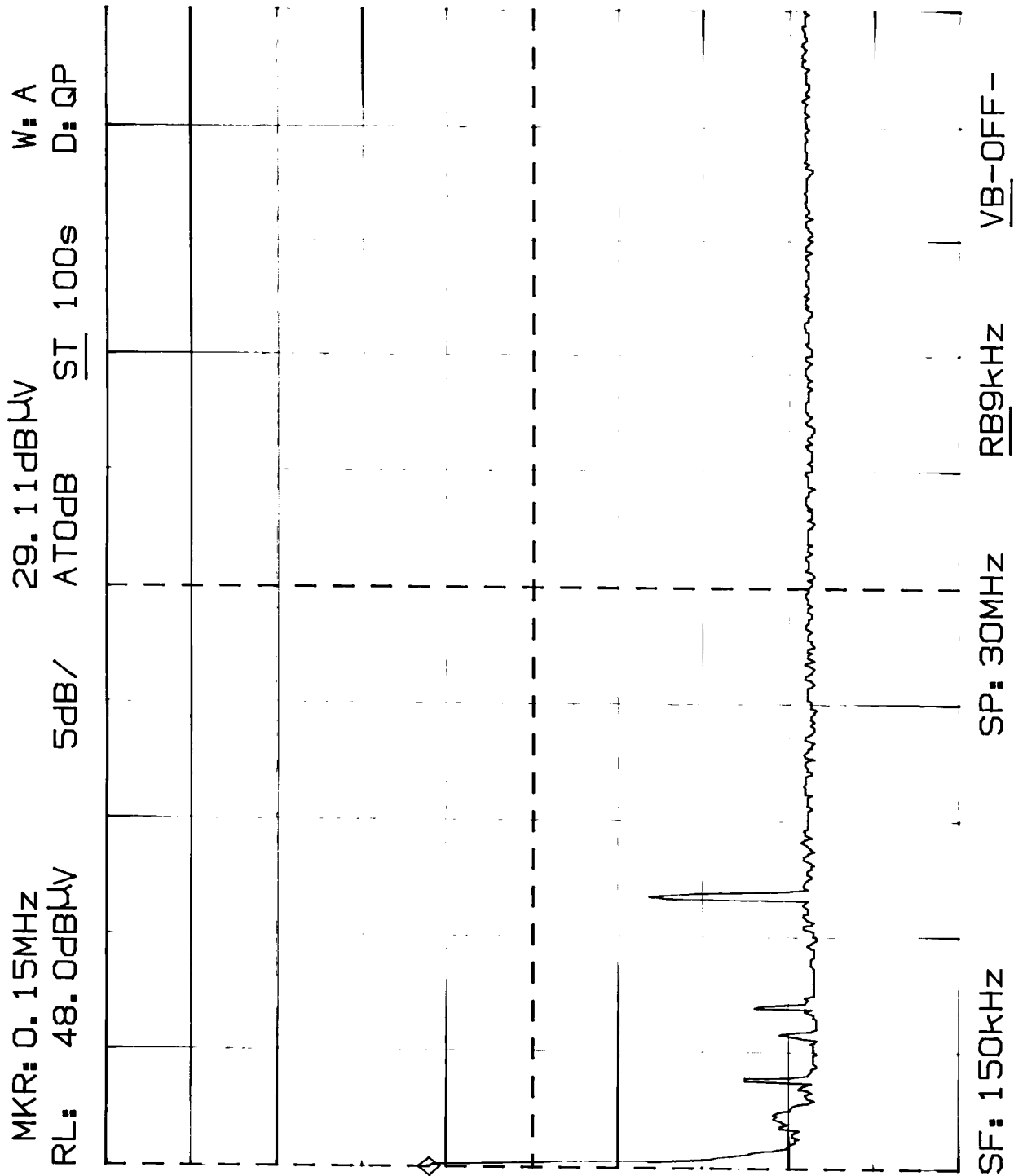
POWER LINE CONDUCTED EMISSIONS  
MODEL 26989XXX-A; LINE (Base)



POWER LINE CONDUCTED EMISSIONS  
MODEL 26989XXX-A; NEUTRAL (Base)

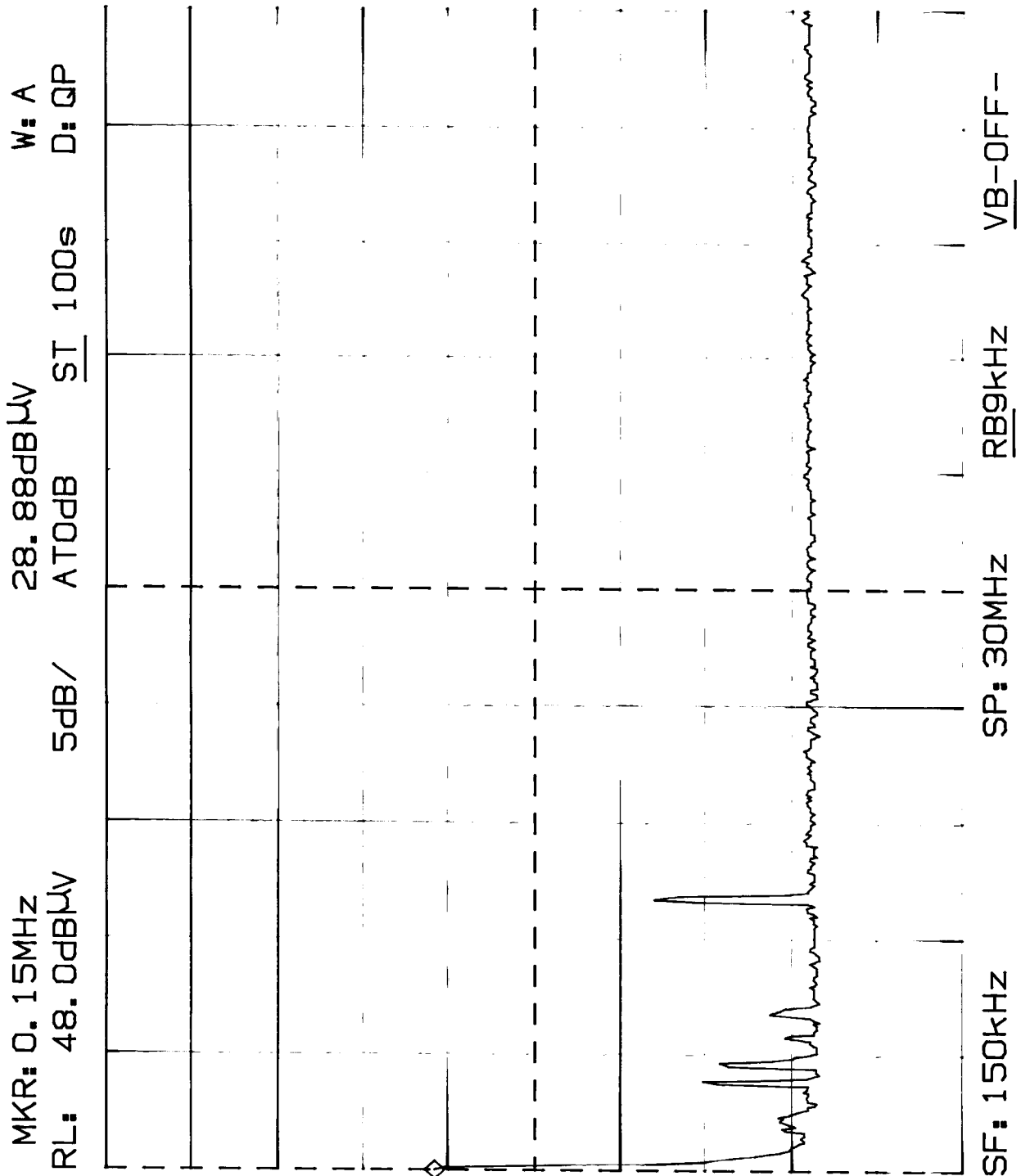


POWER LINE CONDUCTED EMISSIONS  
MODEL 26989XXX-A; LINE (Charger)





POWER LINE CONDUCTED EMISSIONS  
MODEL 26989XXX-A; NEUTRAL (Charger)



**15.249 (a), (b) and (c) FIELD STRENGTH OF EMISSIONS****Requirements:**

Fundamental Frequency		Field Strength of Harmonics	15.209	
902-928 MHz	94dB $\mu$ V	54 dB $\mu$ V/m@ 3m	30-88 MHz	40 dB $\mu$ V/m@ 3m
			88-216 MHz	43.5
			216-960 MHz	46
			Above 960 MHz	54

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation.

Emissions that fall in the restricted bands (15.205) must be less than 54dB $\mu$ V/m

**Procedure**

The test procedure used was ANSI STANDARD C63.4-1992 and DA-00-705 using an appropriate spectrum analyzer, as listed in the Test Equipment List. The bandwidth (RBW) of the spectrum analyzer was 100KHz/120KHz up to 1GHz with an appropriate sweep speed. The RBW above 1.0GHz was = 1.0MHz. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The ambient temperature of the EUT was 24°C with a humidity of 60%.

**Test Data:**

Refer to Exhibit D(1)-10 to -11

**FIELD STRENGTH OF EMISSIONS****Test Data:****BASE UNIT**

<b>Frequency Band MHz</b>	<b>Meter Reading (Peak) @3m dB<math>\mu</math>V/M</b>	<b>Antenna and Polarization</b>	<b>Cable &amp; Antenna Factor</b>	<b>Peak F. S. dB<math>\mu</math>V/M</b>	<b>Average FCC Limit</b>	<b>Margin dB</b>	<b>Detector &amp; BW KHz</b>
<b><u>Transmit</u></b>							
<b>451.40</b>	<b>14.00</b>	<b>LP V</b>	<b>19.10</b>	<b>33.10</b>	<b>46</b>	<b>-12.90</b>	<b>PK100</b>
<b><u>Channel 1</u></b>							
<b>902.80</b>	<b>51.20</b>	<b>RT4 V</b>	<b>33.30</b>	<b>84.50</b>	<b>94</b>	<b>-9.50</b>	<b>PK100</b>
1805.60	15.00	Horn H	33.18	48.18	54	-5.82	PK1000
2708.40	12.00	Horn H	33.92	45.92	54	-8.08	PK1000
3611.20	7.00	Horn H	35.34	42.34	54	-11.66	PK1000
<b><u>Channel 40</u></b>							
<b>904.75</b>	<b>52.80</b>	<b>RT4 V</b>	<b>33.30</b>	<b>86.10</b>	<b>94</b>	<b>-7.90</b>	<b>PK100</b>
1809.50	15.00	Horn H	33.18	48.18	54	-5.82	PK1000
2714.25	12.00	Horn H	33.92	45.92	54	-8.08	PK1000
3619.00	7.0	Horn H	35.34	42.34	54	-11.66	PK1000

1. If the peak meets the average limit, nothing further is required.
2. If the peak exceeds the average limit, then an average measurement is required (may be calculated) and must be below the average limit and also:
3. The peak measurement cannot exceed the average limit +20dB.
4. From 30 - 1000 MHz, the detector was Peak and Bandwidth 100 KHz.
5. Above 1000 MHz, the detector was Peak and Bandwidth 1000 KHz.

**FIELD STRENGTH OF EMISSIONS****Test Data:****HANDSET UNIT**

Frequency Band MHz	Meter Reading (Peak) @3m dB $\mu$ V/M	Antenna and Polarization	Cable & Antenna Factor	Peak F. S. dB $\mu$ V/M	Average FCC Limit	Margin dB	Detector & BW KHz
<b><u>Transmit</u></b>							
462.66	10.00	LP H	20.00	30.00	46	-16.00	PK100
<b><u>Channel 1</u></b>							
925.301	46.50	RT4 V	33.40	79.90	94	-14.10	PK100
1850.602	16.00	Horn V	33.06	49.06	54	-4.94	PK1000
2775.903	11.00	Horn V	34.08	45.08	54	-8.92	PK1000
3701.204	---						
<b><u>Channel 40</u></b>							
927.251	47.70	RT4 V	33.40	81.10	94	-12.90	PK100
1854.502	15.00	Horn V	33.06	48.06	54	-5.94	PK1000
2781.753	10.00	Horn V	34.08	44.08	54	-9.92	PK1000
3709.004	---						

1. If the peak meets the average limit, nothing further is required.
2. If the peak exceeds the average limit, then an average measurement is required (may be calculated) and must be below the average limit and also:
3. The peak measurement cannot exceed the average limit +20dB.
4. From 30 - 1000 MHz, the detector was Peak and Bandwidth 100 KHz.
5. Above 1000 MHz, the detector was Peak and Bandwidth 1000 KHz.

## 15.249 (d) **BAND EDGES**

### **Requirements:**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

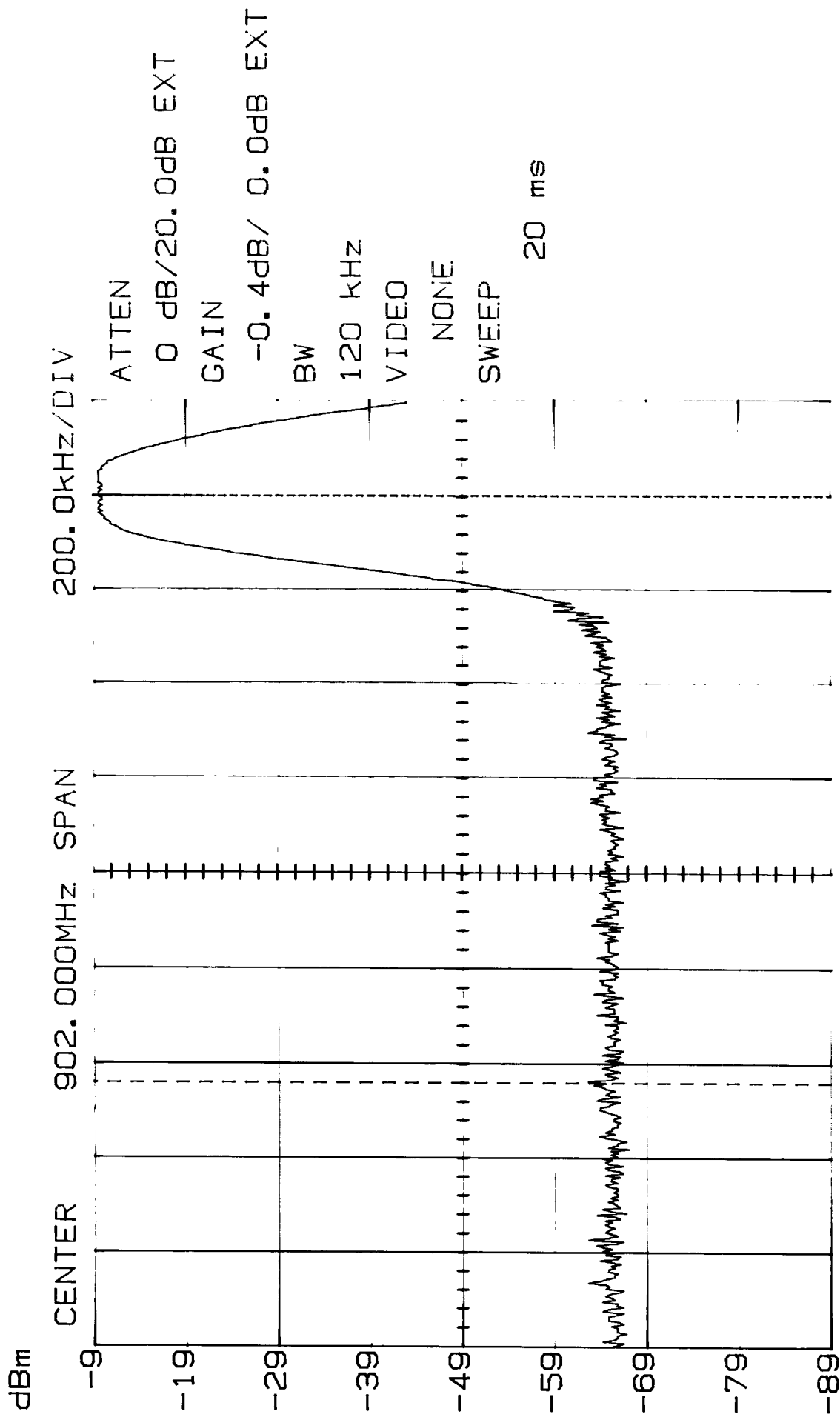
### **Measurement:**

The base was attenuated by 50 dB. The handset was attenuated by 50 dB.

### **Test Data:**

The Bandedge was measured at the Low end of the band for the base, and the High end of the band for the handset. See Plots [Exhibits D(1)-13 to -14].

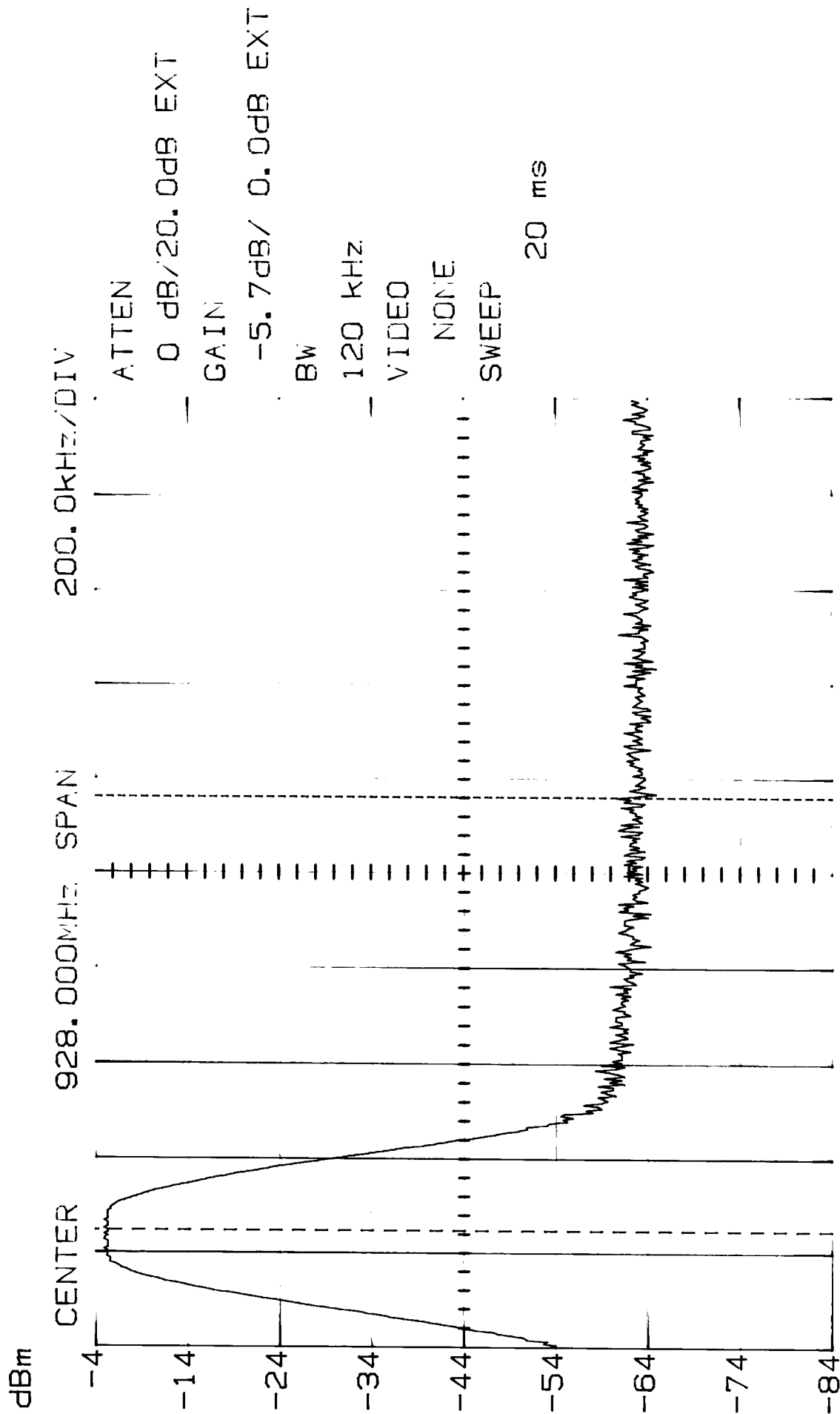
BAND EDGE - Base (CH1)  
MODEL 26989XXX-A



M2 -10.22 dB 902.800 MHz Δ55.00 dB/ 1.237 MHz

10:12:49 07-08-2003

BAND EDGE - Handset (CH40)  
MODEL 26989XXX-A



M1 -5.54 dB 927.251 MHz Δ55.63 dB/ 912.000 kHz

10:23:10 07-08-2003

## 2.202 BANDWIDTH

### Measurement:

The measurements were made with the spectrum analyzer's resolution bandwidth (RBW) = 30KHz (Base and Handset) and the video bandwidth (VBW) = NONE and the span set as shown on plot.

### Test Data:

#### Handset:

Channel 1:     **0.118 MHz** [Refer to Exhibit D(1)-16]  
Channel 40:    **0.119 MHz** [Refer to Exhibit D(1)-17]

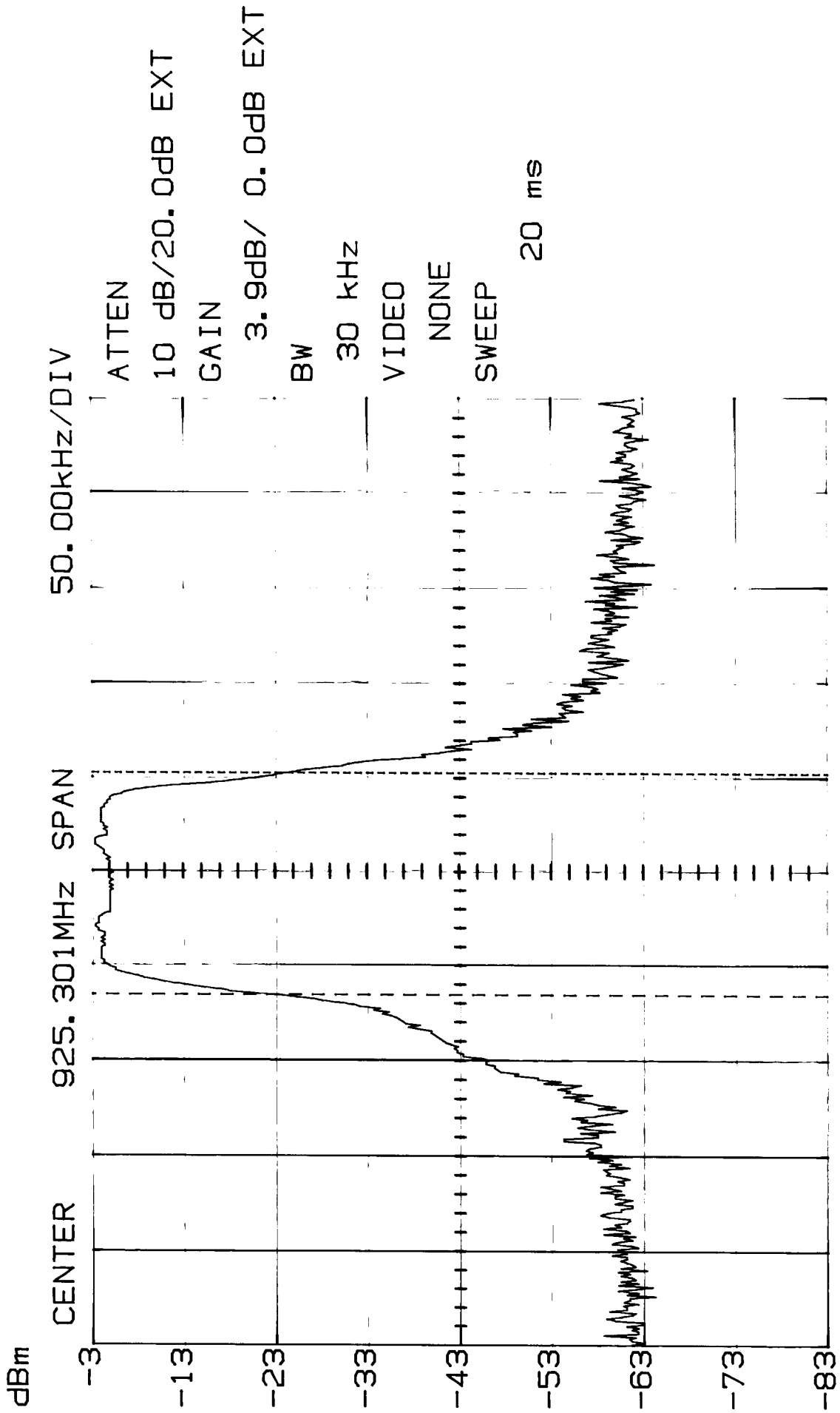
#### Base:

Channel 1:     **0.115 MHz** [Refer to Exhibit D(1)-18]  
Channel 40:    **0.113 MHz** [Refer to Exhibit D(1)-19]

BANDWIDTH =     **0.118 MHz** (Handset)  
                      **0.113 MHz** (Base)



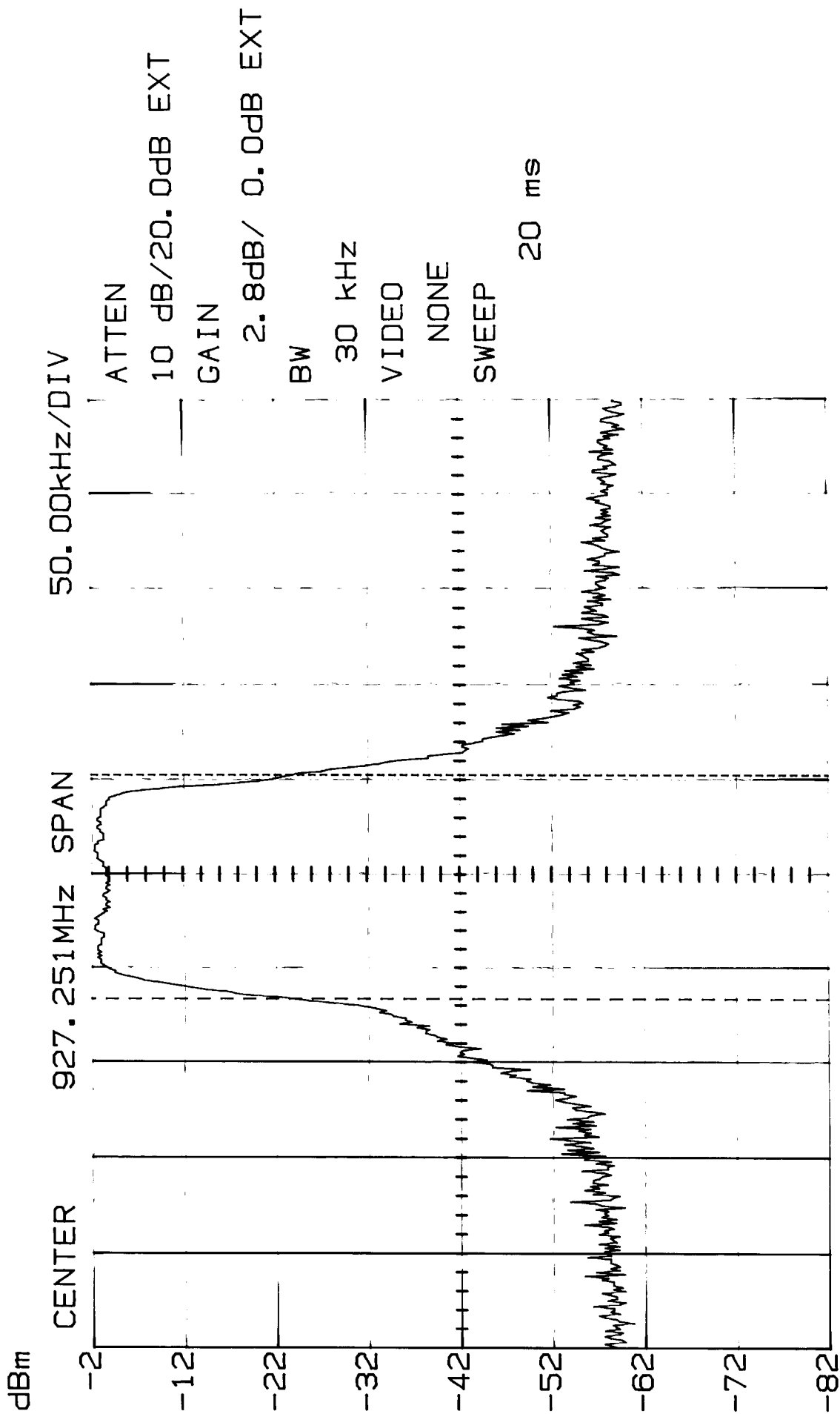
20dB BANDWIDTH  
 Channel 1 - Handset  
 MODEL 26989XXX-A



M2 -24.52dB 925.353MHz Δ 0.00dB/ 118.000kHz

09:41:16 07-08-2003

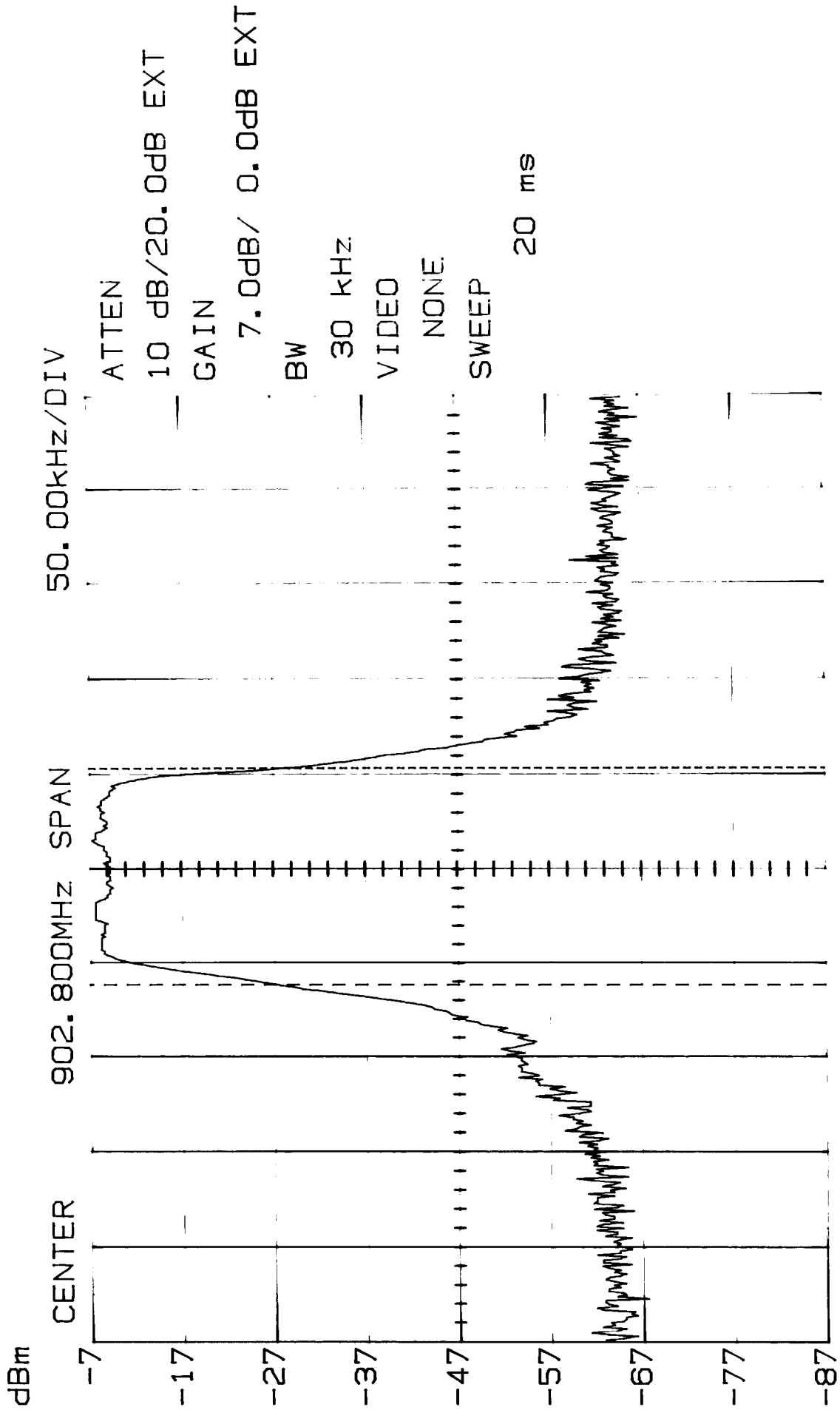
20dB BANDWIDTH  
 Channel 40 - Handset  
 MODEL 26989XXX-A



M2 -24.36dB 927.303MHz Δ 0.62dB/ 119.000kHz

09:46:16 07-08-2003

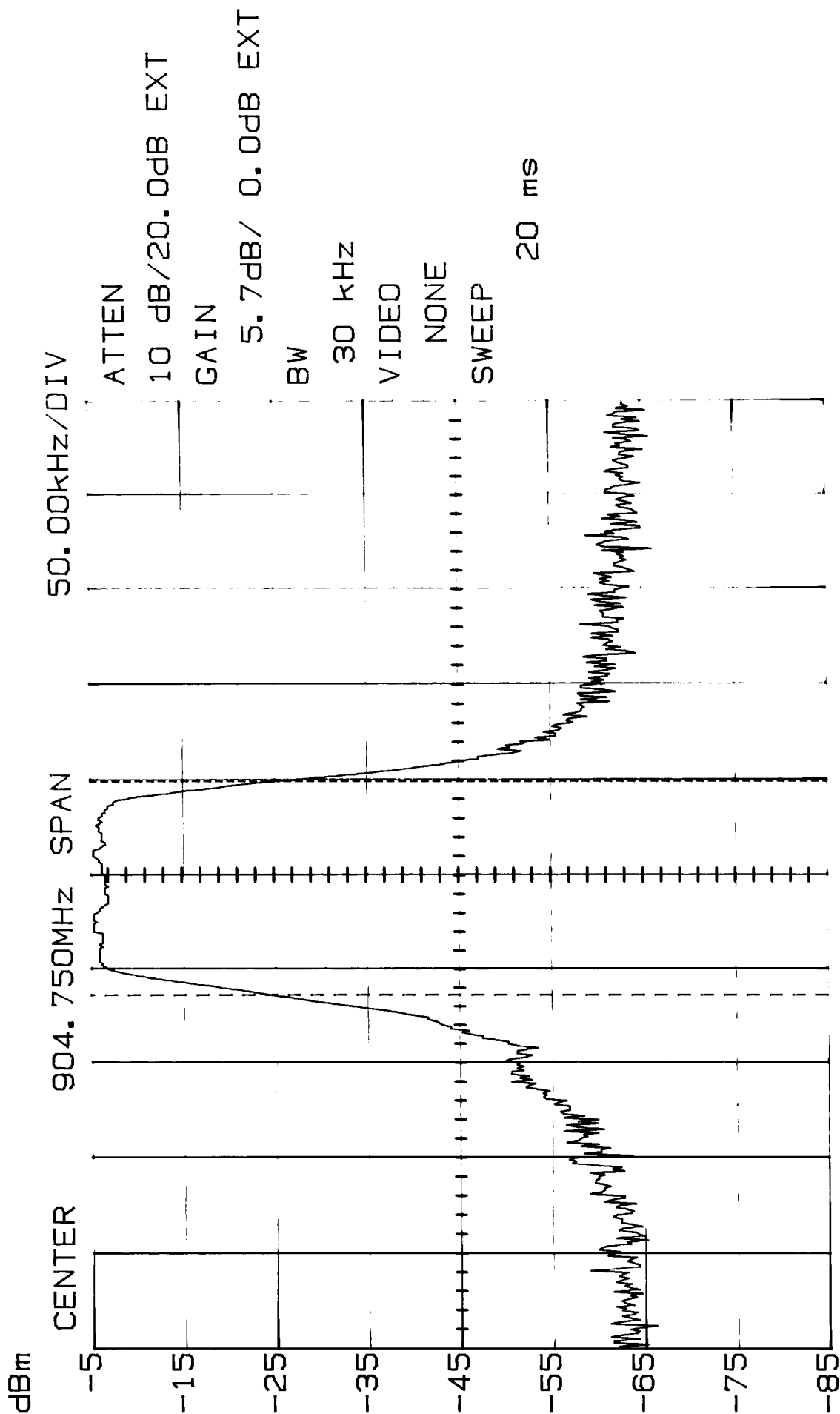
20dB BANDWIDTH  
Channel 1 - Base  
MODEL 26989XXX-A



M2 -27.31dB/902.853MHz Δ 0.31dB/ 115.000kHz

10:06:05 07-08-2003

20dB BANDWIDTH  
 Channel 40 - Base  
 MODEL 26989XXX-A



M2 -25.07dB 904.799MHz Δ 0.31dB/ 113.000kHz

10:01:10 07-08-2003