

RF POWER OUTPUT 1

MODULATION CHARACTERISTICS 2

OCCUPIED BANDWIDTH 8

SPURIOUS EMISSIONS 27

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SECTION 1**RF POWER OUTPUT**

2.985 (A) The RF Power measured at the output terminals:

AXATR-390-A2

6 & 25 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. 2.987 (a, b, d) the frequency and amplitude response to audio inputs measured per TIA/EIA 603 are shown on the following sheet

Page 3 Audio Frequency Response(25 kHz)

Page 4&5_Modulation Characteristics (25kHz)

Page 6&7 _Modualtion Characteristics(NPSPAC)

Equipment used was:

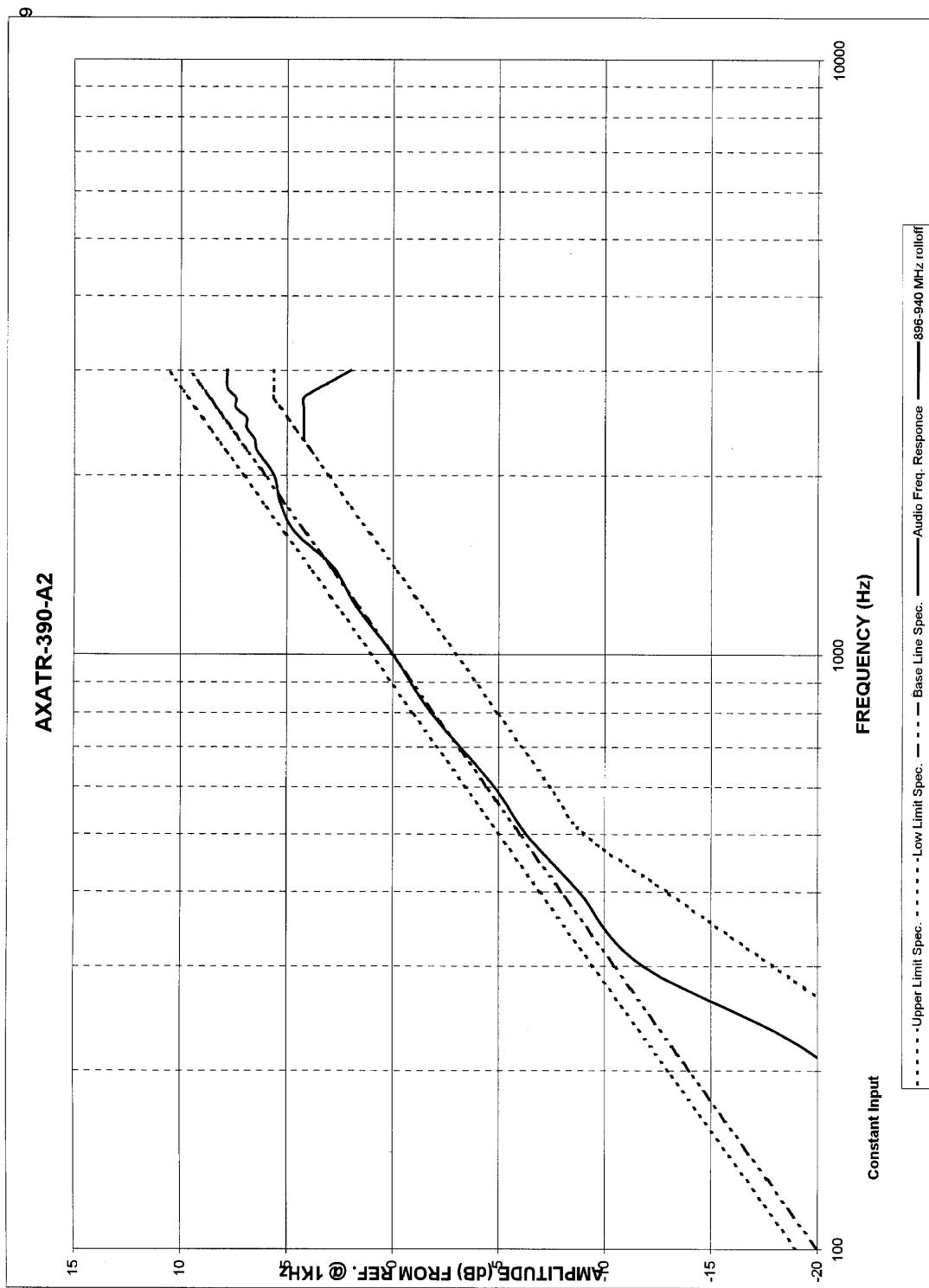
Marconi Instruments Ltd. FM/AM Modulation Meter TF2300B

Hewlett Packard Audio Signal Generator 204D

Hewlett Packard Distortion Analyzer 333A

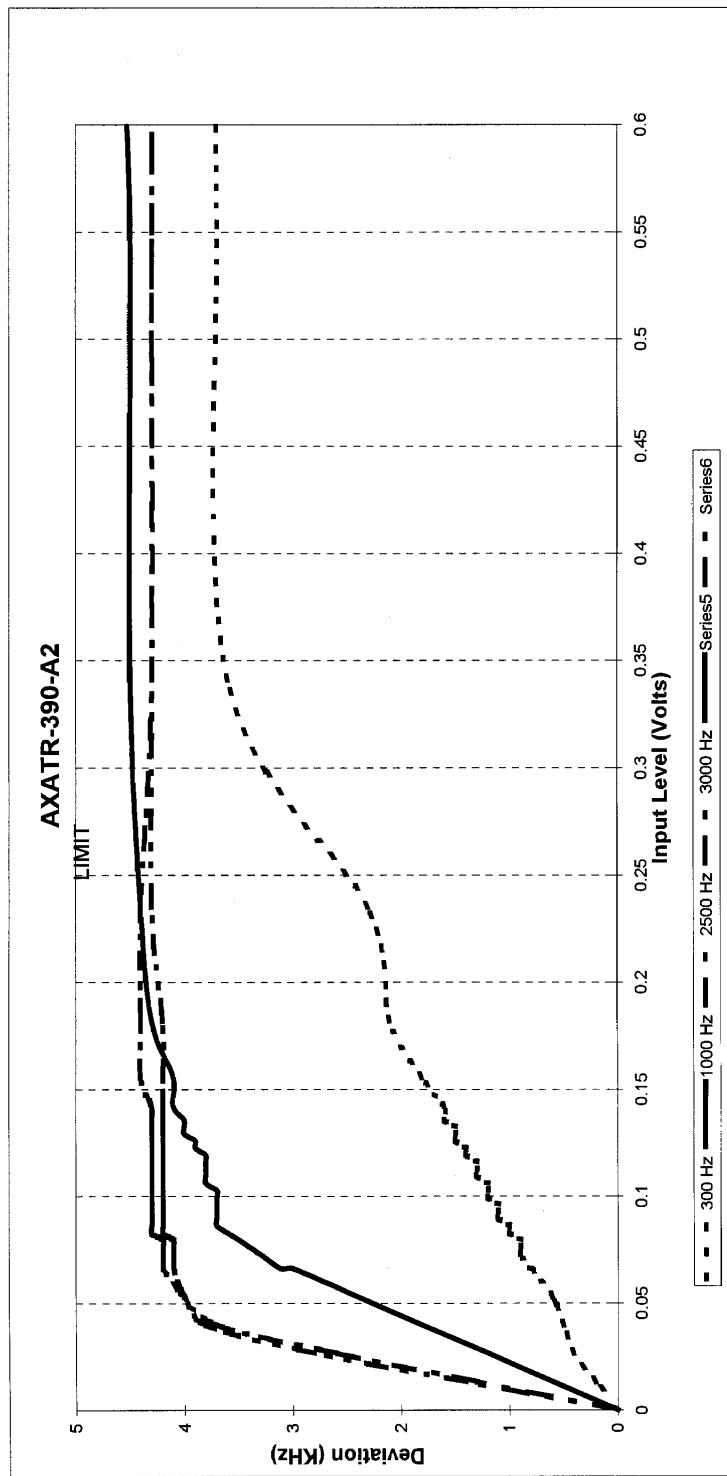
At those modulation frequencies at which the transmitter is not capable of producing 30% of system deviation, audio response is calculated from measurement of input voltage producing a lesser deviation.

TRANSMITTER AUDIO FREQUENCY RESPONSE



5/7/99

Minimum Linearity



5/10/99

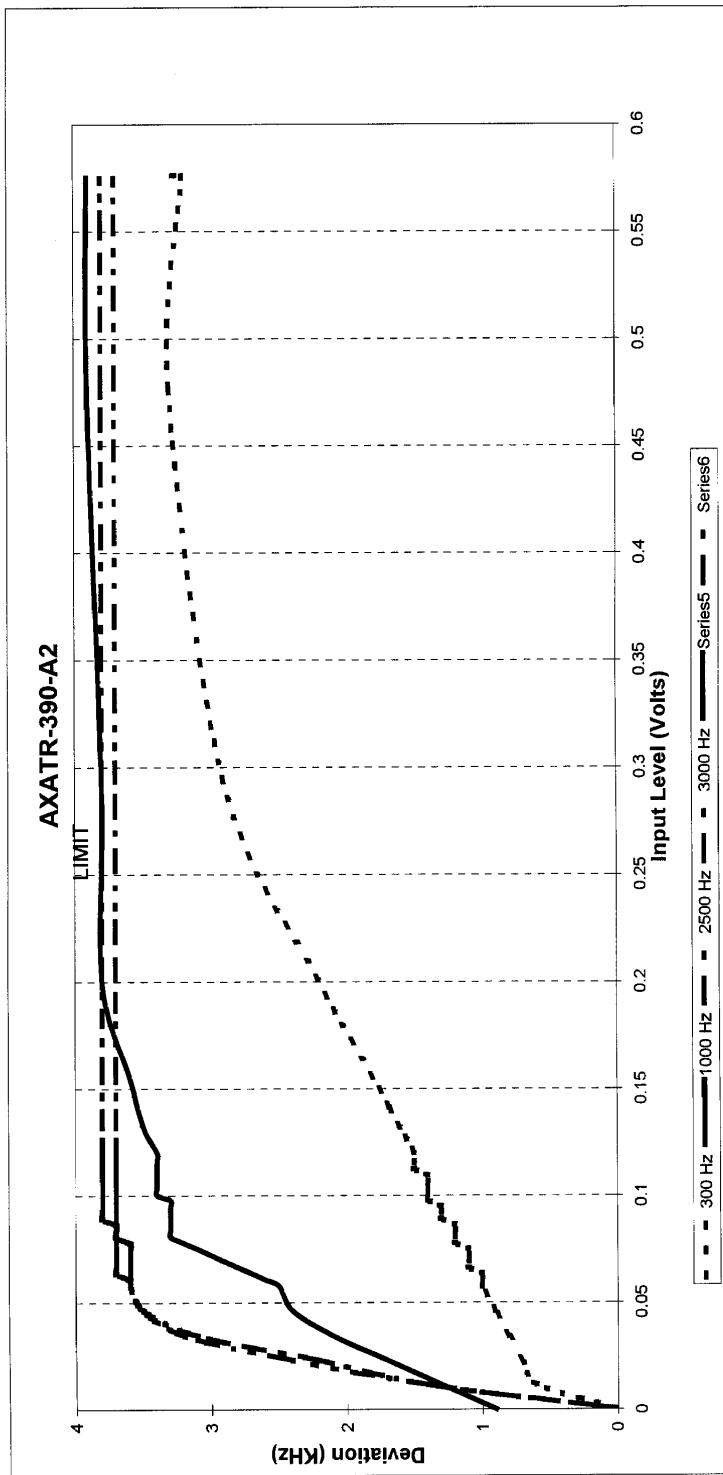
**Modulation Limiting
Curve Data**

Modulation Limiting Curves							
1	A	B	C	D	E	F	G
2	AXATR-390-A2 25 kHz CH SPC						
3	4	300 Hz	1000 Hz	2500 Hz	30000 Hz		
4	LEVEL	DEV	LEVEL	DEV	LEVEL	DEV	
5	0.0132	0.2	0.0132	0.6	0.0132	1.3	0.0132
6	0.0265	0.4	0.0265	1.2	0.0265	2.6	0.0265
7	0.0397	0.5	0.0397	1.8	0.0397	3.7	0.0397
8	0.053	0.6	0.053	2.4	0.053	4	0.053
9	0.0662	0.8	0.0662	3	0.0662	4.2	0.0662
10	0.0895	0.8	0.08595	3.1	0.08595	4.2	0.08595
11	0.0728	0.9	0.0728	3.3	0.0728	4.2	0.0728
12	0.0761	0.9	0.0761	3.4	0.0761	4.2	0.0761
13	0.0794	0.9	0.0794	3.5	0.0794	4.2	0.0794
14	0.0827	1	0.0827	3.6	0.0827	4.3	0.0827
15	0.0861	1	0.0861	3.7	0.0861	4.3	0.0861
16	0.0894	1.1	0.0894	3.7	0.0894	4.3	0.0894
17	0.0927	1.1	0.0927	3.7	0.0927	4.3	0.0927
18	0.096	1.1	0.096	3.7	0.096	4.3	0.096
19	0.0993	1.2	0.0993	3.7	0.0993	4.3	0.0993
20	0.1026	1.2	0.1026	3.7	0.1026	4.3	0.1026
21	0.1059	1.2	0.1059	3.8	0.1059	4.3	0.1059
22	0.1092	1.3	0.1092	3.8	0.1092	4.3	0.1092
23	0.1125	1.3	0.1125	3.8	0.1125	4.3	0.1125
24	0.1158	1.3	0.1158	3.8	0.1158	4.3	0.1158
25	0.1192	1.4	0.1192	3.8	0.1192	4.3	0.1192
26	0.1225	1.4	0.1225	3.9	0.1225	4.3	0.1225
27	0.1258	1.5	0.1258	3.9	0.1258	4.3	0.1258
28	0.1291	1.5	0.1291	4	0.1291	4.3	0.1291
29	0.1324	1.5	0.1324	4	0.1324	4.3	0.1324
30	0.1357	1.6	0.1357	4	0.1357	4.3	0.1357
31	0.1423	1.6	0.1423	4.1	0.1423	4.3	0.1423
32	0.1556	1.8	0.1556	4.1	0.1556	4.4	0.1556
33	0.182	2.1	0.182	4.3	0.182	4.4	0.182
34	0.235	2.3	0.235	4.4	0.235	4.4	0.235
35	0.3409	3.6	0.3409	4.5	0.3409	4.3	0.3409
36	0.5528	3.7	0.5528	4.5	0.5528	4.3	0.5528
37	0.661	3.7	0.661	4.6	0.661	4.3	0.661
38							
39							
40							
41							
42							
43							

AXATR-386-A2

Modulation Limiting

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**Modulation Limiting
Curve Data**

5/10/99

1	A	B	C	D	E	F	G	H								
2	AXATR 390-A2															
3	25 kHz CH SPC															
Modulation Limiting Curves																
NPSPAC																
4	300 Hz			1000 Hz			2500 Hz									
5	LEVEL	DEV	LEVEL	0	LEVEL	DEV	LEVEL	DEV								
6	0	0	0	0.9	0	0	0	0								
7	0.0115	0.6	0.0115	1.3	0.0115	1.4	0.0115	1.4								
8	0.023	0.7	0.023	1.7	0.023	2.2	0.023	2.4								
9	0.0345	0.8	0.0345	2.1	0.0345	3.1	0.0345	3.2								
10	0.046	0.9	0.046	2.4	0.046	3.5	0.046	3.5								
11	0.0575	1	0.0575	2.5	0.0575	3.6	0.0575	3.6								
12	0.0604	1	0.0604	2.6	0.0604	3.6	0.0604	3.6								
13	0.0633	1	0.0633	2.7	0.0633	3.7	0.0633	3.6								
14	0.0661	1.1	0.0661	2.8	0.0661	3.7	0.0661	3.6								
15	0.069	1.1	0.069	2.9	0.069	3.7	0.069	3.6								
16	0.0719	1.1	0.0719	3	0.0719	3.7	0.0719	3.6								
17	0.0748	1.1	0.0748	3.1	0.0748	3.7	0.0748	3.6								
18	0.0776	1.2	0.0776	3.2	0.0776	3.7	0.0776	3.6								
19	0.0805	1.2	0.0805	3.3	0.0805	3.7	0.0805	3.7								
20	0.0834	1.2	0.0834	3.3	0.0834	3.7	0.0834	3.7								
21	0.0863	1.2	0.0863	3.3	0.0863	3.7	0.0863	3.7								
22	0.0891	1.3	0.0891	3.3	0.0891	3.8	0.0891	3.7								
23	0.092	1.3	0.092	3.3	0.092	3.8	0.092	3.7								
24	0.0949	1.3	0.0949	3.3	0.0949	3.8	0.0949	3.7								
25	0.0978	1.4	0.0978	3.3	0.0978	3.8	0.0978	3.7								
26	0.1	1.4	0.1	3.4	0.1	3.8	0.1	3.7								
27	0.103	1.4	0.103	3.4	0.103	3.8	0.103	3.7								
28	0.106	1.4	0.106	3.4	0.106	3.8	0.106	3.7								
29	0.1093	1.4	0.1093	3.4	0.1093	3.8	0.1093	3.7								
30	0.1121	1.5	0.1121	3.4	0.1121	3.8	0.1121	3.7								
31	0.115	1.5	0.115	3.4	0.115	3.8	0.115	3.7								
32	0.12	1.5	0.12	3.4	0.12	3.8	0.12	3.7								
33	0.132	1.6	0.132	3.5	0.132	3.8	0.132	3.7								
34	0.1553	1.8	0.1553	3.6	0.1553	3.8	0.1553	3.7								
35	0.201	2.2	0.201	3.8	0.201	3.8	0.201	3.7								
36	0.2933	2.9	0.2933	3.8	0.2933	3.8	0.2933	3.7								
37	0.477	3.3	0.477	3.9	0.477	3.8	0.477	3.7								
38	0.575	3.2	0.575	3.9	0.575	3.8	0.575	3.7								
39	0.575	3.3	0.575	3.9	0.575	3.8	0.575	3.7								
40																
41																
42																
43																

AXATR-386-A2

SECTION 3**OCCUPIED BANDWIDTH**

Per 2.989 (c, 1) the measurements were made per TIA/EIA 603.

813 MHz

Table 1:

Page	Description
10-13	25 kHz, 50 & 150 kHz spans, Voice
14,15	25 kHz, 50 & 150 kHz spans, Data
16-19	25 kHz, 50 & 150 kHz spans, talkaround Voice
21-24	NPSPAC, 50 & 150 kHz spans, Voice
25,26	NPSPAC, 50 & 150 kHz spans, Data

SECTION 3**OCCUPIED BANDWIDTH**

(FOR 25 kHz CHANNELIZATION)

Method of Measurement Per 2.989 (c,1) 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 3B,C,G,H
Telephony

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

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

$$D = 4300 \text{ Hz}$$

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

$$Bn = 14600$$

Therefore, Emission Designator = 14K6F3E

SECTION 3D
Data, Digital Voice

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

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

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

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

$$Bn = 15600$$

Therefore, Emission Designators are,

15K6F1D

15K6F1E

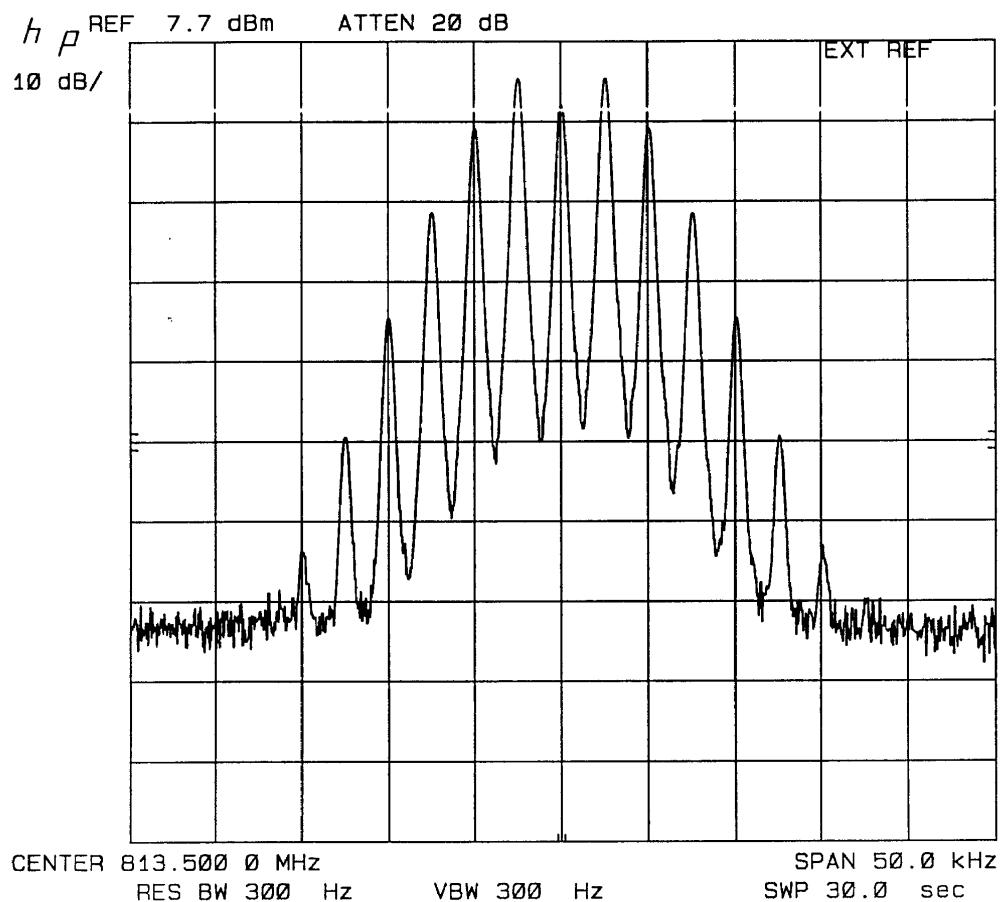
APPLICANT: Ericsson Inc.

EXHIBIT Sec3B1

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier

Modulated with 2500 Hz

Analyzer: Vertical = 10 dB/Div.

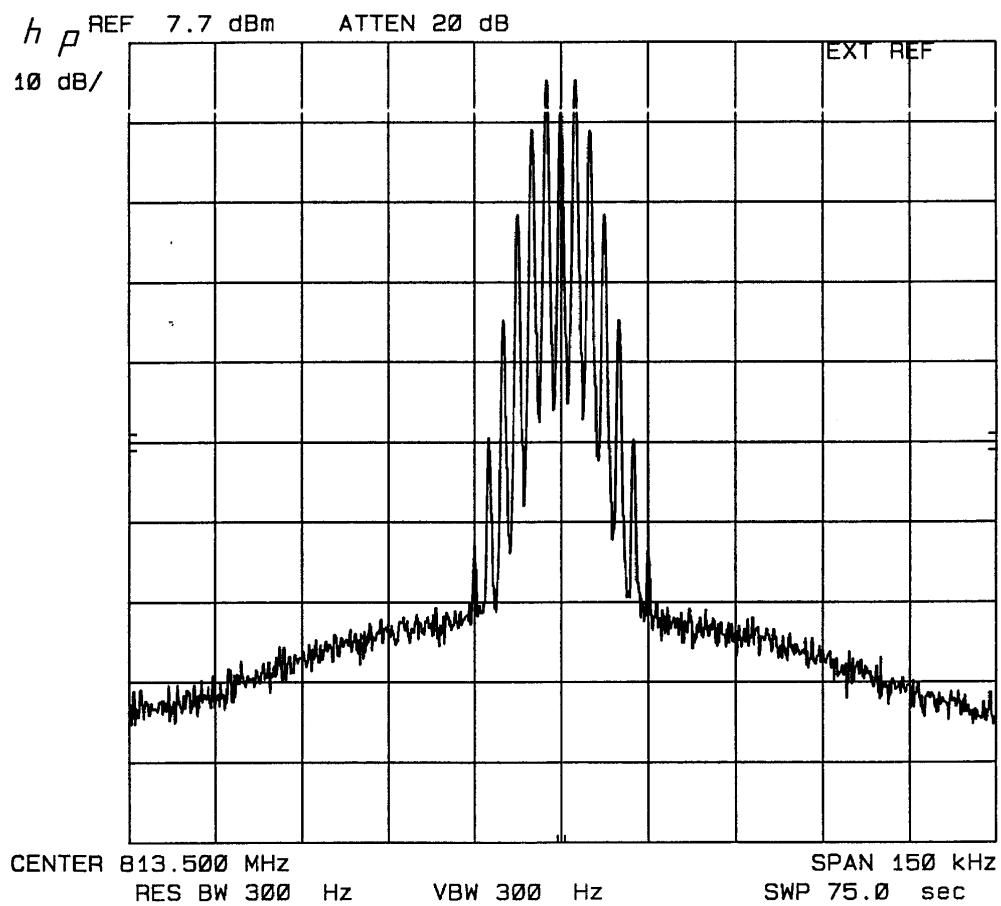
APPLICANT: Ericsson Inc.

EXHIBIT Sec 3B2

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier
Modulated with 2500 Hz

Analyzer: Vertical = 10 dB/Div.

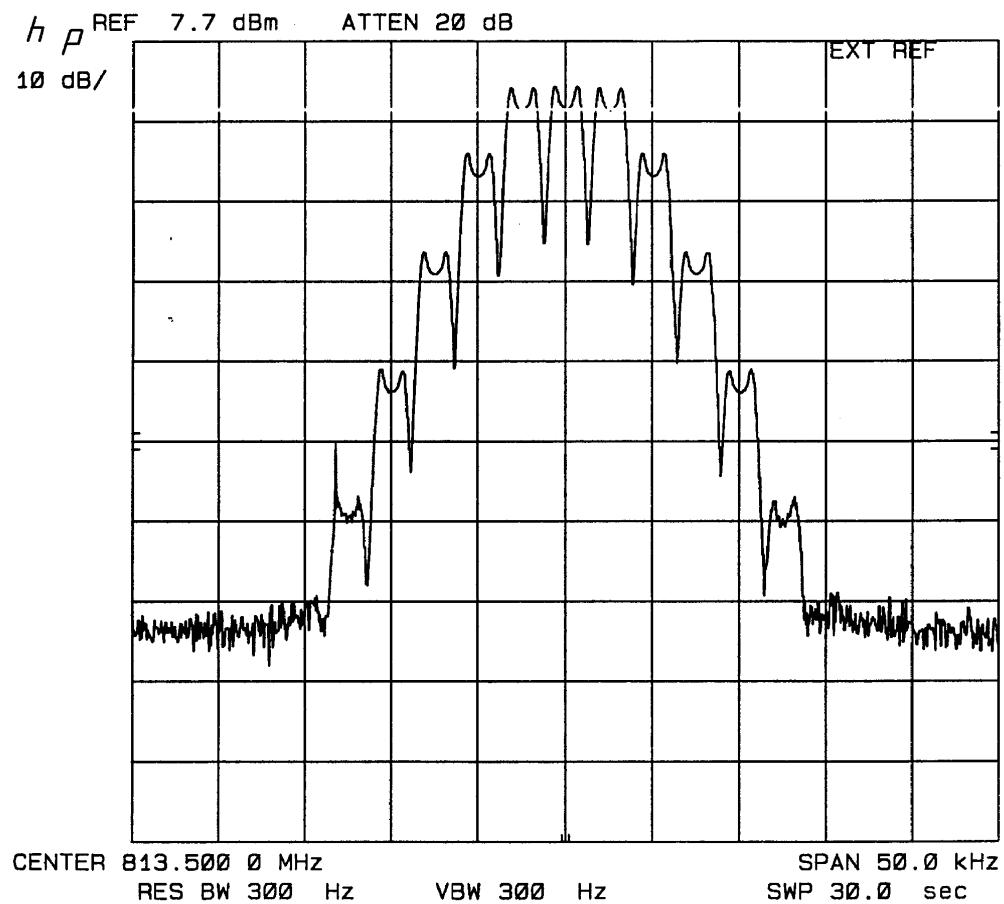
APPLICANT: Ericsson Inc.

EXHIBIT Sec 3C1

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier

Modulated with 2500 Hz + 150 BPS

Analyzer: Vertical = 10 dB/Div.

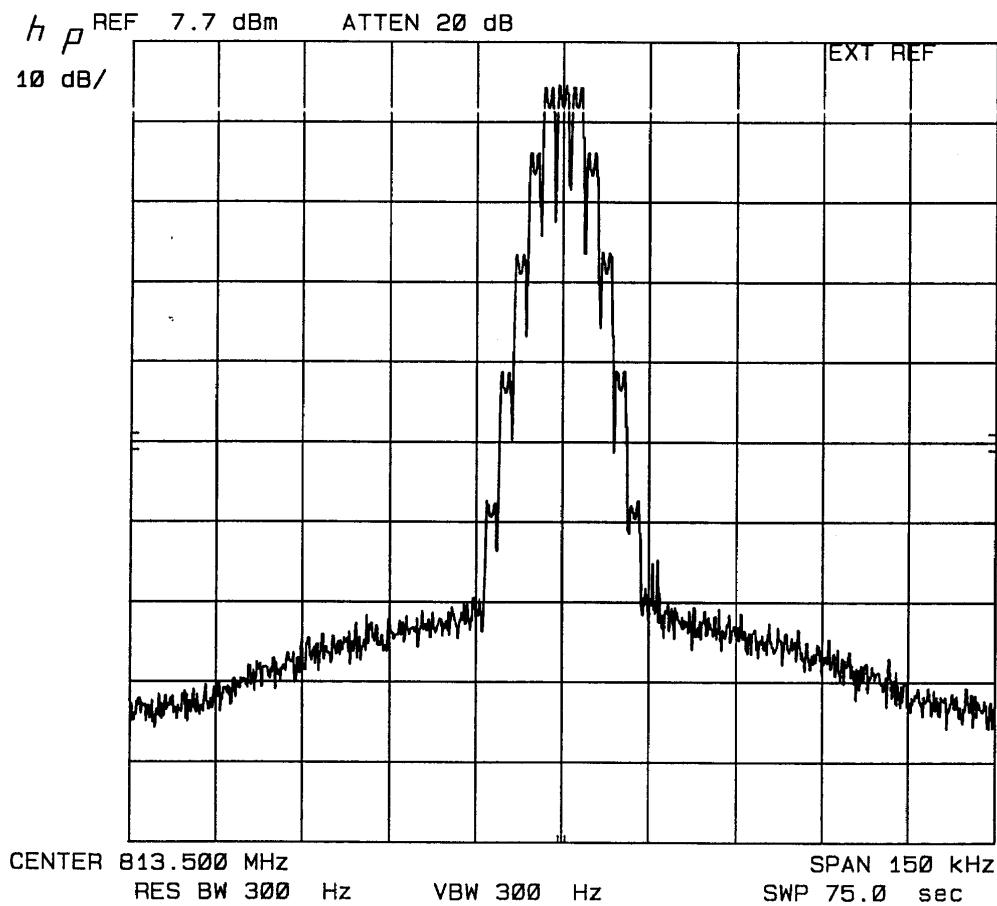
APPLICANT: Ericsson Inc.

EXHIBIT Sec3C2

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum

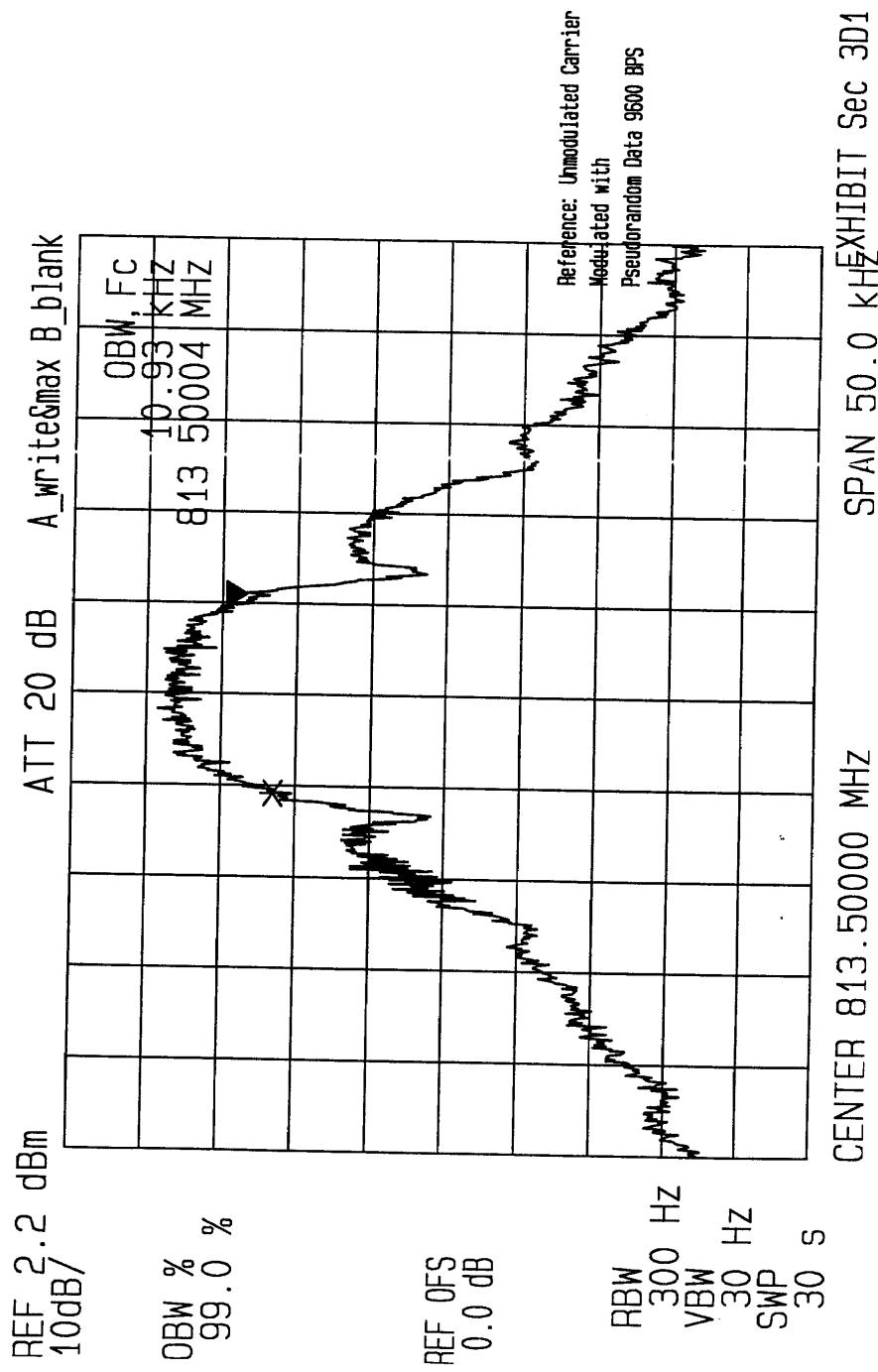


Referenced to the Unmodulated Carrier

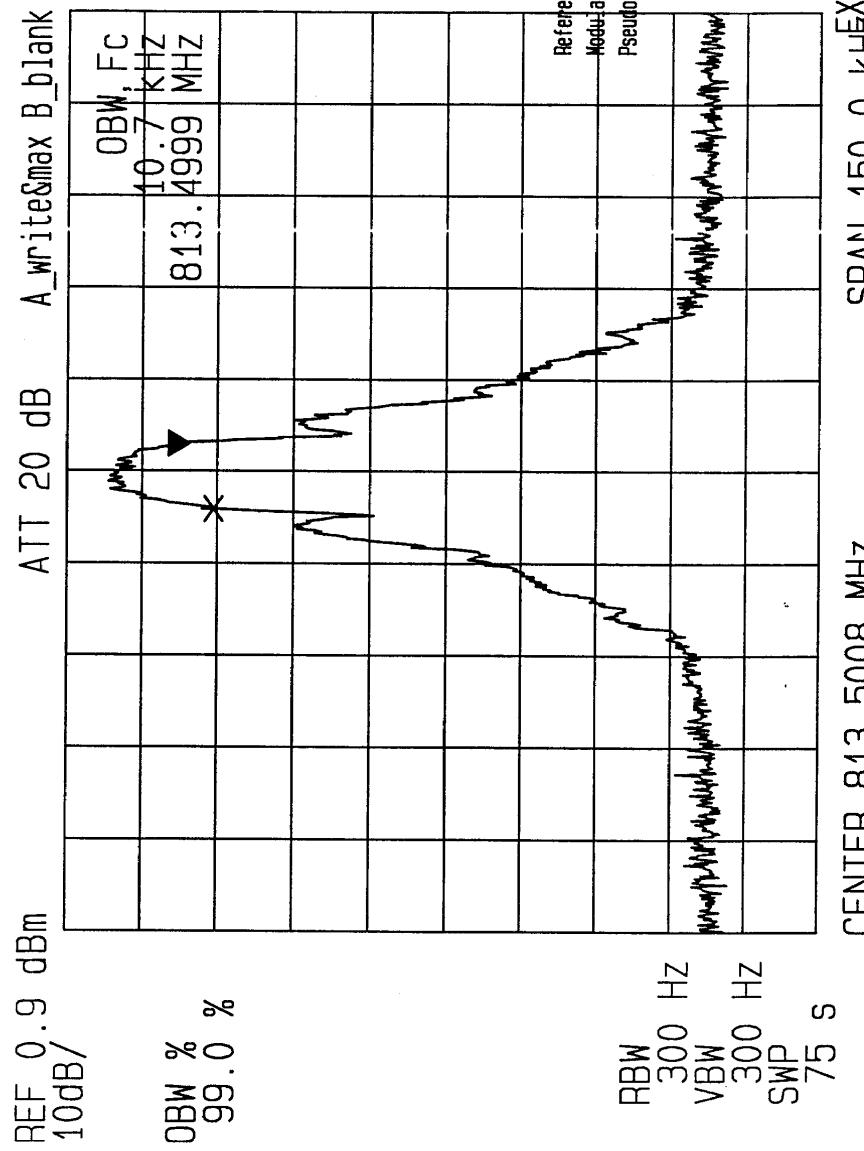
Modulated with 2500 Hz + 150 BPS

Analyzer: Vertical = 10 dB/Div.

ERICSSON INC.
OCCUPIED BANDWIDTH
Modulation Sideband Spectrum
ID NO. AXATR-390-A2



ERICSSON INC.
 OCCUPIED BANDWIDTH
 Modulation Sideband Spectrum
 ID NO. AXATR-390-A2



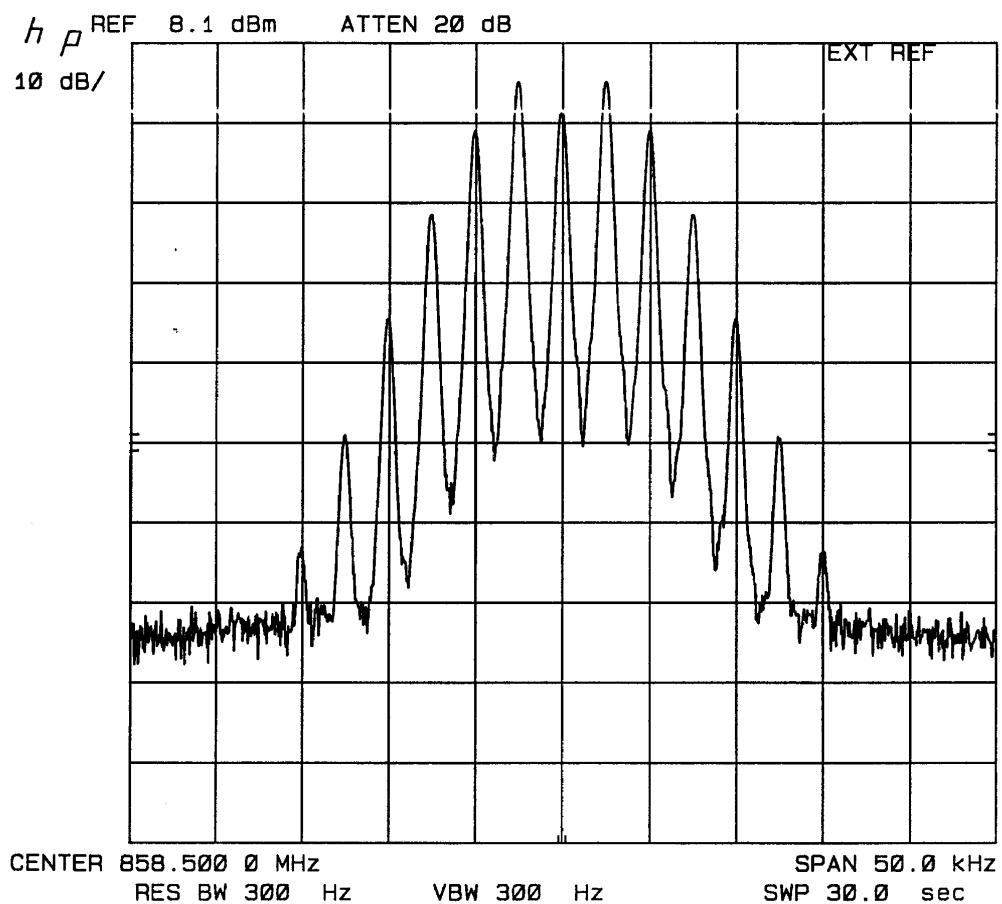
APPLICANT: Ericsson Inc.

EXHIBIT Sec 3H1

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier
Modulated with Talk-A-Around 2500 Hz

Analyzer: Vertical = 10 dB/Div.

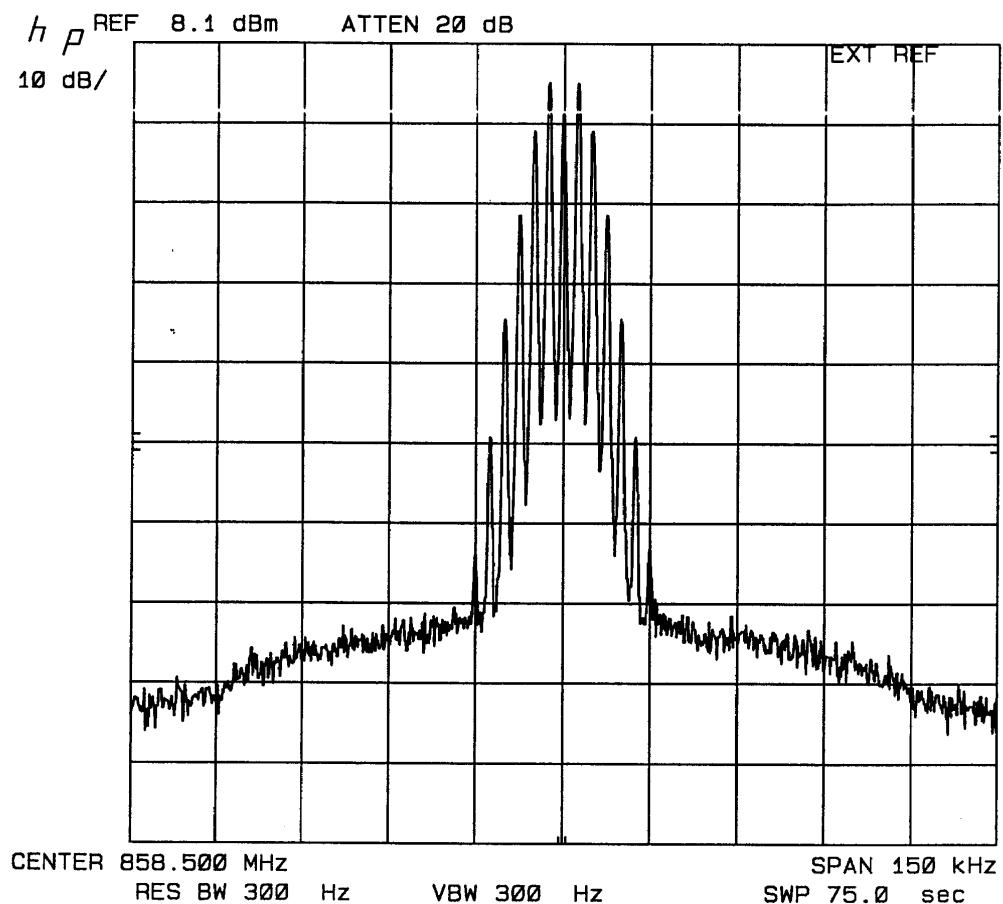
APPLICANT: Ericsson Inc.

EXHIBIT Sec 342

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum

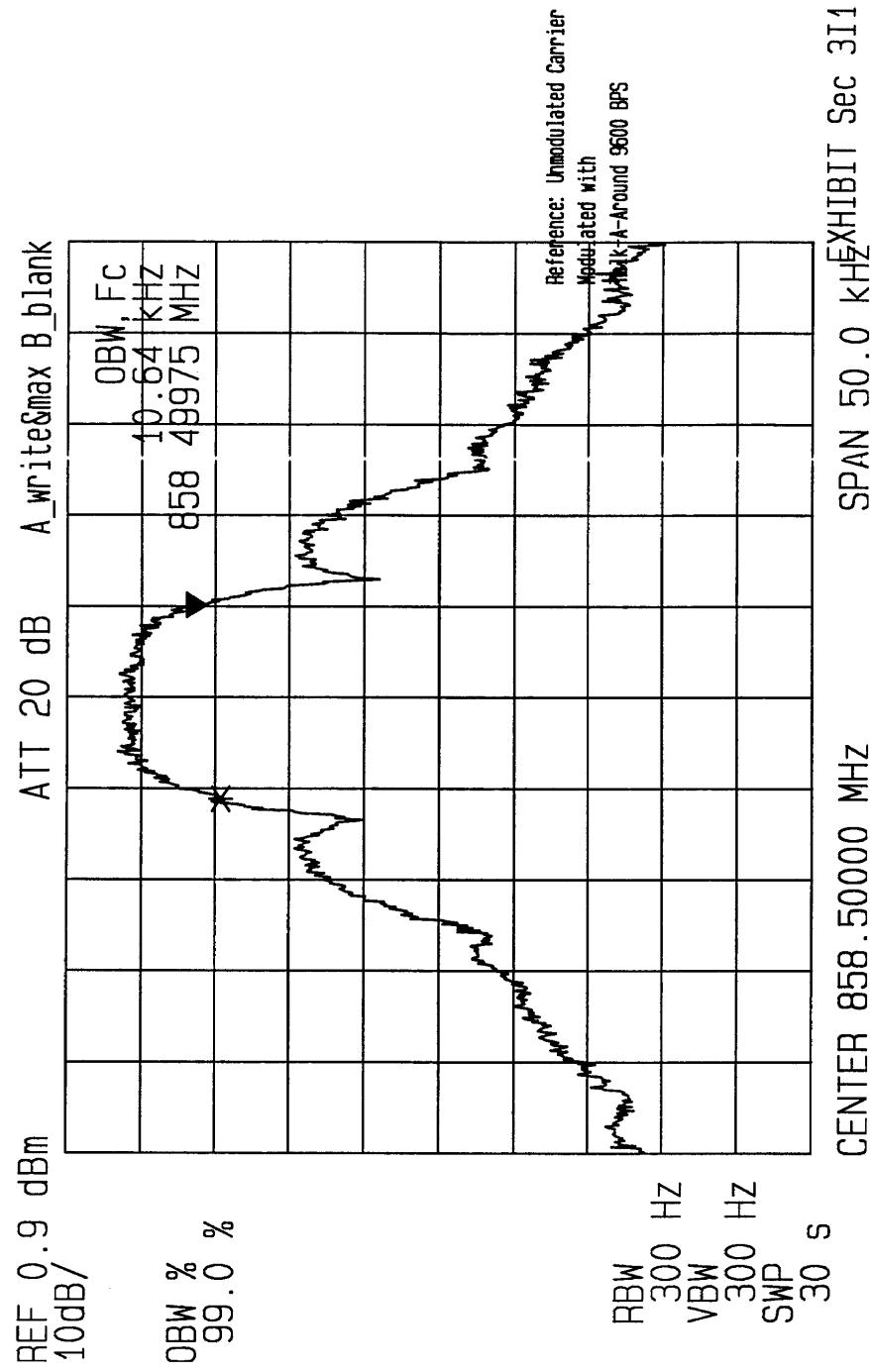


Referenced to the Unmodulated Carrier

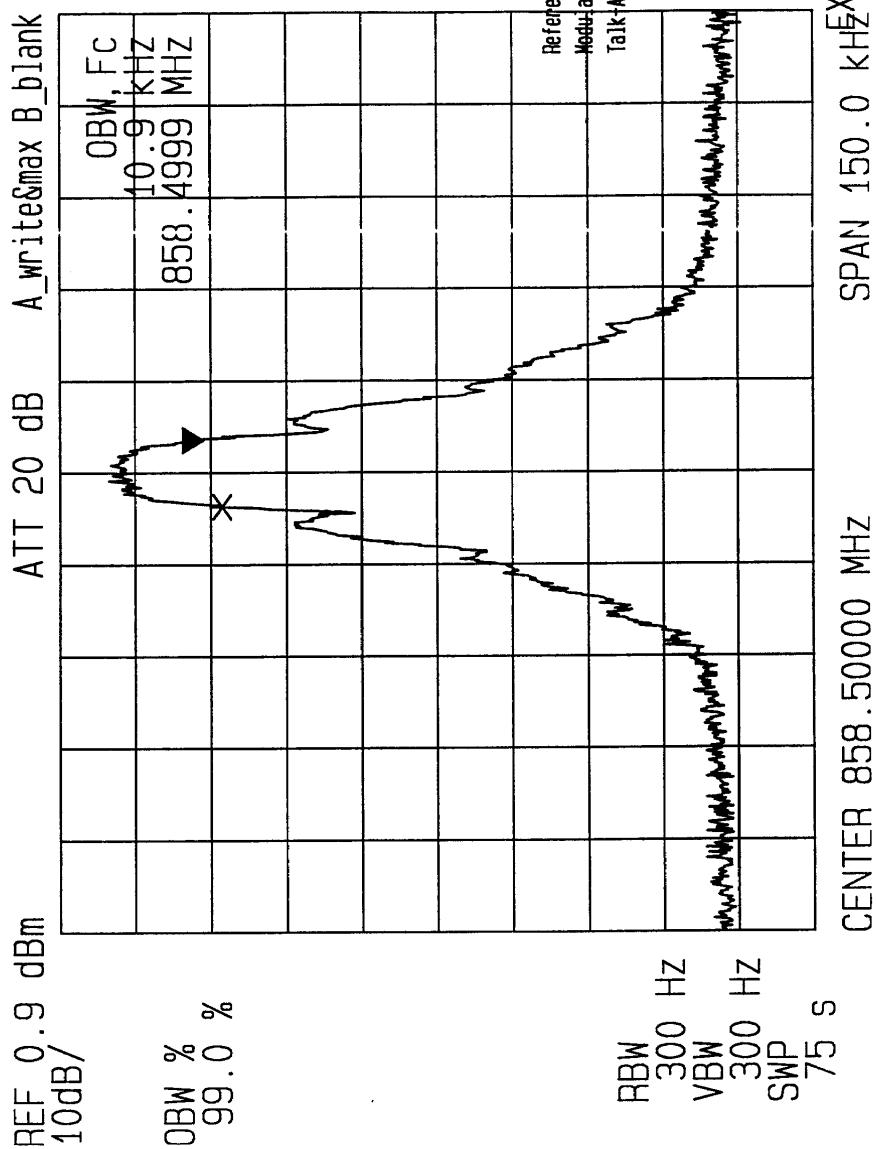
Modulated with Talk-A-Around 2500 Hz

Analyzer: Vertical = 10 dB/Div.

ERICSSON INC.
OCCUPIED BANDWIDTH
Modulation Sideband Spectrum
ID NO. AXATR-390-A2



ERICSSON INC.
 OCCUPIED BANDWIDTH
 Modulation Sideband Spectrum
 ID NO. AXATR-390-A2



SECTION 3

OCCUPIED BANDWIDTH

(FOR NPSPAC CHANNELIZATION)

Method of Measurement Per 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 E,F
Voice

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

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

$$D = 3800 \text{ Hz}$$

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

$$B_n = 13600 \text{ Hz}$$

Therefore, Emission Designator = 13K6F3E

Section G
Data

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

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

$$D = 2400 \text{ bps}$$

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

$$B_n = 14400 \text{ Hz}$$

Therefore, Emission Designator = 14K4F1D, 14K4F1E

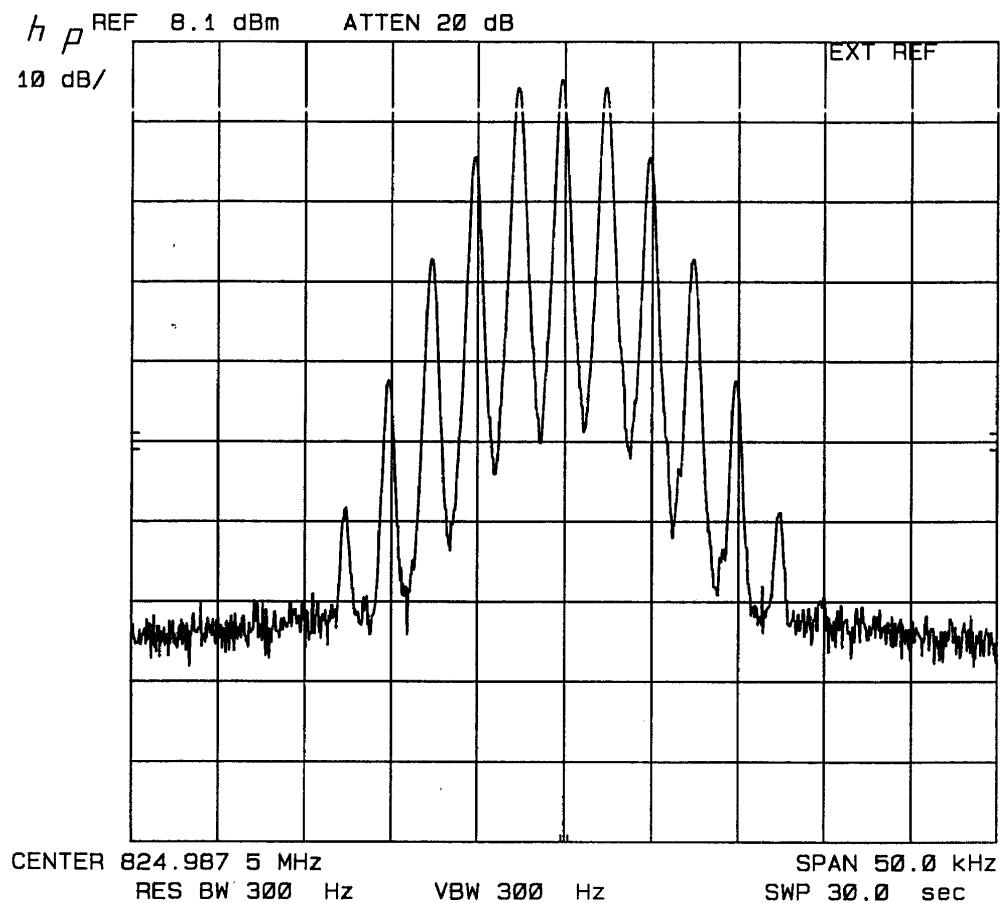
APPLICANT: Ericsson Inc.

EXHIBIT Sec 3E1

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier
Modulated with NPSM Freq. 2500 Hz

Analyzer: Vertical = 10 dB/Div.

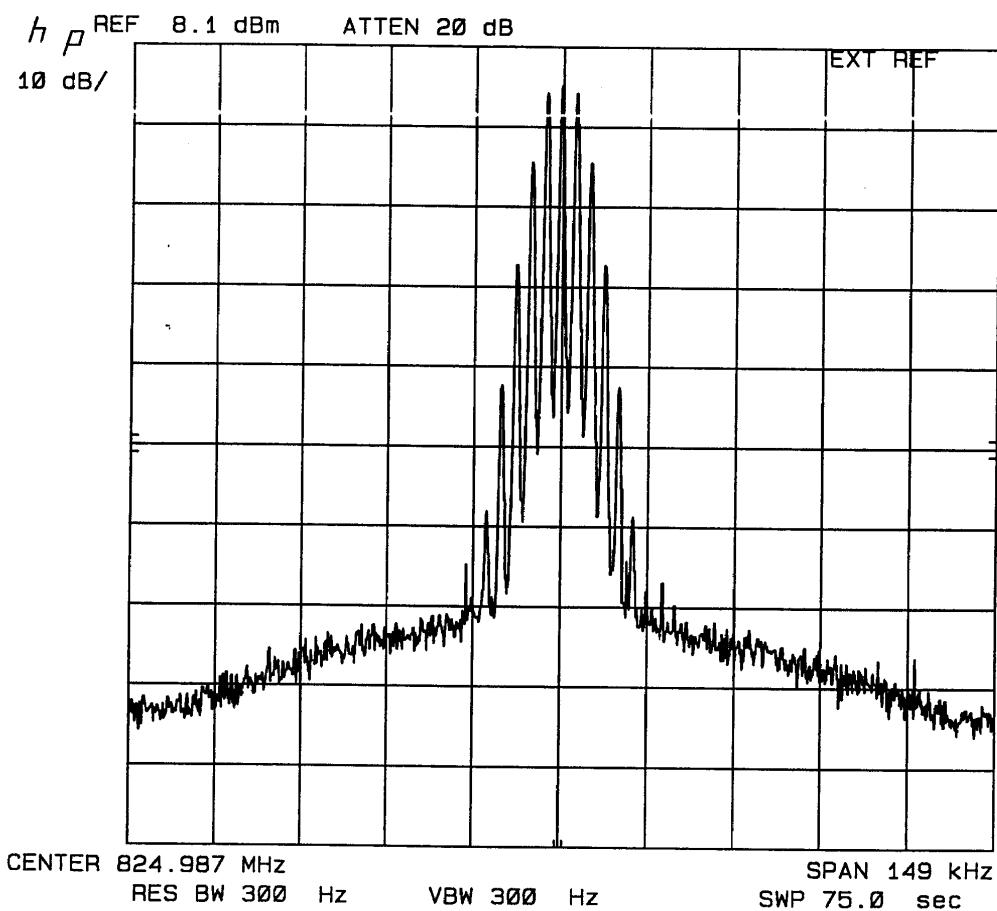
APPLICANT: Ericsson Inc.

EXHIBIT Sec 3E2

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier

Modulated with NPSPAC Freq. 2500 Hz

Analyzer: Vertical = 10 dB/Div.

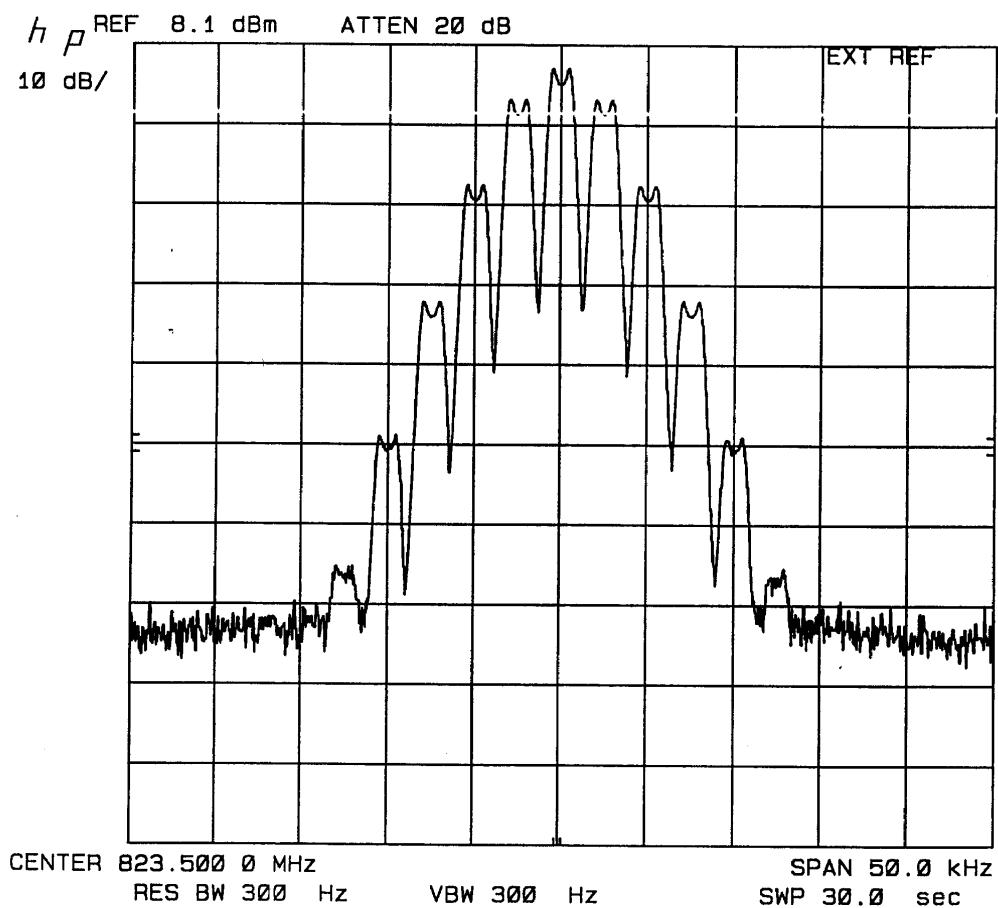
APPLICANT: Ericsson Inc.

EXHIBIT Sec 3F1

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

Modulation Sideband Spectrum



Referenced to the Unmodulated Carrier
Modulated with NPSPAC 2500 Hz + 150 BPS

Analyzer: Vertical = 10 dB/Div.

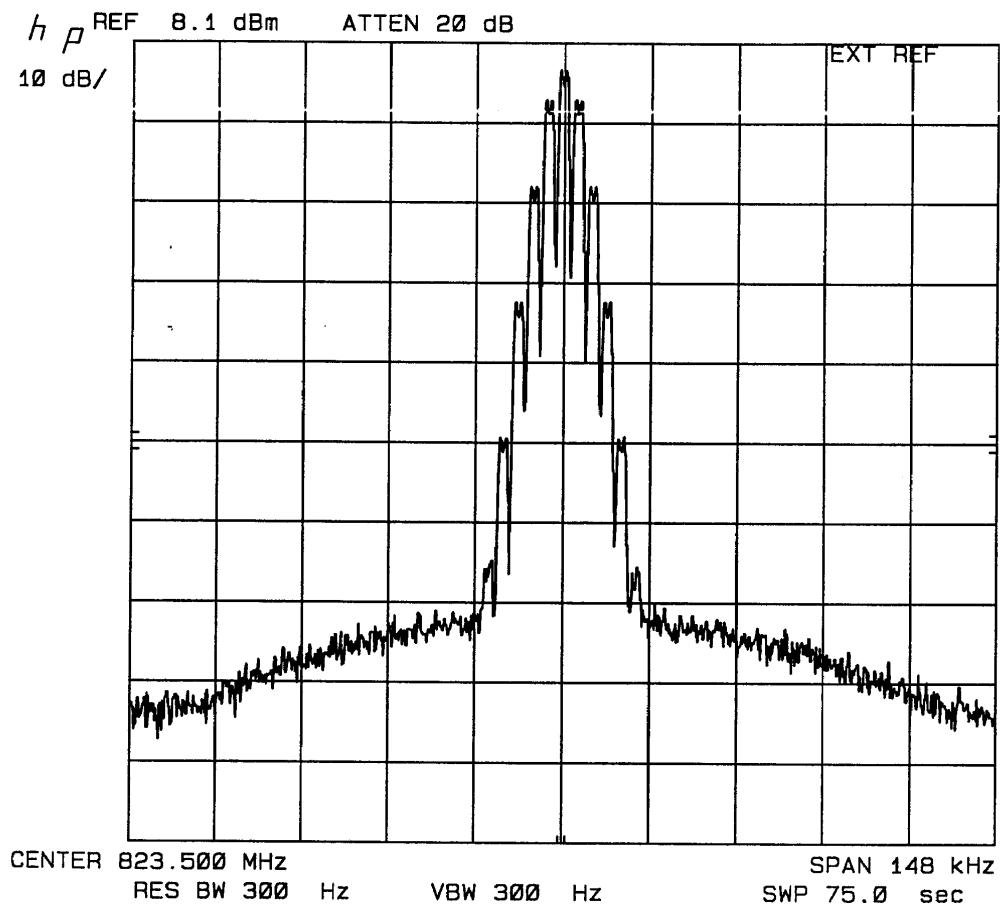
APPLICANT: Ericsson Inc.

EXHIBIT Sec 3F2

ID NO. AXATR-390-A2

OCCUPIED BANDWIDTH

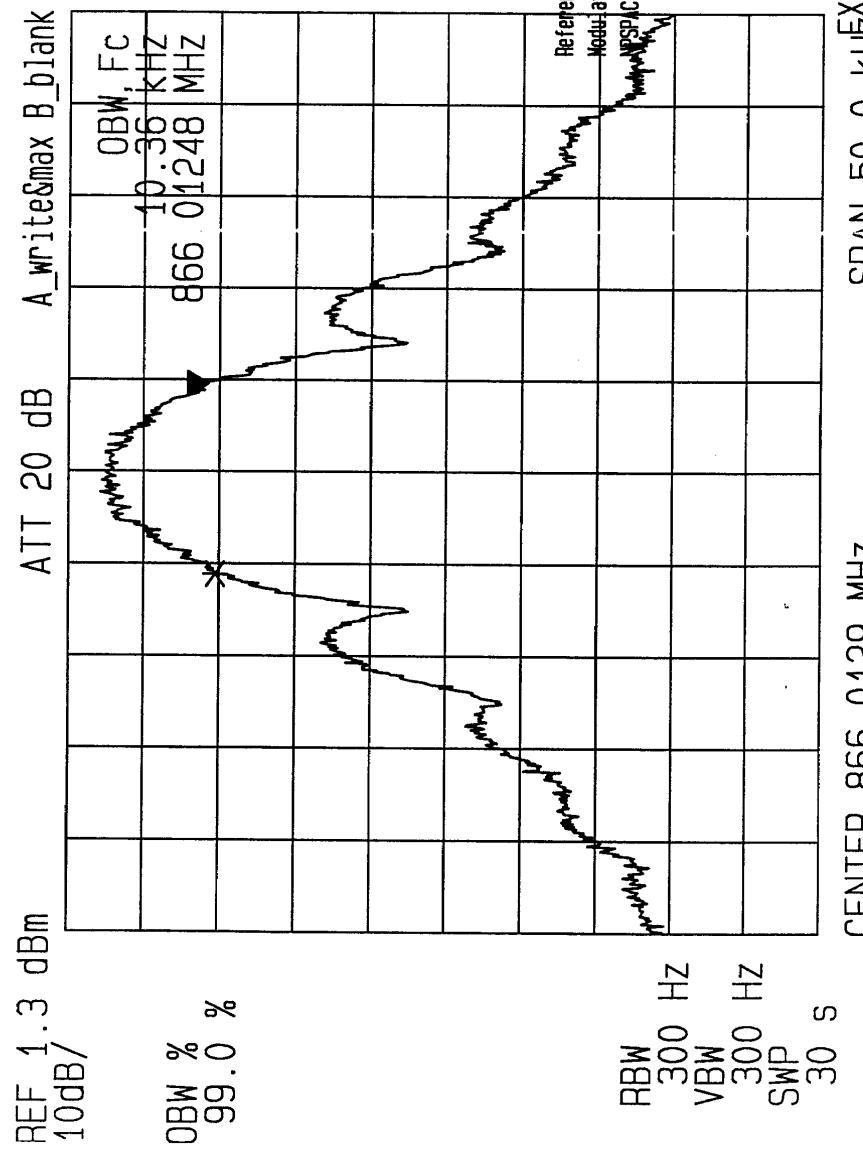
Modulation Sideband Spectrum



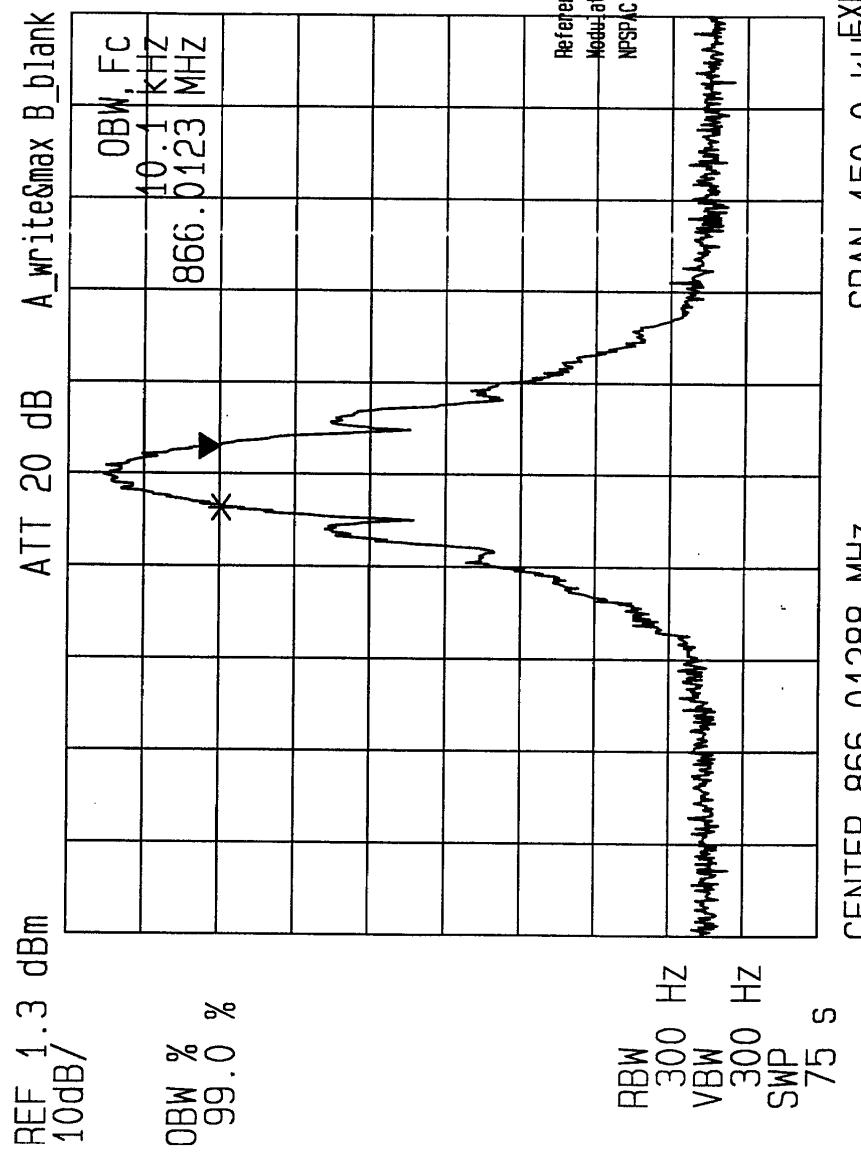
Referenced to the Unmodulated Carrier
Modulated with NPSPAC 2500 Hz + 150 BPS

Analyzer: Vertical = 10 dB/Div.

ERICSSON INC.
OCCUPIED BANDWIDTH
Modulation Sideband Spectrum
ID NO. AXATR-390-A2



ERICSSON INC.
OCCUPIED BANDWIDTH
Modulation Sideband Spectrum
ID NO. AXATR-390-A2



SECTION 4**SPURIOUS EMISSIONS**

Reference 2.991 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 Radiated Emissions		
Page	Frequency Mhz	Power in Watts
28 Front Mount	806.0125 - 869.9875	25
29 Front Mount	same	25
30 Remote Mount	same	25

Equipment used was:

Hewlett Pacard Spectrum Analyzer 140T Display, 8554-B-RF, 8552B-IF.

Reference 2.993 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 #2 filed with the FCC in Columbia, Maryland, in November of 1990. The measurement procedure is per TIA/EIA 603, but done on a three meter test site. Results are shown on the following exhibits

Tx Conducted Emissions		
Page	Frequency	Power in Watts
31	806.0125 - 869.9875	25 & 6 watts

TRANSMITTER RADIATED

AXATR-390-A2

S/N ET280L16E

May 13, 1999

Front Mount

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 = 25.000 Watts at **806.012500 MHz**

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1611.907600		-61.4	-28.8
2417.920100		-80.2	-43.4
3223.971700		-74.2	-33.6
4029.984200		-74.0	-33.1
4835.996700		-67.8	-22.4
5642.009200		-89.5	-42.1
6448.021700		-83.8	-34.4
7254.034200		-87.3	-35.5
8060.046700		-85.5	-33.5

Carrier Power = 25.000 Watts at **813.500000 MHz**

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1627.000000		-60.4	-27.8
2440.500000		-75.5	-38.6
3253.843000		-79.5	-39.0
4067.393000		-74.2	-33.1
4880.902000		-67.5	-21.8
5694.402000		-81.3	-33.7
6507.902600		-80.3	-30.8
7321.402600		-91.3	-39.4
8134.902600		-85.1	-33.2

Carrier Power = 25.000 Watts at **824.987500 MHz**

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1649.832700		-64.1	-31.3
2474.820200		-75.5	-38.4
3299.807700		-70.5	-30.0
4949.768500		-81.9	-35.8
5774.756000		-96.1	-48.2
6599.743500		-82.4	-32.5
7424.731000		-91.5	-39.4
8249.718500		-95.6	-43.7

TRANSMITTER RADIATED

AXATR-390-A2

S/N ET280L16E

May 13, 1999

Carrier Power = 25.000 Watts at **851.012500 MHz**

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1701.911200		-67.4	-34.3
2552.923700		-76.0	-38.4
3403.936200		-73.1	-32.6
4254.948700		-74.5	-32.6
5105.961200		-75.6	-29.0
5956.973700		-84.2	-35.6
6807.996800		-71.3	-20.7
7659.009400		-75.8	-23.7
8510.021800		-84.6	-32.8

Carrier Power = 25.000 Watts at **858.500000 MHz**

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1716.914600		-67.8	-34.6
2575.414600		-82.4	-44.7
3433.914600		-72.3	-31.8
4292.414600		-69.5	-27.4
5150.914600		-70.6	-24.0
6009.414600		-84.3	-35.5
6867.914600		-71.7	-20.9
7726.414600		-77.1	-25.0
8584.914900		-84.6	-32.4

Carrier Power = 25.000 Watts at **869.987500 MHz**

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1739.975000		-67.8	-34.5
2609.962500		-68.8	-30.9
3479.846800		-74.9	-34.4
4349.834400		-69.9	-27.6
5219.821800		-72.5	-25.8
6089.809400		-72.4	-23.5
6959.796800		-82.5	-31.3
7829.784400		-87.5	-35.4
8699.771800		-88.1	-35.4

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

TRANSMITTER RADIATED

AXATR-390-A2

S/N ET280L16E

May 23, 1999

Remote Mount

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 = **25.000** Watts at **806.012500** MHz Date 05/23/99

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1612.025000		-61.5	-29.0
2418.037500		-73.1	-36.3
3224.050000		-75.2	-34.6

Carrier Power = **25.000** Watts at **824.987500** MHz Date 05/23/99

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1649.975000		-64.4	-31.7
2474.962500		-78.8	-41.7
3299.950000		-71.5	-31.0
4124.937500		-67.7	-26.4

Carrier Power = **25.000** Watts at **869.987500** MHz Date 05/23/99

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1739.975000		-69.9	-36.6
2609.962500		-60.9	-23.0
3479.950000		-66.2	-25.7
4349.937500		-75.5	-33.2

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

TRANSMITTER CONDUCTED**AXATR-390-A2****S/N ET280L16E****May 21, 1999****Front Mount****LIMITS:**

TX FCC: -20 dBm for 12.5kHz or -13 for 25kHz
CEPT TX < 1GHz: -36 dBm

Carrier Power = **25.000** Watts at **806.012500** MHz Date 05/21/99
Device ID: AXATR-390-A2 FRONT MOUNT

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
3224.050000		-39.7	-39.7
4030.062500		-28.5	-28.5

Carrier Power = **6.000** Watts at **806.012500** MHz Date 05/21/99
Device ID: AXATR-390-A2 FRONT MOUNT

4030.062500		-32.5	-32.5
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Carrier Power = **25.000** Watts at **869.987500** MHz Date 05/21/99
Device ID: AXATR-390-A2 FRONT MOUNT

Frequency MHz	Antenna Polarization	Measured dBm	EDRP dBm
1739.975000		-40.5	-40.5
2609.962500		-43.6	-43.6
3479.950000		-28.5	-28.5
6959.900000		-28.5	-28.5

Carrier Power = **6.000** Watts at **869.987500** MHz Date 05/21/99
Device ID: AXATR-390-A2 FRONT MOUNT

No Emissions Observed

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

SECTION 5**FREQUENCY STABILITY**

Par. 2.995 (a,1) (b) (d, 1) variation of output frequency as a result of either temperature or voltage variation is reported in the graphs on the following sheets: (The battery is rated from 6 to 9 volts.)

Page 33 Carrier Frequency Vs Temperature

Page 34 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

