

SECTION 1**RF POWER OUTPUT**

2.1046_ The RF Power measured at the output terminals:

OWDTR-0006-E

3 Watts

Method: The measurement was made per TIA/EIA-603 using the following equipment::

A 50 ohm load is attached to the output terminal through a directional coupler.. The power is measured on a HP436A power meter.

SECTION 2**MODULATION CHARACTERISTICS**

Ref. Par. 2.1047 the frequency and amplitude response to audio inputs measured per TIA/EIA 603 are shown on the following sheet

Page 3&4 Audio Frequency Response(25 kHz)

Page 5&6_Modulation Characteristics (25kHz)

Equipment used was:

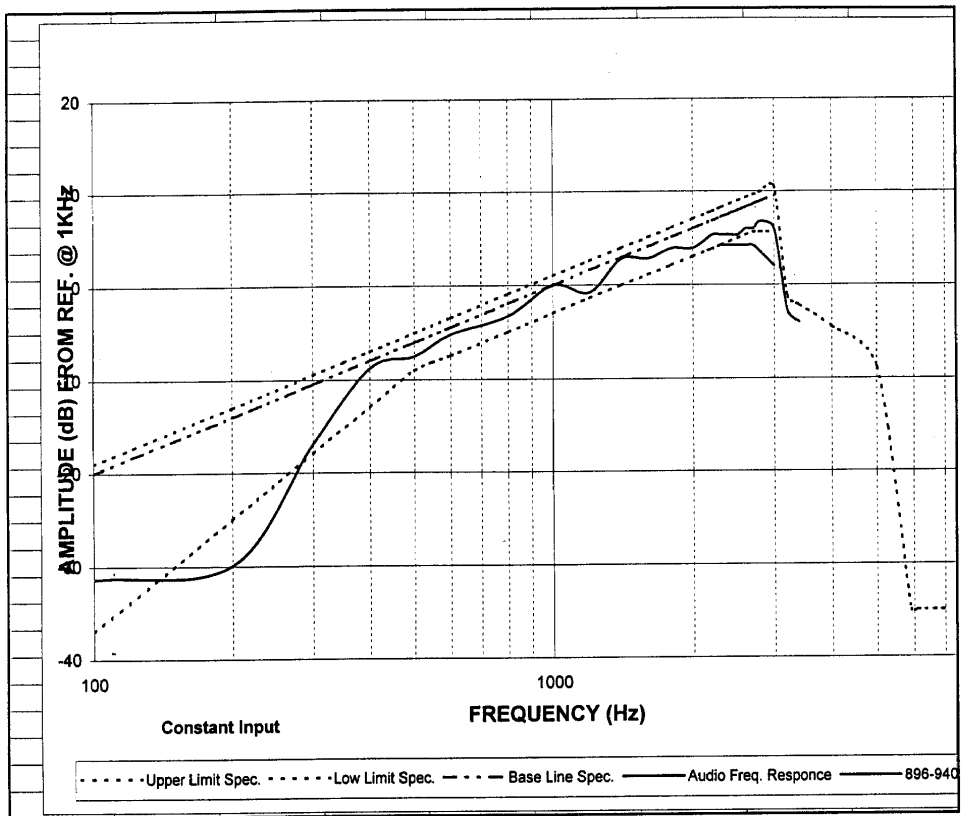
Marconi Instruments Ltd. FM/AM Modulation Meter TF2300B

Hewlett Packard Audio Signal Generator 204D

Hewlett Packard Distortion Analyzer 333A

At those modulation frequencies at which the transmitter is not capable of producing 30% of system deviation, audio response is calculated from measurement of input voltage producing a lesser deviation.

Chart



AUDIO FREQUENCY RESPONSE

A	B	C	D	E	F
1	Audio Frequency Response				
2	AXATR-403-A2	25 KHz Channel Spacing			
3					
4	Enter Data				
5	FREQ	AFR	UPPER SPEC	BASE LINE	LOWER SPEC
6	100	-31.36	-19.00	-20.00	-37.00
7	200	-29.91	-12.96	-13.98	-24.96
8	300	-16.89	-9.46	-10.46	-17.92
9	400	-8.76	-6.96	-7.96	-12.92
10	500	-7.51	-5.02	-6.02	-9.02
11	600	-5.21	-3.44	-4.44	-7.44
12	800	-3.26	-0.94	-1.94	-4.94
13	1000	0.00	1.00	0.00	-3.00
14	1200	-0.83	2.58	1.58	-1.42
15	1400	2.74	3.92	2.92	-0.08
16	1600	2.80	5.08	4.08	1.08
17	1800	3.88	6.11	5.11	2.11
18	2000	3.92	7.02	6.02	3.02
19	2200	5.33	7.85	6.85	3.85
20	2300	5.32	8.23	7.23	4.23
21	2400	5.36	8.60	7.60	4.20
22	2500	5.33	8.96	7.96	4.20
23	2600	6.00	9.30	8.30	4.20
24	2700	6.00	9.63	8.63	4.20
25	2800	6.75	9.94	8.94	3.50
26	3000	6.00	10.54	9.54	2.00
27	3200	-2.74	-1.20		
28	3400	-3.99	-2.20		
29	4000		-4.50		
30	5000		-8.90		
31	5900		-35.00		
32	6100		-35.00		
33	7000		-35.00		
34	10000				-35
35	FORMULA AUDIO FREQ. RESPONSE				
36	20 LOG 10[DEV FREQ / DEV REF]				

896-940 MHz rolloff

4.20

4.20

4.20

4.20

4.20

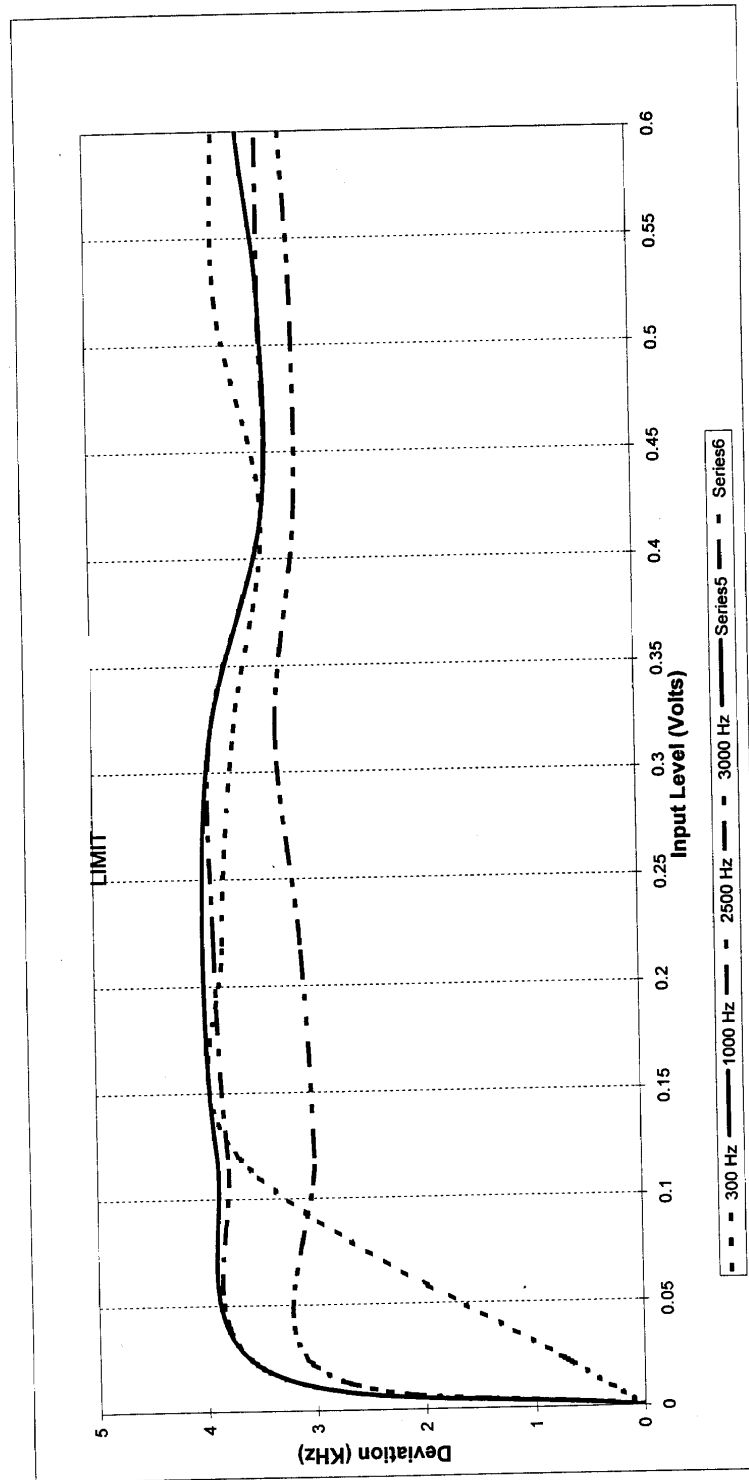
3.50

2.00

AXATR-403-A2

Modulation Limiting

9/16/99



**Modulation Limiting
Curve Data**

A	B	C	D	E	F	G	H
Modulation Limiting Curves							
1							
2		25 KHz CH SPC					
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SECTION 3**OCCUPIED BANDWIDTH**

Per 2.1049 the measurements were made per TIA/EIA 603.

Page	Description
9-12	25 kHz, 50 & 150 kHz spans, Voice
13,14	25 kHz, 50 & 150 kHz spans, Data
15-18	25 kHz, 50 & 150 kHz spans, talkaround Voice, Data
20-23	NPSPAC, 50 & 150 kHz spans, Voice
24,25	NPSPAC, 50 & 150 kHz spans, Data

SECTION 3

OCCUPIED BANDWIDTH

(FOR 25 kHz CHANNELIZATION)

Method of Measurement Per 2.1049 Data on Occupied Bandwidth is presented in the form of a spectrum analyzer plot which illustrates the transmitter sidebands. A plot is taken of the carrier sideband modulated with a 2500 Hz tone at a level 16 dB greater than that required to produce 50 percent modulation. (The spectrum analyzer grid indicates the reference level of the carrier unmodulated in all exhibits.)

SECTION 3 Page 9-12
Telephony

$$B_n = 2M + 2DK \text{ where}$$

$$M = 3000 \text{ Hz}$$

$$D = 4000 \text{ Hz}$$

$$K = 1(\text{assumed})$$

$$B_n = 14000$$

Therefore, Emission Designator = 14K0F3E

SECTION 3 Page 13,14
Data, Digital Voice

$$B_n = 2(B/2) + 2DK \text{ where}$$

$$B = 9600 \text{ Hz}$$

$$D = 3000 \text{ Hz}$$

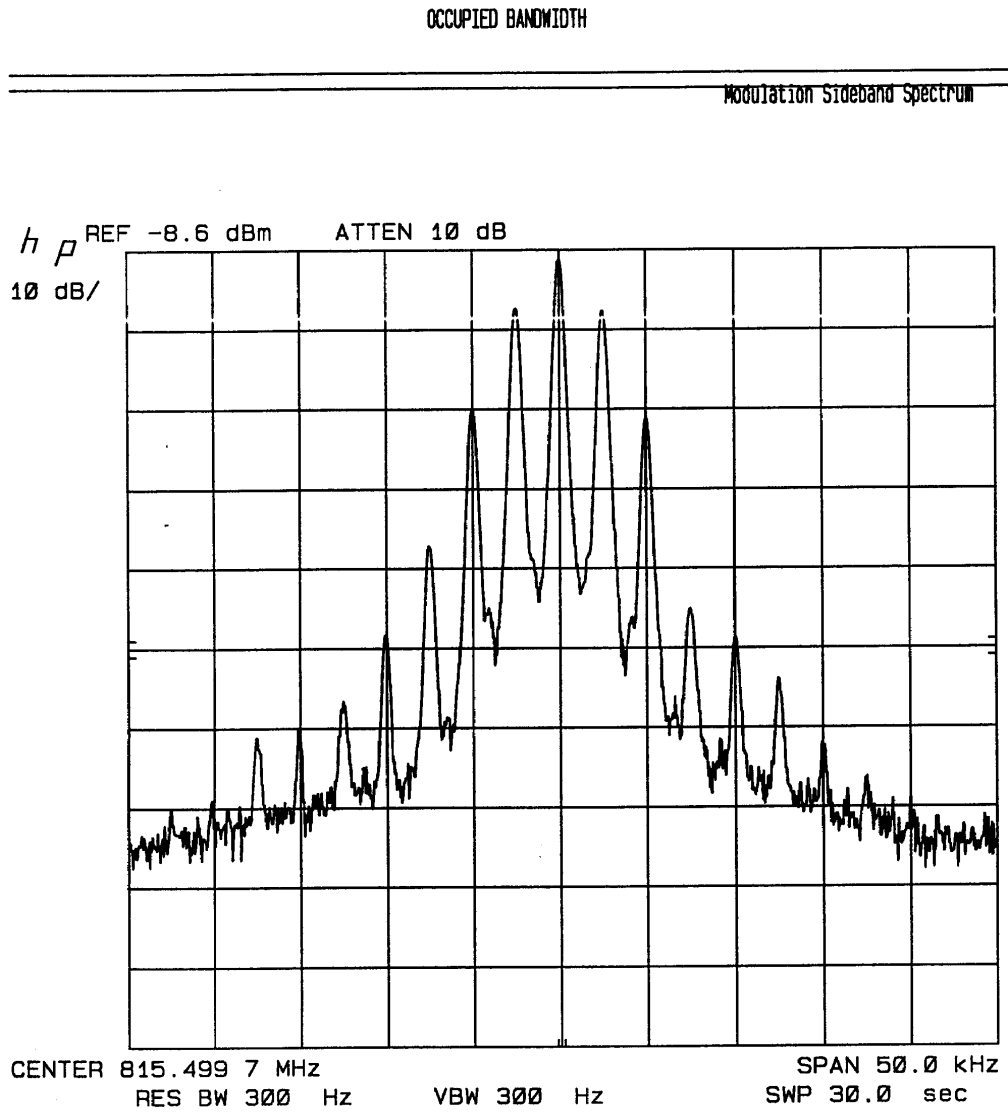
$$K = 1(\text{assumed})$$

$$B_n = 15600$$

Therefore, Emission Designators are,

15K6F1D

15K6F1E



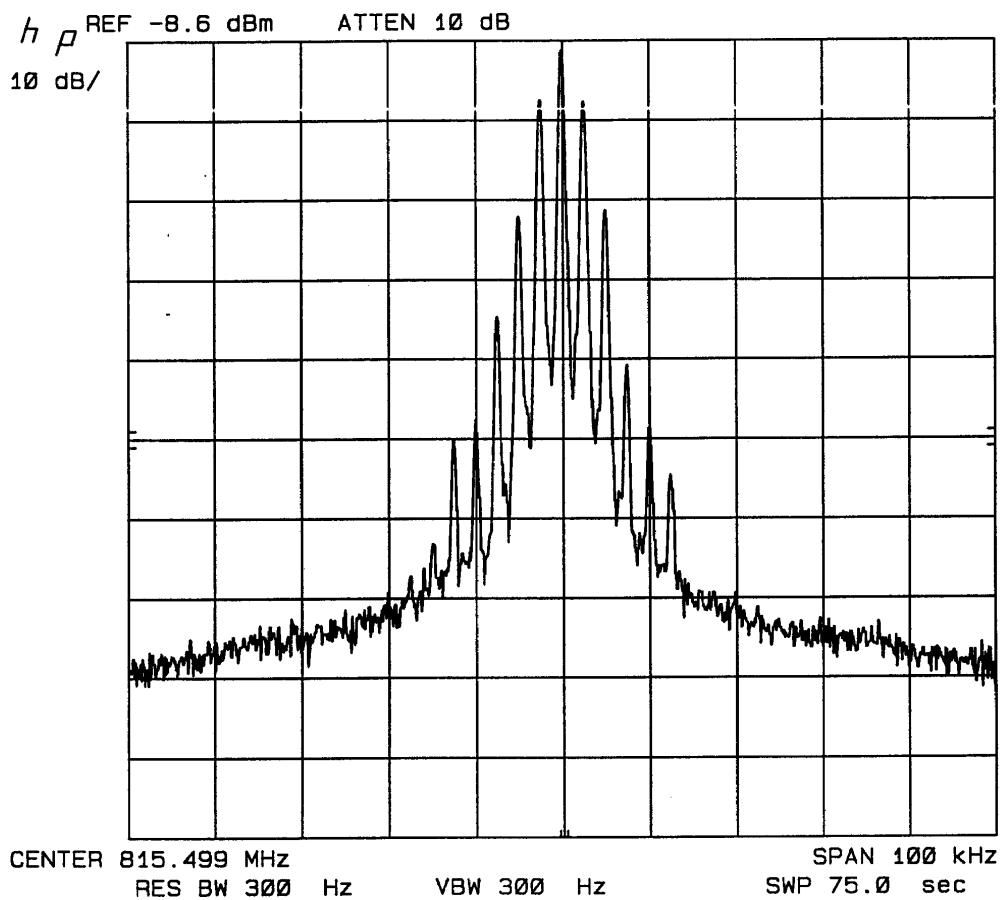
Referenced to the Unmodulated Carrier

Modulated with 2500 HZ 50% DEV

Analyzer: Vertical = 10 dB/Div.

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier

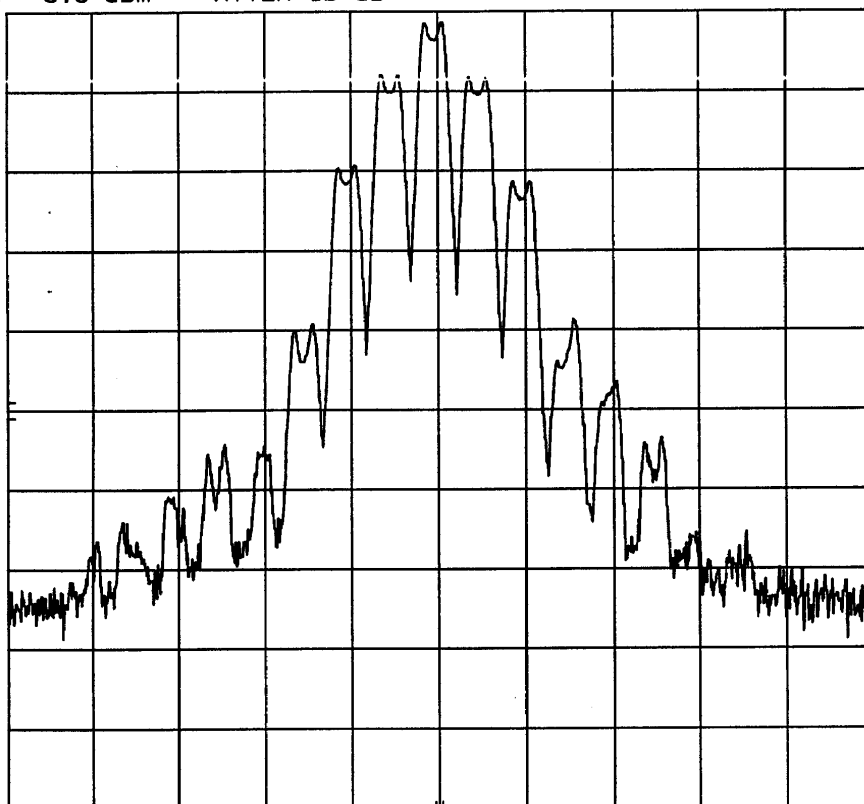
Modulated with 2500 HZ 50% DEV

Analyzer: Vertical = 10 dB/Div.

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum

h_p REF -8.6 dBm ATTEN 10 dB
10 dB/



CENTER 815.499 7 MHz

SPAN 50.0 kHz

RES BW 300 Hz

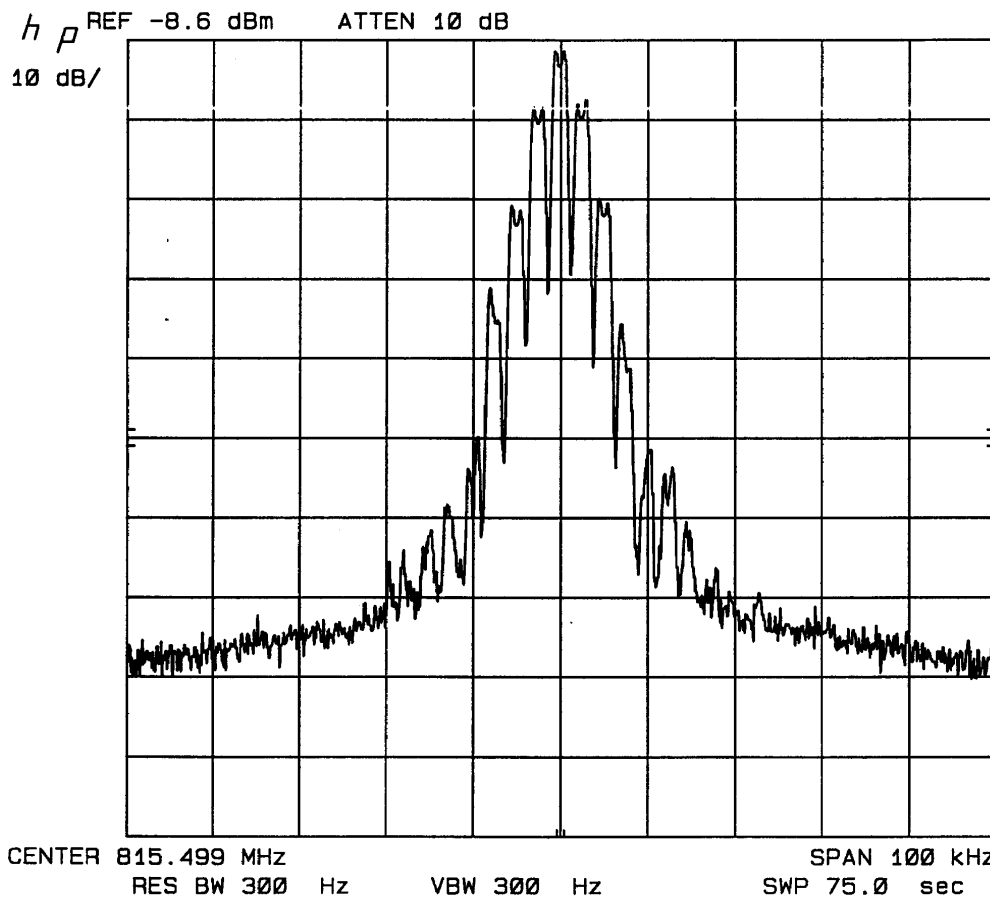
VBW 300 Hz

SWP 30.0 sec

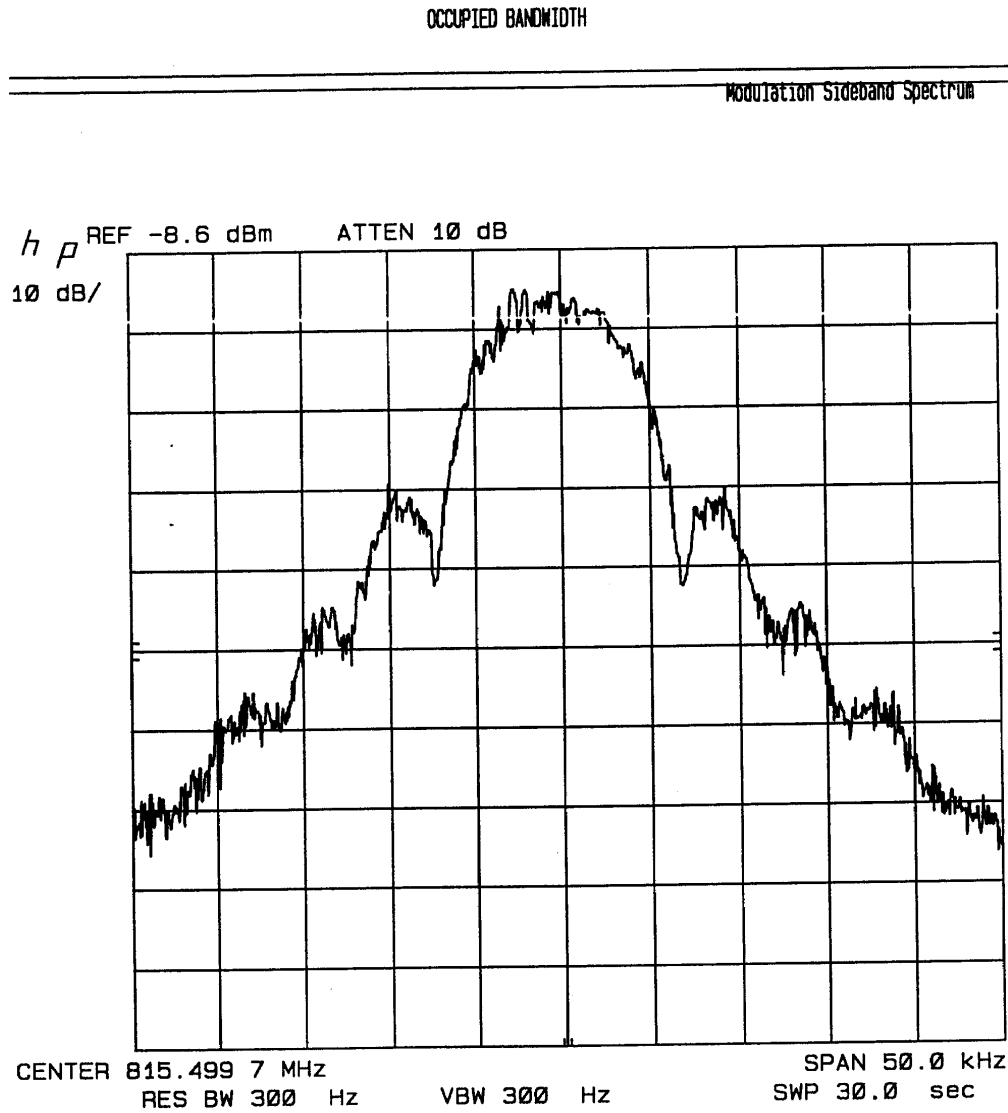
Referenced to the Unmodulated Carrier
Modulated with 2500 Hz 50% DEV + 150 BPS
Analyzer: Vertical = 10 dB/Div.

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier
Modulated with 2500 Hz 50% DEV + 150 BPS
Analyzer: Vertical = 10 dB/Div.

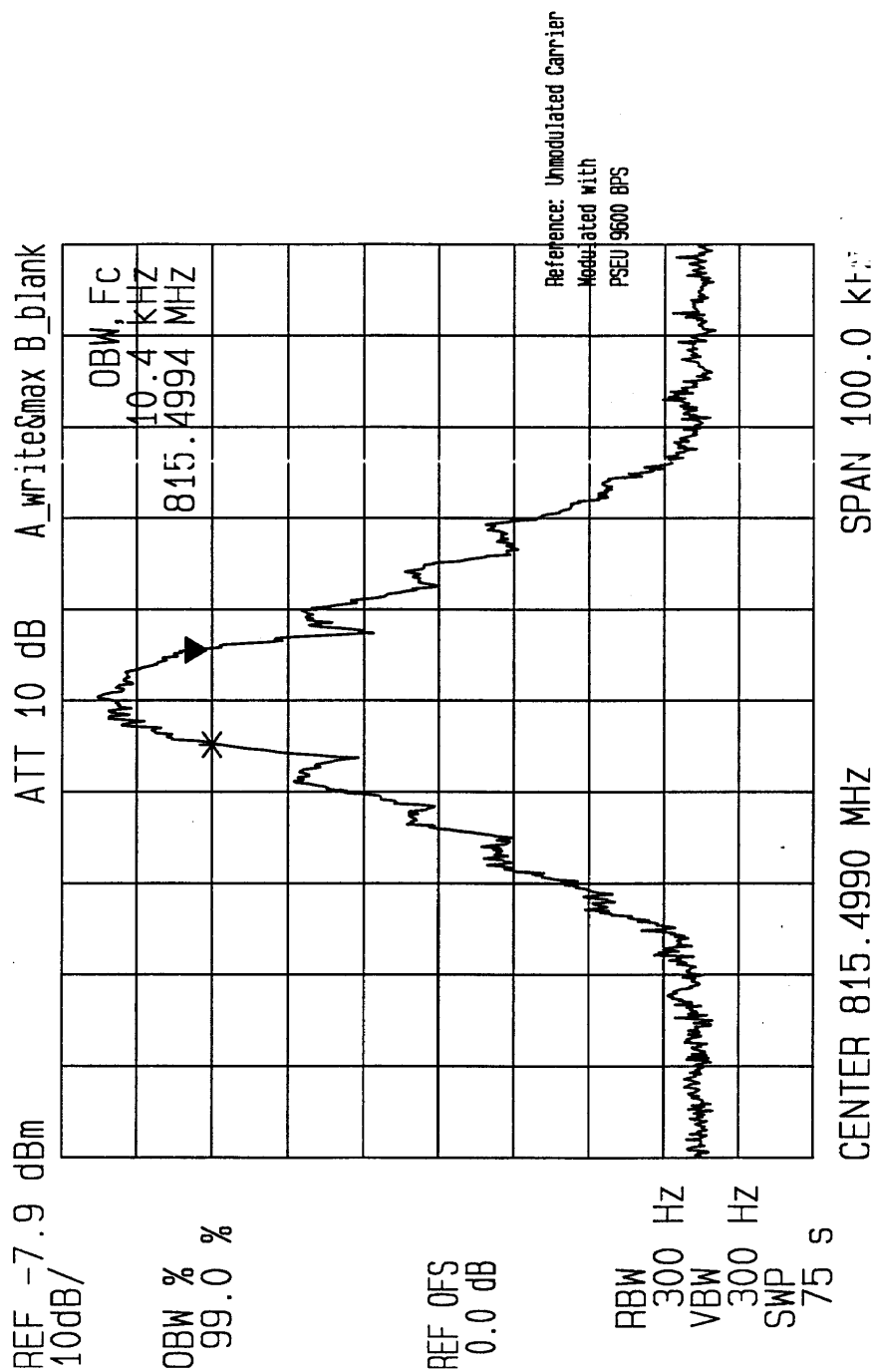


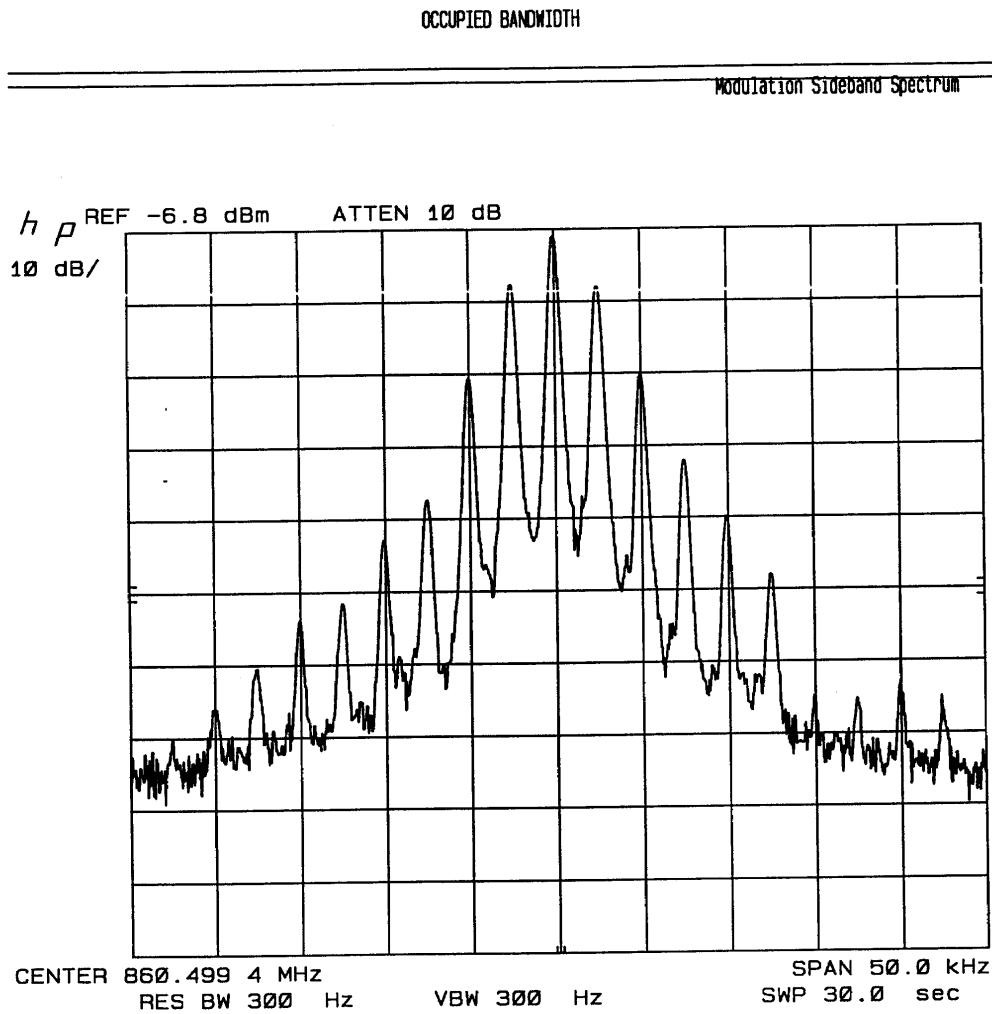
Referenced to the Unmodulated Carrier

Modulated with PSEU 9600 BPS

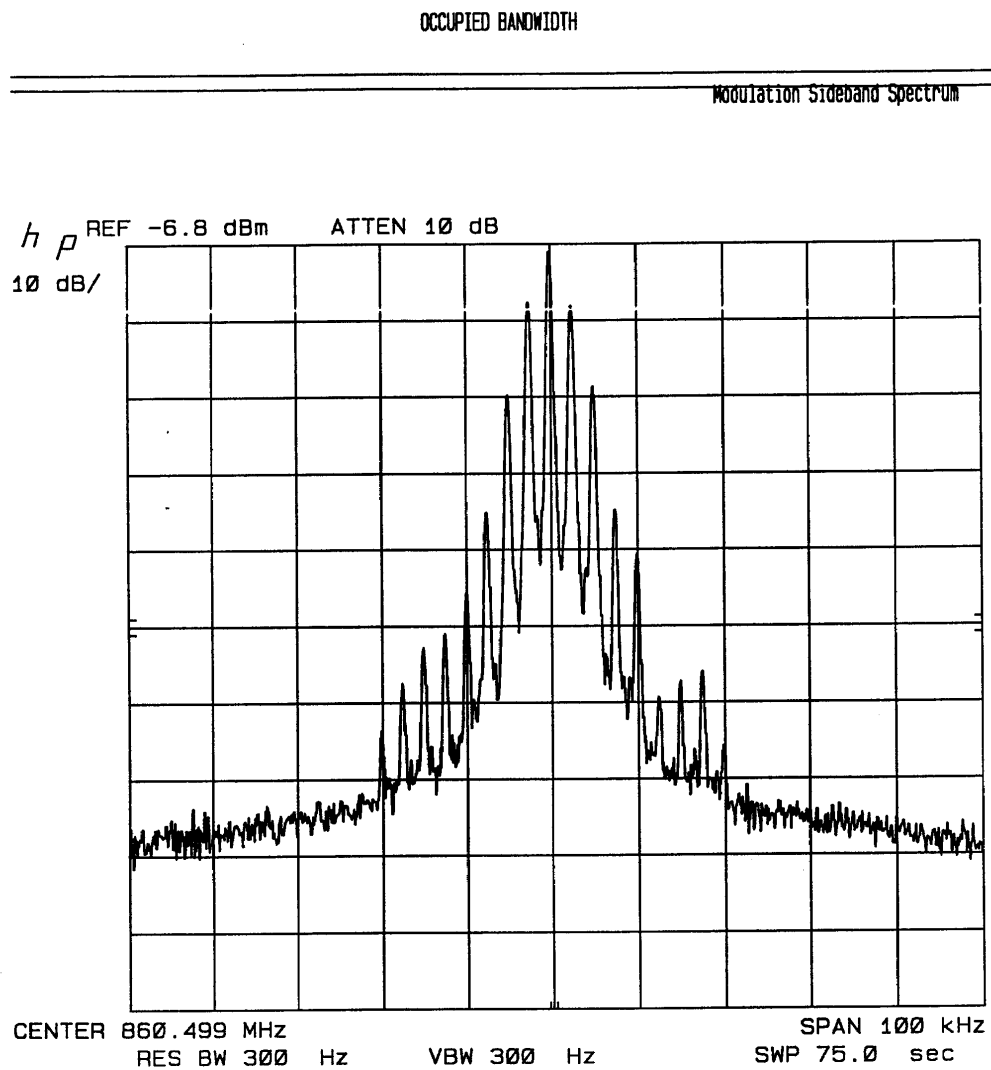
Analyzer: Vertical = 10 dB/Div.

OCCUPIED BANDWIDTH Modulation Sideband Spectrum

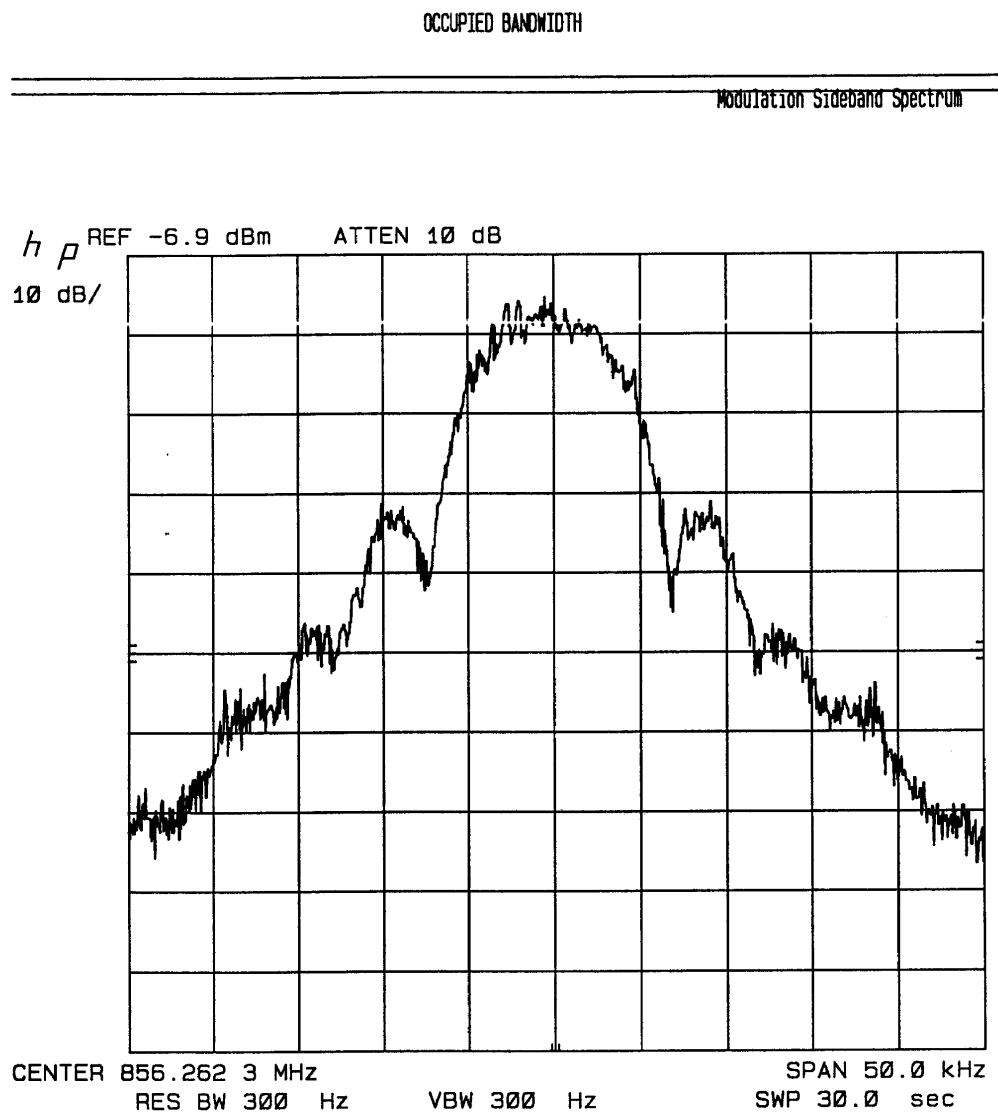




Referenced to the Unmodulated Carrier
Modulated with TALK -A-ROUND 2500 Hz 50% DEV
Analyzer: Vertical = 10 dB/Div.



Referenced to the Unmodulated Carrier
Modulated with TALK-A-ROUND 2500 Hz 50% DEV
Analyzer: Vertical = 10 dB/Div.

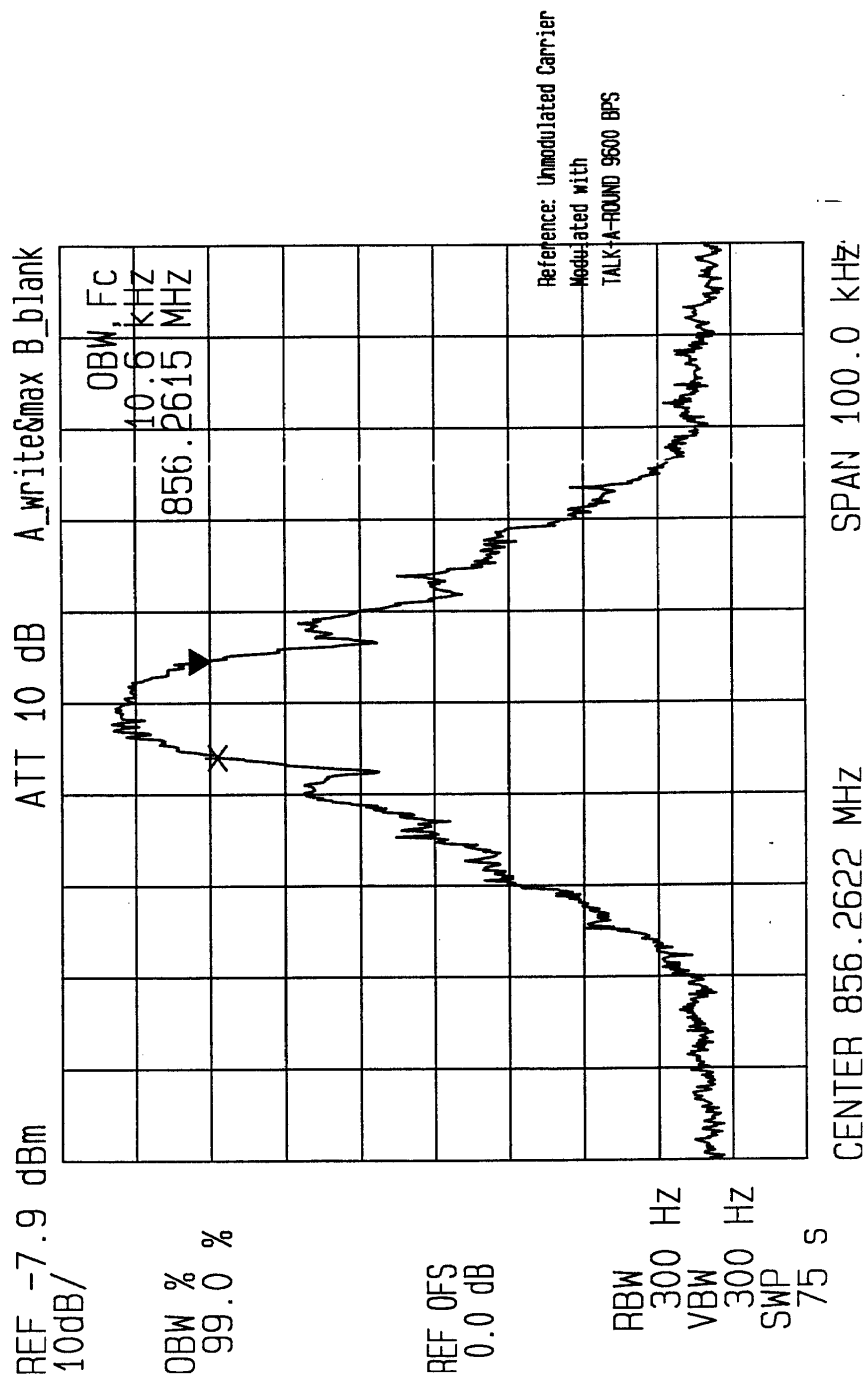


Referenced to the Unmodulated Carrier

Modulated with TALK-A-ROUND 9600 BPS

Analyzer: Vertical = 10 dB/Div.

OCCUPIED BANDWIDTH Modulation Sideband Spectrum



SECTION 3**OCCUPIED BANDWIDTH**

(FOR NPSPAC CHANNELIZATION)

Method of Measurement Per 2.1049 Data on Occupied Bandwidth is presented in the form of a spectrum analyzer plot which illustrates the transmitter sidebands. A plot is taken of the carrier sideband modulated with a 2500 Hz tone at a level 16 dB greater than that required to produce 50 percent modulation. (The spectrum analyzer grid indicates the reference level of the carrier unmodulated in all exhibits.)

Section 3, Page 20-23
Voice

$$B_n = 2M + 2DK \text{ where}$$

$$M = 3000 \text{ Hz}$$

$$D = 3500 \text{ Hz}$$

$$K = 1 \text{ (assumed)}$$

$$B_n = 13000 \text{ Hz}$$

Therefore, Emission Designator = 13K0F3E

Section 3, Page 24,25
Data

$$B_n = 2(B/2) + 2DK \text{ where}$$

$$B = 9600 \text{ bps}$$

$$D = 2600 \text{ bps}$$

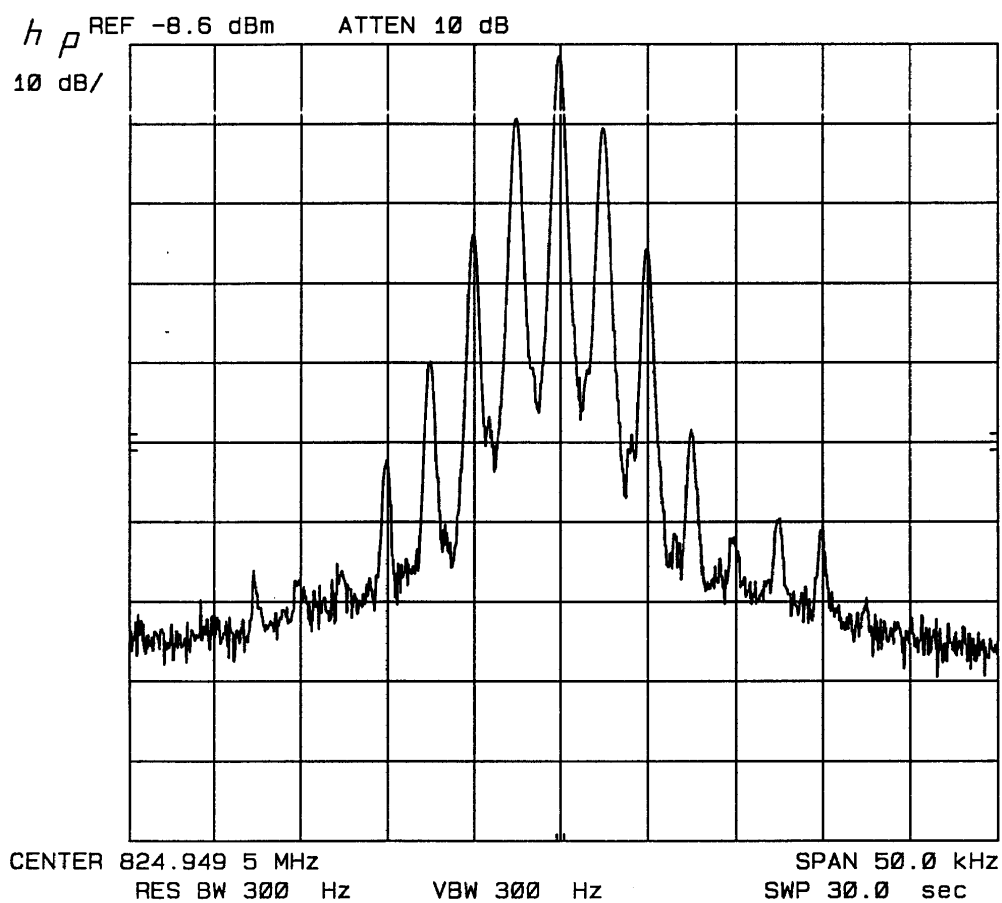
$$K = 1 \text{ (assumed)}$$

$$B_n = 14800 \text{ Hz}$$

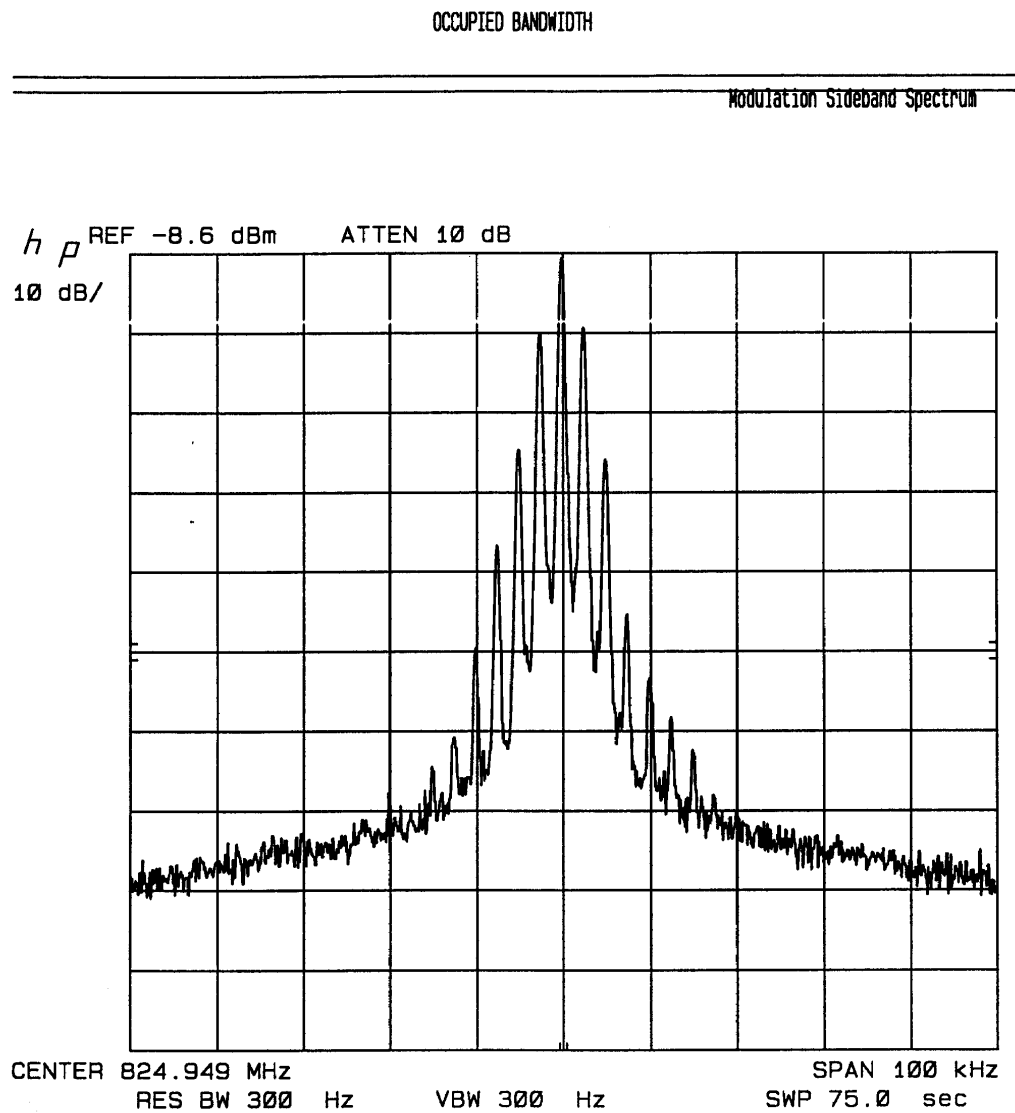
Therefore, Emission Designator=14K8F1D, 14K8F1E

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



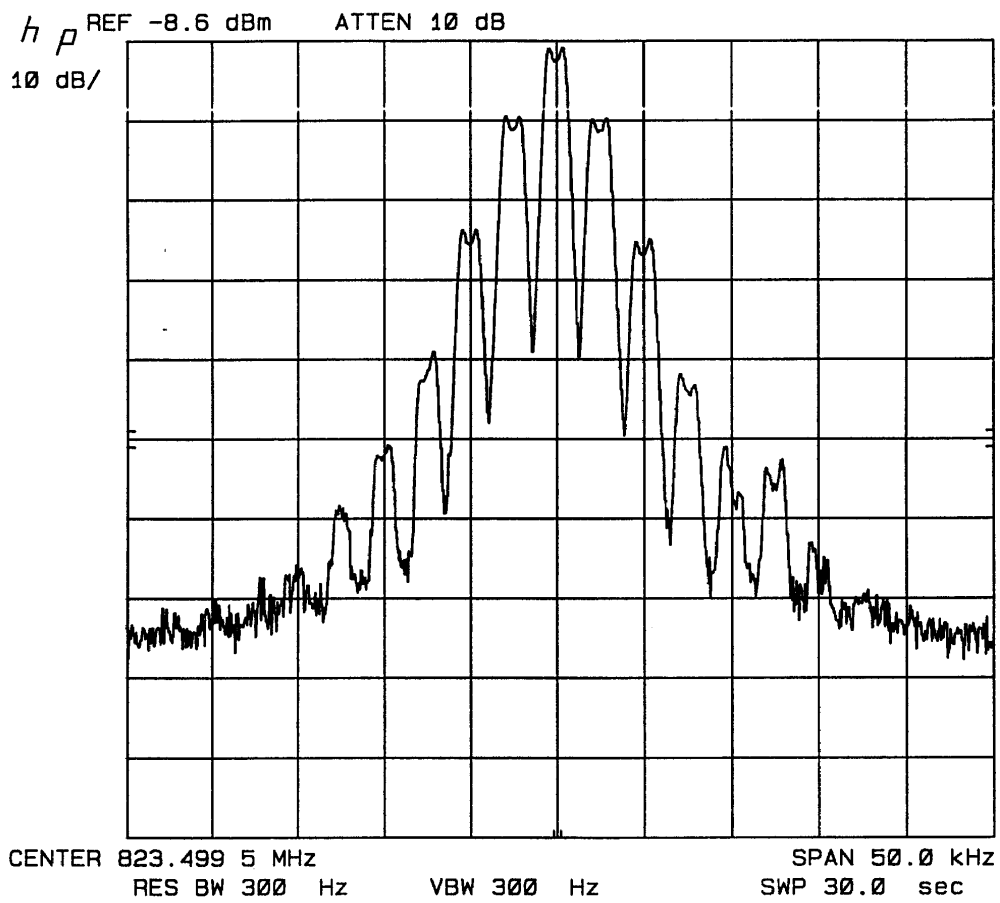
Referenced to the Unmodulated Carrier
Modulated with NPSPAC 2500 Hz 50% DEV
Analyzer: Vertical = 10 dB/Div.



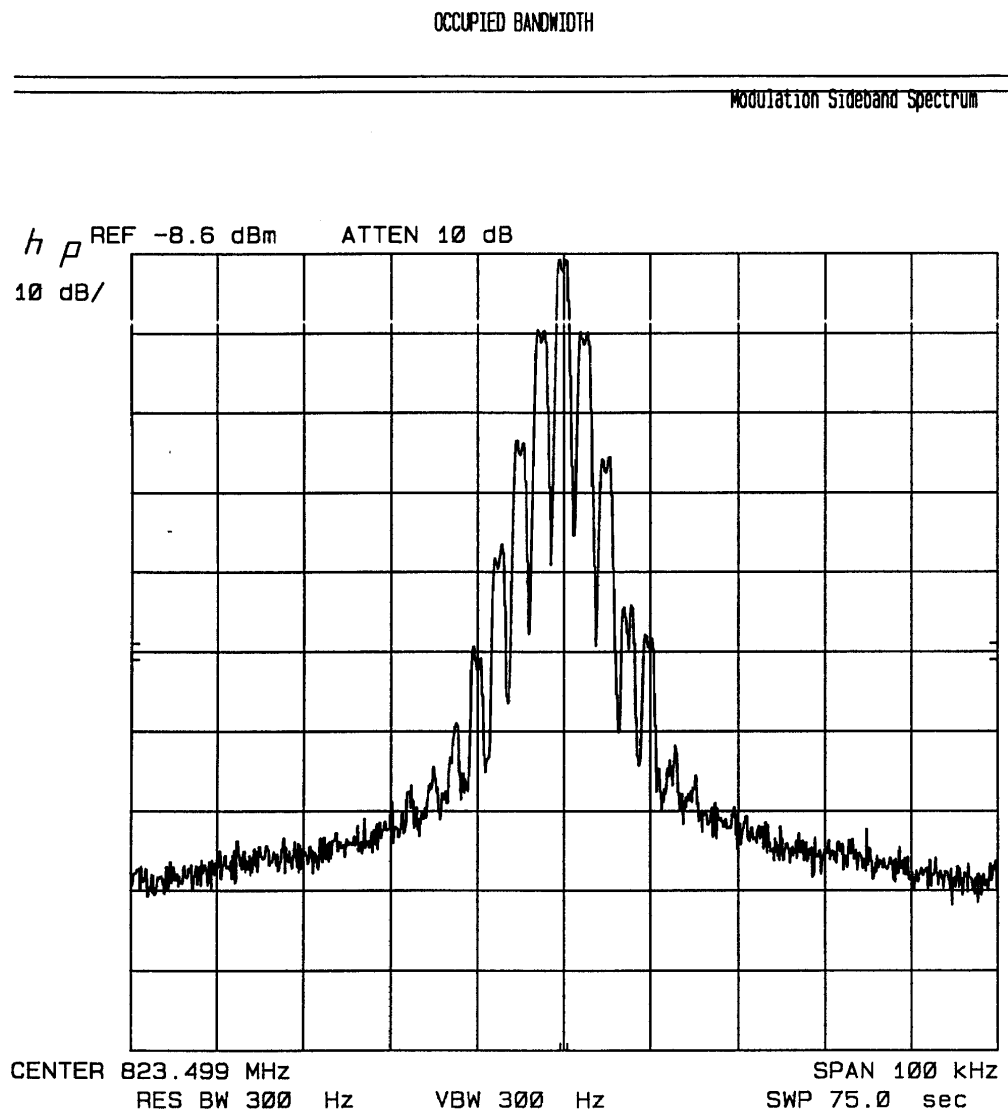
Referenced to the Unmodulated Carrier
Modulated with NPSPAC 2500 Hz 50% DEV
Analyzer: Vertical = 10 dB/Div.

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier
Modulated with NPSAC 2500 Hz 50% DEV 150 BPS
Analyzer: Vertical = 10 dB/Div.

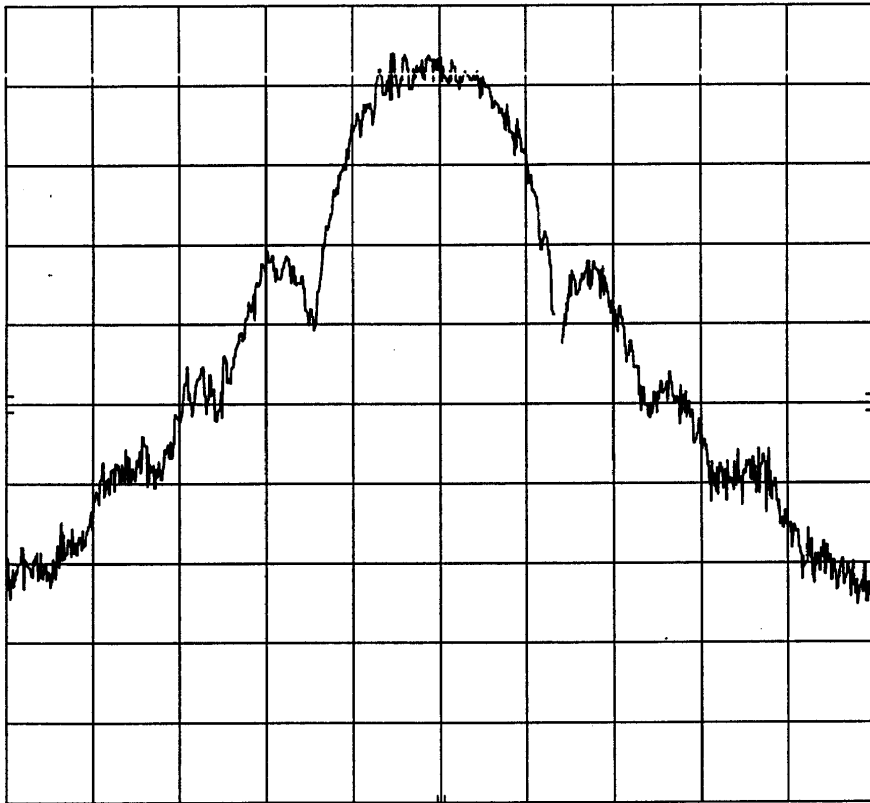


Referenced to the Unmodulated Carrier
Modulated with NPSPAC 2500 HZ 50% DEV 150 BPS
Analyzer: Vertical = 10 dB/Div.

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum

h_p REF -8.6 dBm ATTEN 10 dB
10 dB/



CENTER 824.949 8 MHz

RES BW 300 Hz

VBW 300 Hz

SPAN 50.0 kHz

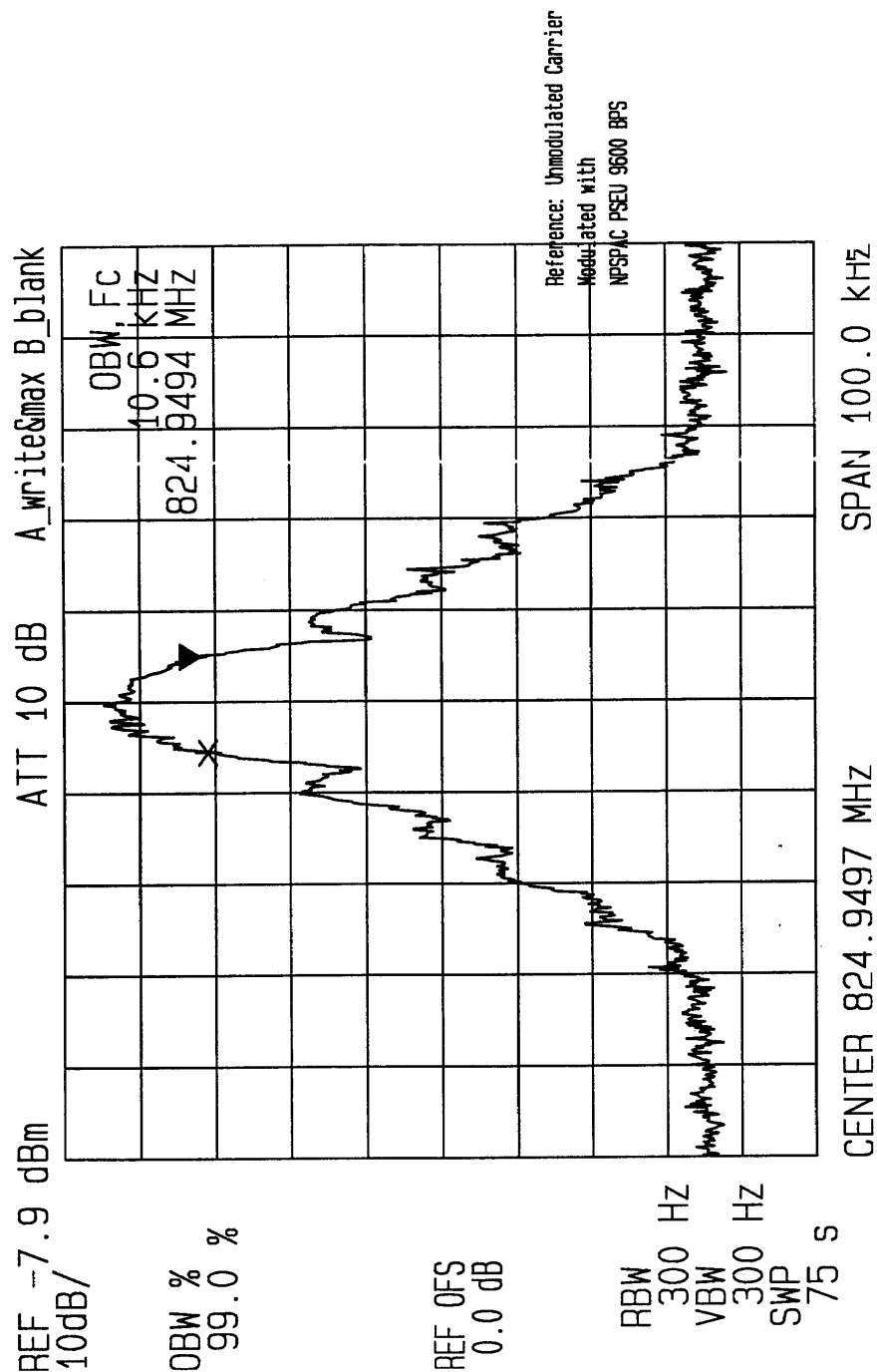
SWP 30.0 sec

Referenced to the Unmodulated Carrier

Modulated with NPSPAC PSEU 9600 BPS

Analyzer: Vertical = 10 dB/Div.

ERICSSON INC. OCCUPIED BANDWIDTH Modulation Sideband Spectrum



SECTION 4**SPURIOUS EMISSIONS**

Reference 2.1051 spurious emissions at the antenna terminals when properly loaded with an appropriate artificial antenna were measured per TIA/EIA 603.

Results are as shown in the following Sections

Tx Conducted Emissions		
Page	Frequency Mhz	Power in Watts
27	806.25 869.95	1&3

Equipment used was:

Rohde & Schwarz ESMI

Reference 2.1053 field strength of spurious radiation was measured on our three meter range. The site and equipment are described in the site description and attenuation measurements for the Ericsson Inc. three meter radiation site filed with the FCC in Columbia, Maryland, in June of 1990 and with the Industry Canada in May of 1999. The measurement procedure is per TIA/EIA 603, but done on a three meter test site. Results are shown on the following exhibits

Tx Radiated Emissions		
Page	Frequency	Power in Watts
28	806.25 869.95	1&3

*SAME AS FOR 25 OR 12.5 kHz modes.

Transmitter Conducted

LIMITS: FCC = -20 dBm for 12.5 KHz -13 dBm for 25 KHz
 CEPT = <1 GHz = -36 dBm >1GHz = -30 dBm

Frequency = 806.025 MHz					
3 W HIGH POWER			1 W LOW POWER		
Freq	Raw Level in dBm	Spurious Level in dBm	Freq	Raw Level in dBm	Spurious Level in dBm
1612.0500	-57.86	-27.33	1612.0500	-70.18	-39.63
2418.0750	-64.54	-41.22	2418.0750	-81.05	-57.68
3224.1000	-60.40	-42.19	3224.1000	-72.36	53.91
4030.1250	-83.94	-52.73	4030.1250	-86.46	-56.82
4836.1500	-84.65	-53.09	4836.1500	NONE	NONE
5642.1750	NONE	NONE	5642.1750	NONE	NONE
6448.2000	NONE	NONE	6448.2000	NONE	NONE
7254.2250	NONE	NONE	7254.2250	NONE	NONE
8060.2500	NONE	NONE	8060.2500	NONE	NONE

Customer: Com-Net Ericsson
 ID # OWDTR-0006-E

S/N: T1 800M33
 Date: 8/30/99
 NOTES:

Frequency = 869.95 MHz					
3 W HIGH POWER			1 W LOW POWER		
Freq	Raw Level in dBm	Spurious Level in dBm	Freq	Raw Level in dBm	Spurious Level in dBm
1739.9000	-46.00	-33.75	1739.9000	-51.08	-38.91
2609.8500	-62.59	-51.50	2609.8500	-74.13	-63.70
3479.8000	-57.84	-41.90	3479.8000	-65.17	-49.40
4349.7500	-66.37	-39.50	4349.7500	-80.20	-56.10
5219.7000	-80.33	-49.30	5219.7000	-83.89	-52.80
6089.6500	NONE	NONE	6089.6500	NONE	NONE
6959.6000	NONE	NONE	6959.6000	NONE	NONE
7829.5500	NONE	NONE	7829.5500	NONE	NONE
8699.5000	NONE	NONE	8699.5000	NONE	NONE

TRANSMITTER RADIATED**OWDTR-0006-E****S/N T1800M33****August 31, 1999**

EDRP Limits --TX FCC: -20 dBm for 12.5kHz or -13 for 25kHz
 RX FCC or(CEPT < 1GHz): -57 dbm
 CEPT TX < 1GHz: -36 dBm

Carrier Power = 3.000 Watts at 806.025000 MHz

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1612.050000		-85.4	-52.9
2418.075000		-76.8	-40.0
3224.100000		-92.3	-51.7
4030.125000		-92.2	-51.2

Carrier Power = 1.000 Watts at 806.025000 MHz

1612.050000		-84.8	-52.2
2418.075000		-90.2	-53.4
3224.100000		-94.4	-53.9
4030.125000		-97.8	-56.8

Carrier Power = 3.000 Watts at 869.950000 MHz

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1739.900000		-91.2	-57.9
2609.850000		-72.1	-34.2
3479.800000		-74.6	-34.1
4349.750000		-64.5	-22.2

Carrier Power = 1.000 Watts at 869.950000 MHz

1739.800000		-92.6	-59.3
2609.850000		-78.1	-40.2
3479.800000		-76.8	-36.3
4349.750000		-83.5	-41.1

-----End of Report-----

SECTION 5**FREQUENCY STABILITY**

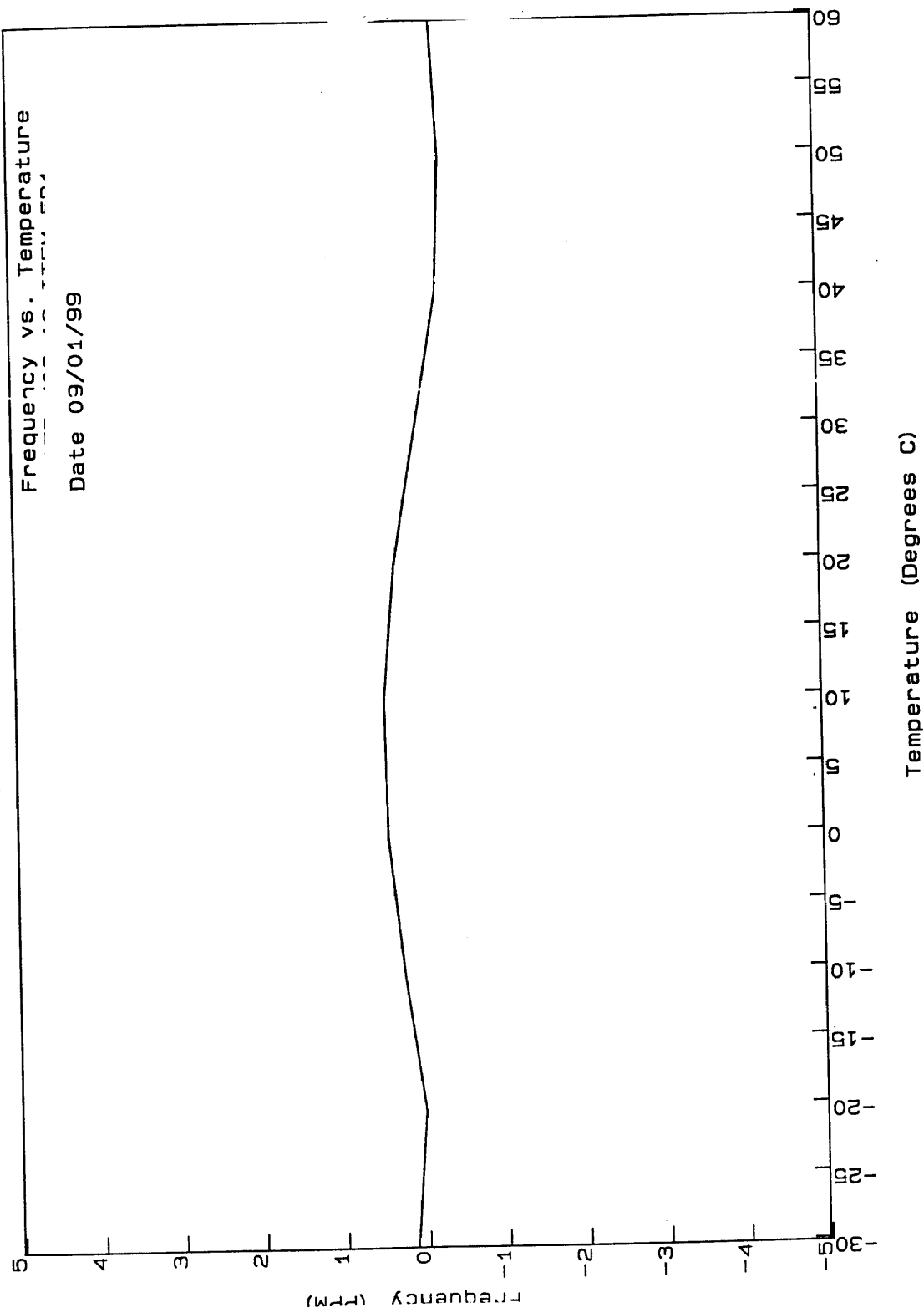
Par. 2.1055 variation of output frequency as a result of either temperature or voltage variation is reported in the graphs on the following sheets:

Page 30 Carrier Frequency Vs Temperature

Page 31 Carrier Frequency Vs. Voltage

The Equipment used is:

Hewlett Packard QUARTZ Thermometer Model 2804A
Takeda Counter TR5823AK
Takeda Digital Multimeter TR6878
Tabai Temperature chamber PL-2G



FREQUENCY vs VOLTAGE

