800 MHz : RF POWER OUTPUT

Para. 2.985 (a) and 22.913 (a)

The RF power measured at the output terminals (antenna connector) is plotted against supply voltage variation and temperature variations at the highest levels.

Exhibit	Supply Voltage (V)	Temperature	TX Freq	Output (W)	Power Level	Analog/Digital
6A2	4.8	Varied	Mid Band	.4 W	0	Analog
6A3	Varied	+25 C	Mid Band	.4 W	0	Analog
6A4	4.8	Varied	Mid Band	.4 W	0	Digital
6A5	Varied	+25 C	Mid Band	.4 W	0	Digital

The measurements were made per IS-137A using a Hewlett Packard 8953DT North American Dual Mode Cellular Test System which includes the following equipment:

HP8958A Cellular Interface
HP6623A DC Power Supply
HP8596E Spectrum Analyzer
HP437B RF Power Meter
HP8901B Modulation Analyzer
HP8903B Audio Analyzer
Thermotron SM-8C Temperature Chamber

EFFECTIVE RADIATED POWER

The following is a description of the substitution method used in accordance with IS-137A to obtain accurate ERP readings at the carrier fundamental frequency:

(1) EUT measurements are made at 3 m using calibrated antennas and equipment with known cable losses.
(2) A peak measurement is made by raising and lowering the antenna and rotating the EUT 360 degrees. Horizontal and vertical polarization data is recorded.
(3) A generator and dipole antenna are then substituted for the EUT. The dipole antenna is a half-wave dipole. If a dipole antenna cannot be used, then the designated antenna is referenced to a dipole antenna.
(4) Measurements are made through the dipole antenna at known power levels to determine the system calibration factors at a given frequency.
(5) At frequencies where no calibration data is taken, the value is interpolated between the closest data point above and below the transmit frequency. Calibration data is taken with a half-wave dipole antenna.

Measurements at a distance of 3 m from the source at the highest power level setting:

Frequency (MHz)	Rated Output Power (W)	EIRP (dBm)
836.49	0.4	25.87

Exhibit 6A2

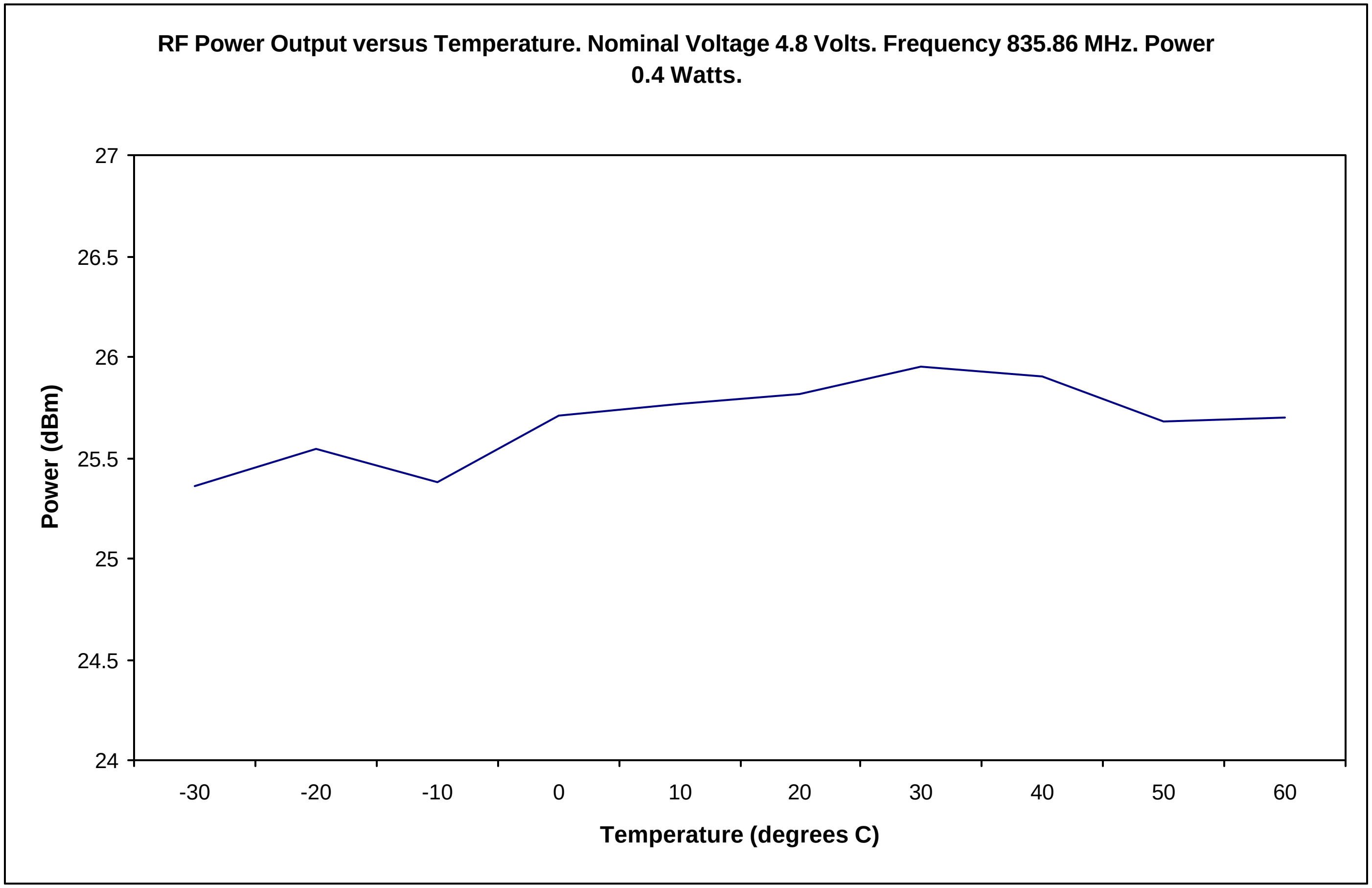

RF Power Output versus Temperature. Nominal Voltage 4.8 Volts. Frequency 835.86 MHz. Power 0.4 Watts.
Power (dBm)
27
26.5
26
25.5
25
24.5
24
-30
-20
-10
0
10
20
30
40
50
60
Temperature (degrees C)

Exhibit 6A3

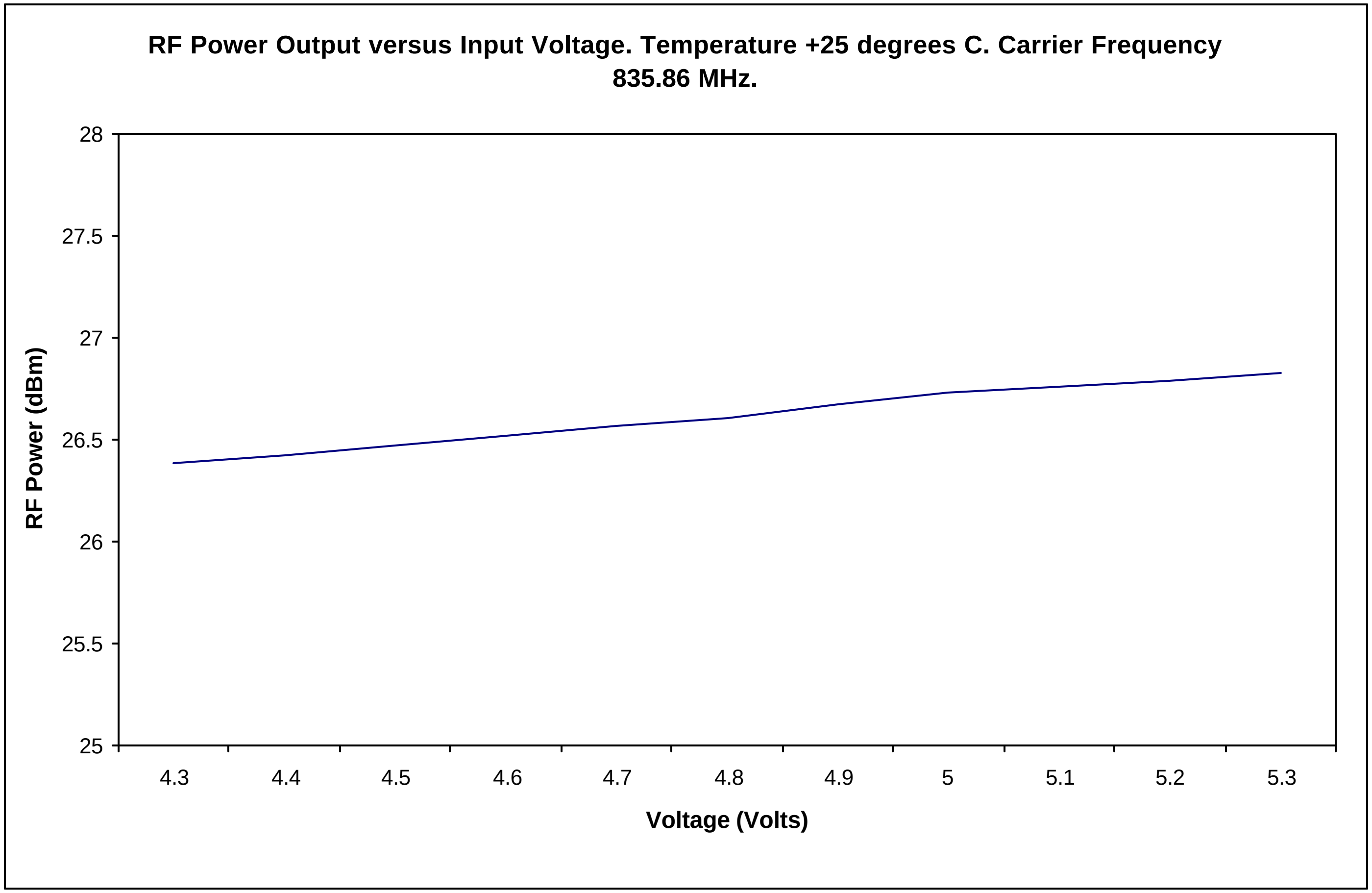

RF Power Output versus Input Voltage. Temperature +25 degrees C. Carrier Frequency 835.86 MHz.
RF Power (dBm)
28
27.5
27
26.5
26
25.5
25
4.3
4.4
4.5
4.6
4.7
4.8
4.9
5
5.1
5.2
5.3
Voltage (Volts)

Exhibit 6A4

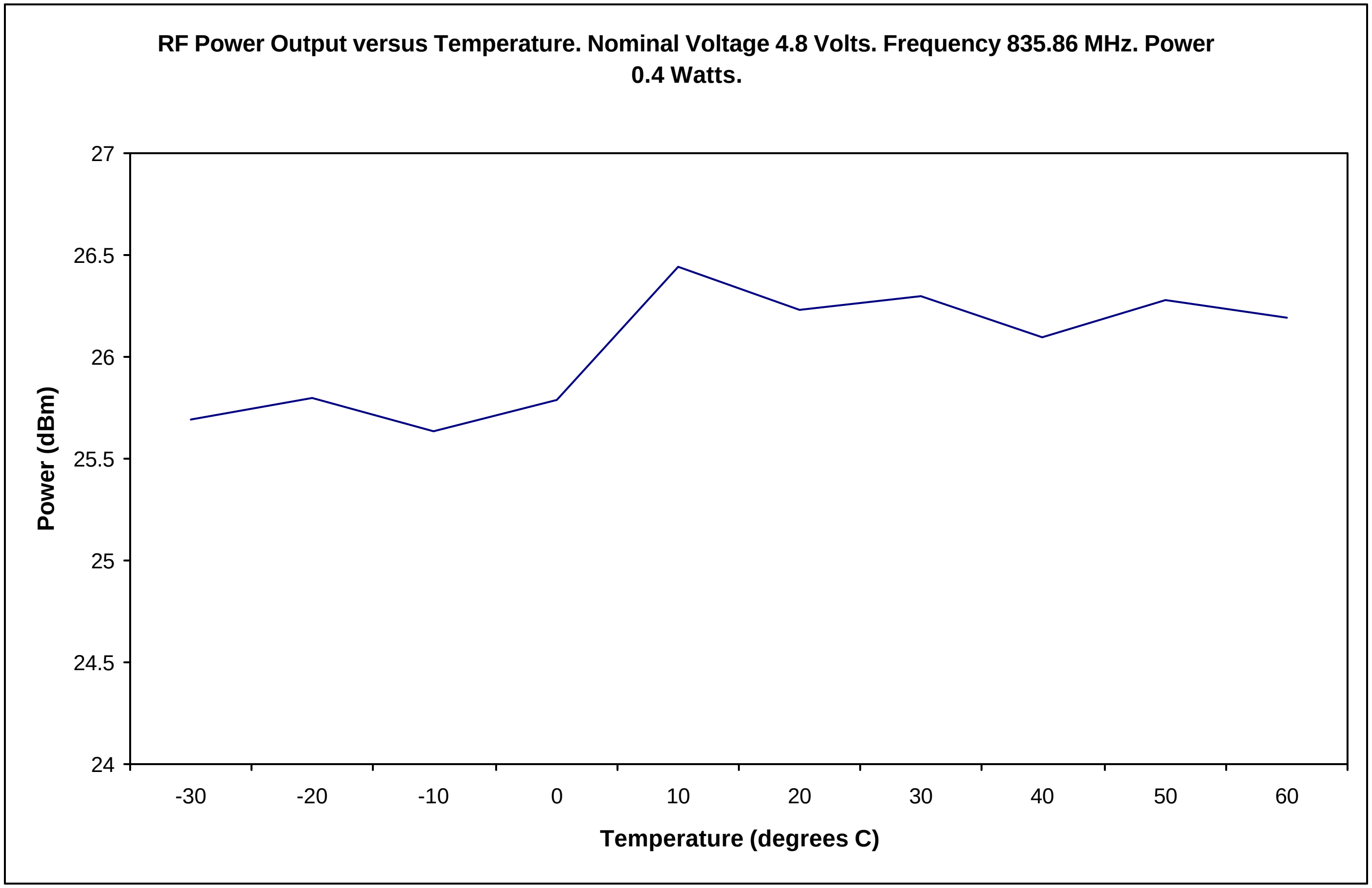
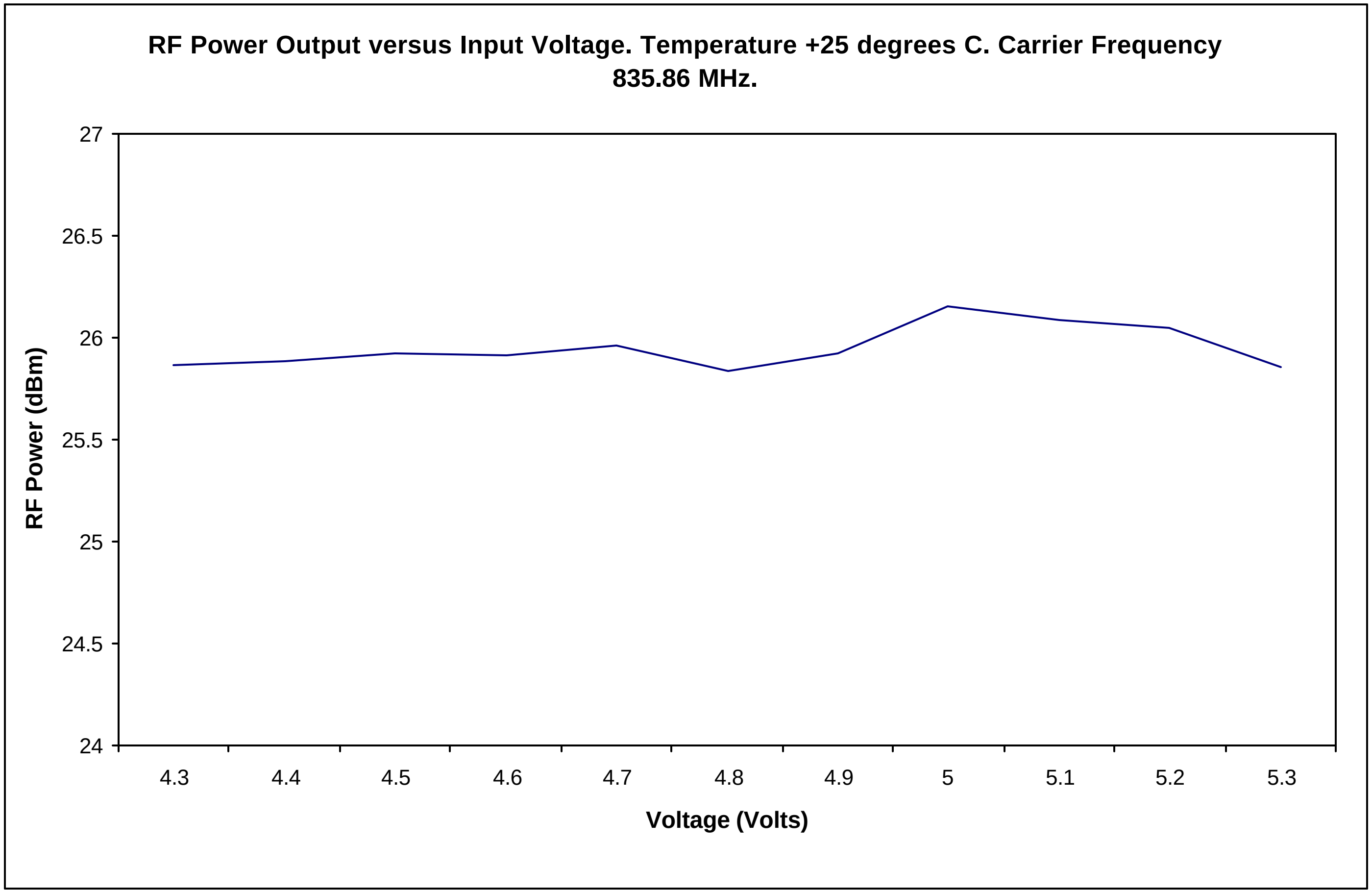

RF Power Output versus Temperature. Nominal Voltage 4.8 Volts. Frequency 835.86 MHz. Power 0.4 Watts.
Power (dBm)
27
26.5
26
25.5
25
24.5
24
-30
-20
-10
0
10
20
30
40
50
60
Temperature (degrees C)

Exhibit 6A5


RF Power Output versus Input Voltage. Temperature +25 degrees C. Carrier Frequency 835.86 MHz.
RF Power (dBm)
27
26.5
26
25.5
25
24.5
24
4.3
4.4
4.5
4.6
4.7
4.8
4.9
5
5.1
5.2
5.3
Voltage (Volts)

APPLICANT:
ERICSSON INC

FCC ID NO:
AXATR-387-A2

Exhibit 6B2

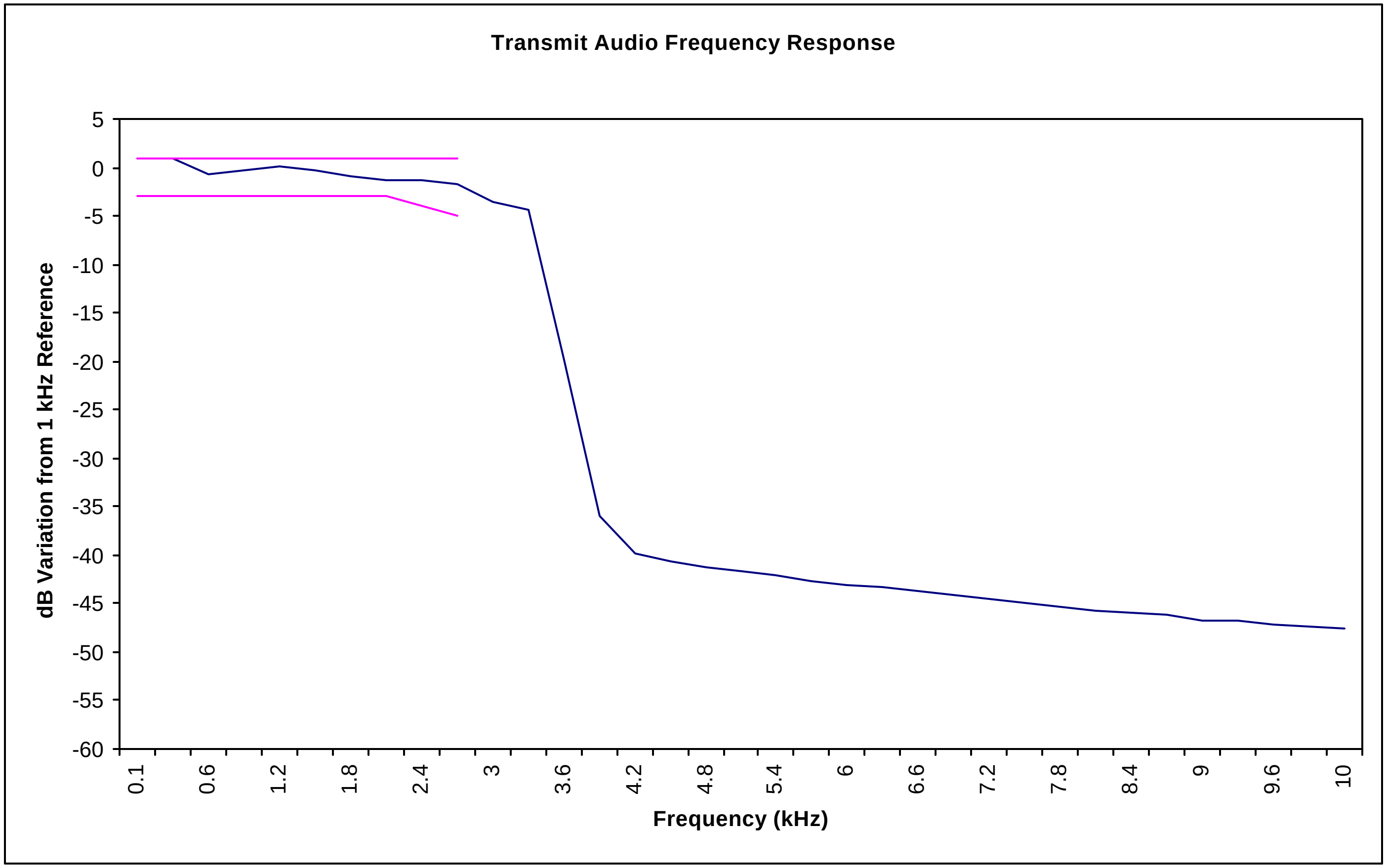
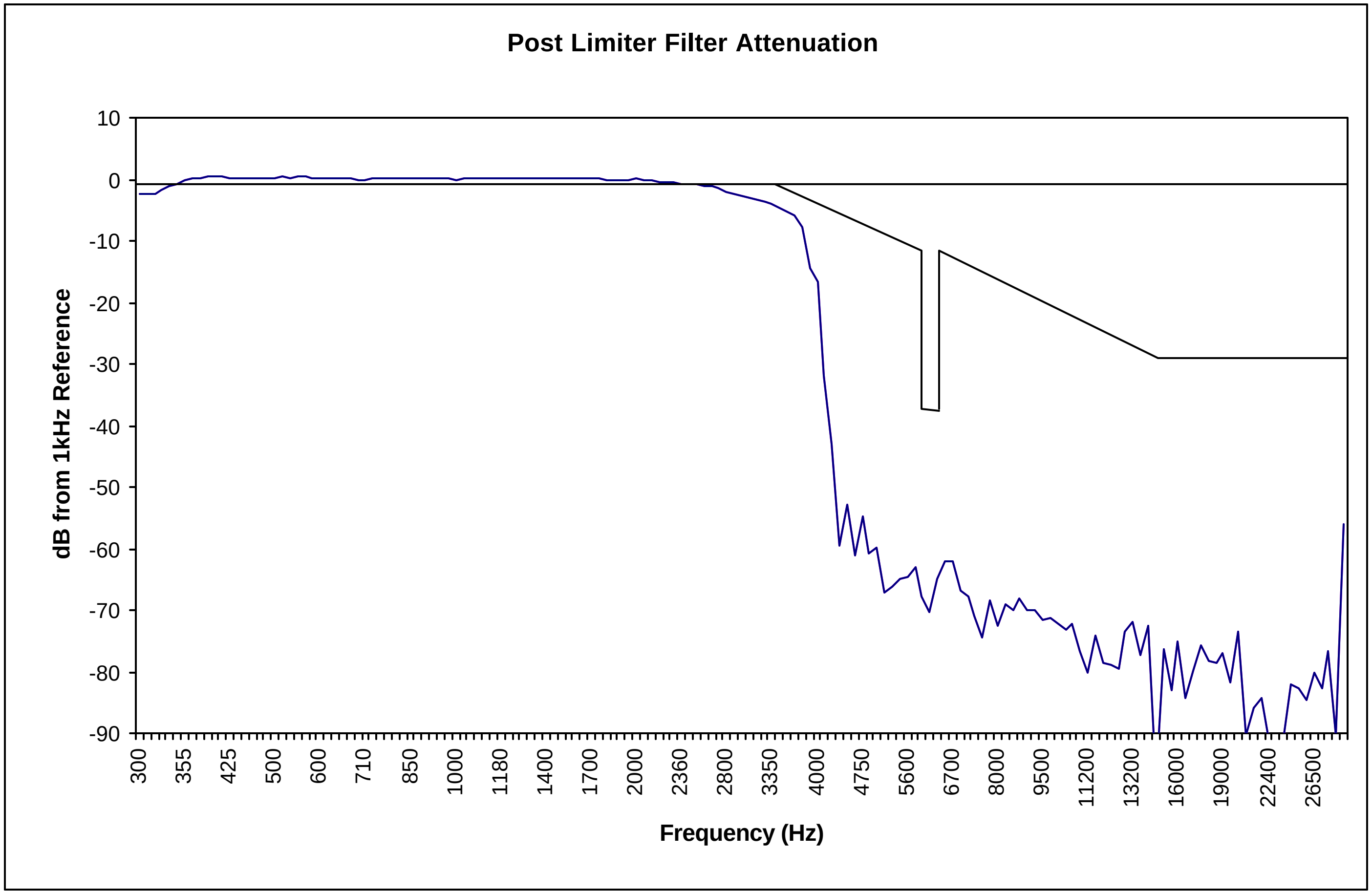


Exhibit 6B3


Post Limiter Filter Attenuation
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
dB from 1kHz Reference
300
355
425
500
600
710
850
1000
1180
1400
1700
2000
2360
2800
3350
4000
4750
5600
6700
8000
9500
11200
13200
16000
19000
22400
26500
Frequency (Hz)

APPLICANT:
ERICSSON INC

FCC ID NO:
AXATR-387-A2

Exhibit 6B4

Modulation Limiting versus Frequency input as per 2.987 and 22.915

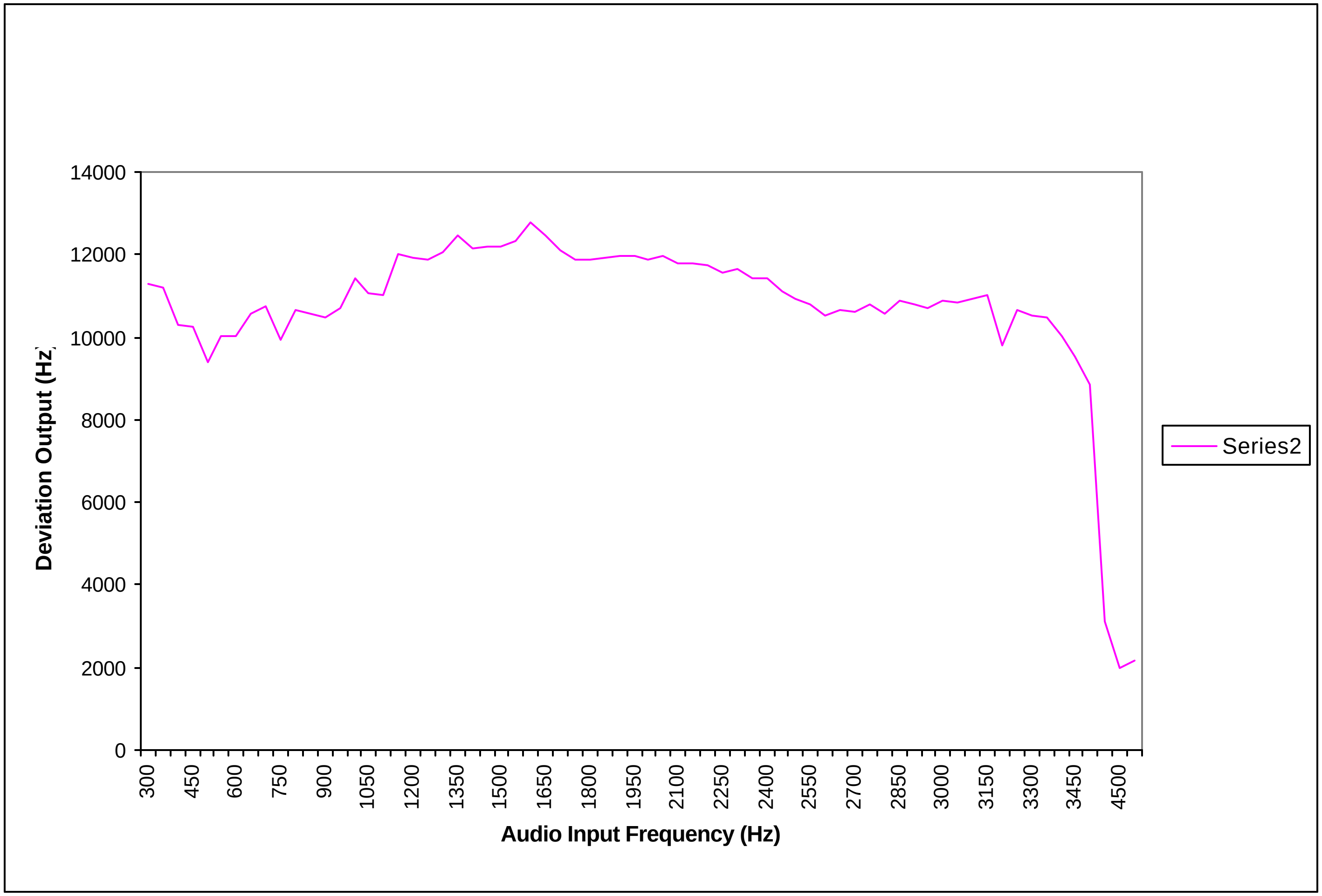
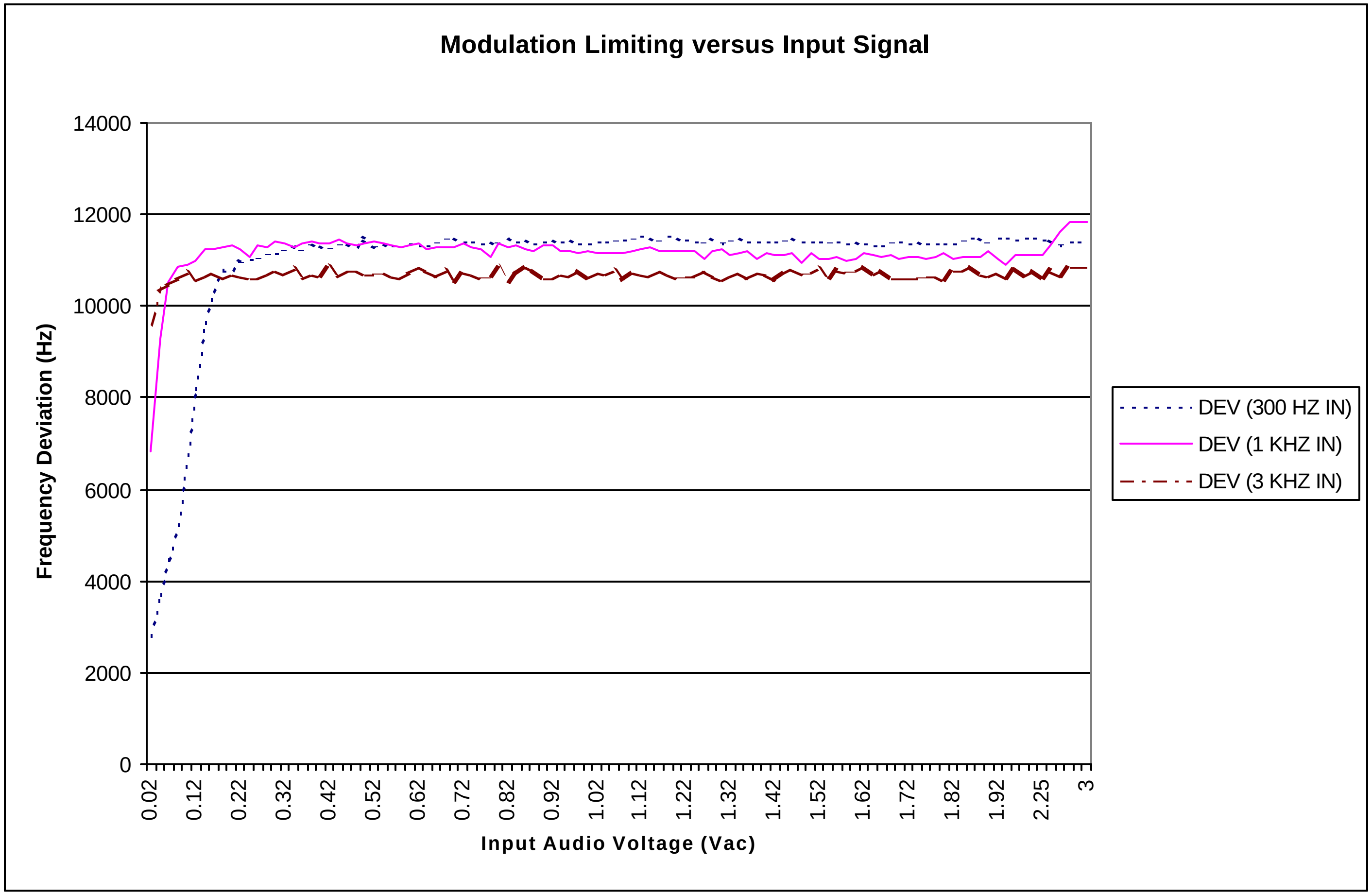


Exhibit 6B5


Modulation Limiting versus Input Signal
Frequency Deviation (Hz)
14000
12000
10000
8000
6000
4000
2000
0
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
1.02
1.12
1.22
1.32
1.42
1.52
1.62
1.72
1.82
1.92
2.25
3
Input Audio Voltage (Vac)
DEV (300 HZ IN)
DEV (1 KHZ IN)
DEV (3 KHZ IN)

800 MHz : OCCUPIED BANDWIDTH

Per 2.989 (c), (1) (h) and 22.917 (d)(1) the exhibits presented show the modulations that co-exist in a cellular system:

Exhibit #	Description	Power Level
6C2	Unmodulated Carrier	0
6C3	SAT and Voice	0
6C4	SAT and Signal Tone	0
6C5	SAT and DTMF #3	0
6C6	SAT and 10kb/s Wideband Data	0
6C7	Wideband Data 48.6 kb/s Data	0
6C8	Unmodulated Carrier	7
6C9	SAT and Voice	7
6C10	SAT and Signal Tone	7
6C11	SAT and DTMF #3	7
6C12	SAT and 10 kb/s Wideband Data	7
6C13	Wideband Data 48.6 kb/s Data	7

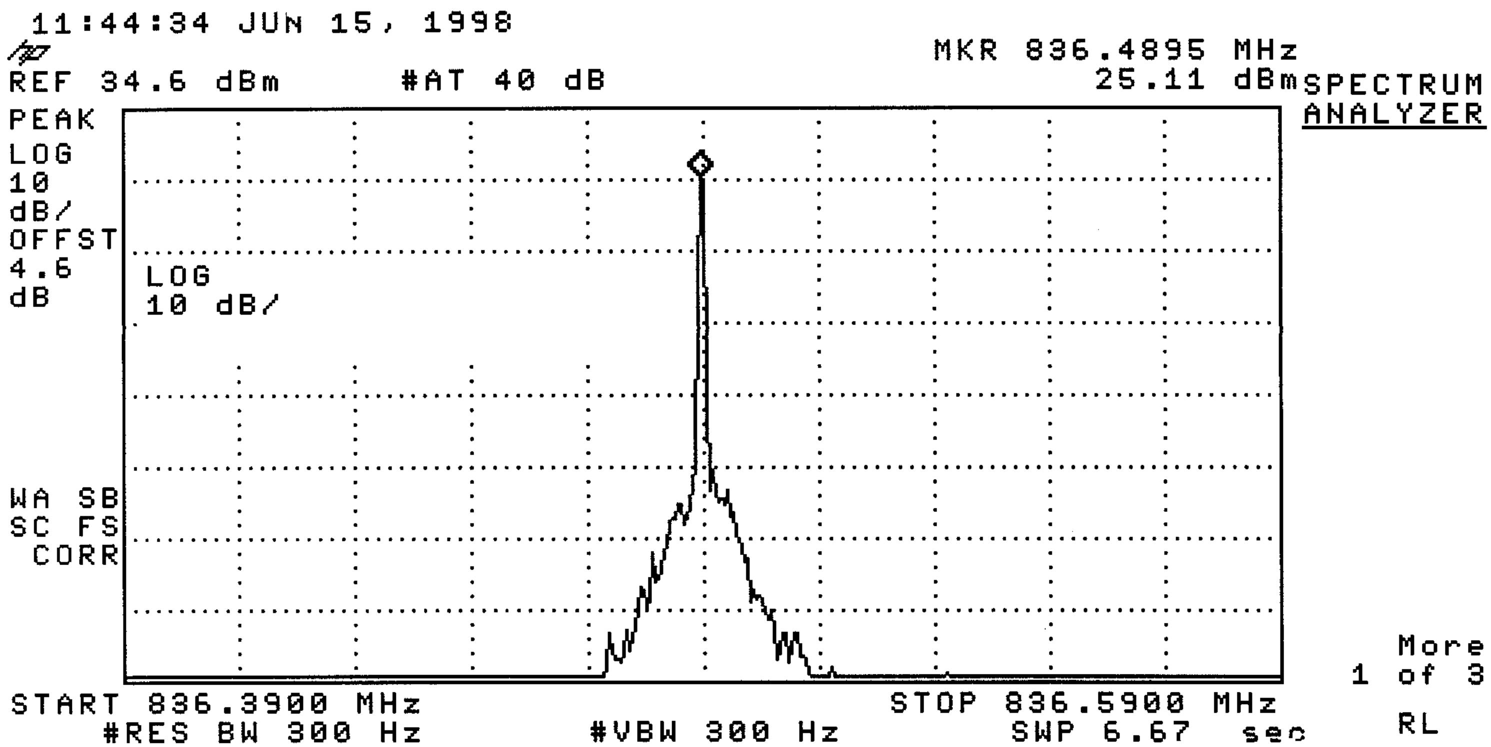
Note: The method of measuring occupied bandwidth of a US Digital Cellular signal is different from that of analog FM signal. The traditional method for specifying occupied bandwidth of a FM signal is to use a mask drawn over the spectral plot of the modulated signal.

A different method is employed for the US DAMPS system. This is described in the TIA IS137A document, section 3.4.1.2. The method used in the digital application is to measure average power within a 30KHz bandwidth corresponding to a channel bandwidth for the system. This measurement is used to determine and specify power in neighboring channels relative to the fundamental occupied channel (i.e.: The average power in the adjacent channels compared to the average power in the fundamental channel for specifying occupied bandwidth).

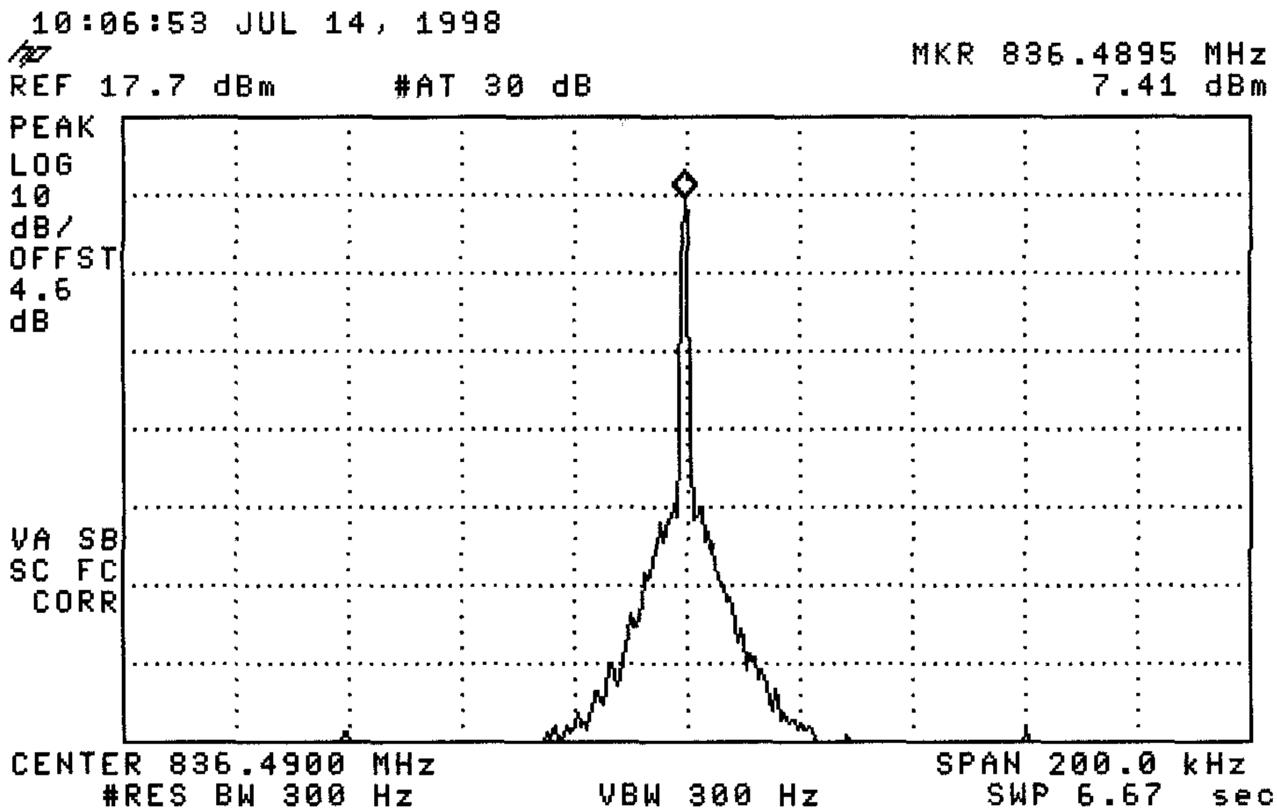
The power in each channel is an average of all the energy within the channel. This is less than peak levels within the channel due to the nature of an ‘average’ power measurement. This characteristic of measuring ‘average’ power prohibits the use of a spectral mask. The mask could only be drawn relative to the spectral peaks and would not give an indication of the average power as specified in IS137A, section 3.4.1.2. Consequently, the only way to accurately measure and specify occupied bandwidth of a US DAMPS signal is with special equipment designed to collect all energy within a specified bandwidth and display the average power of this energy. This cannot be done with a simple spectrum analyzer measurement as was traditionally possible for FM only signals.

These measurements wee made per IS-137A using a HP 8953DT which includes the following equipment:

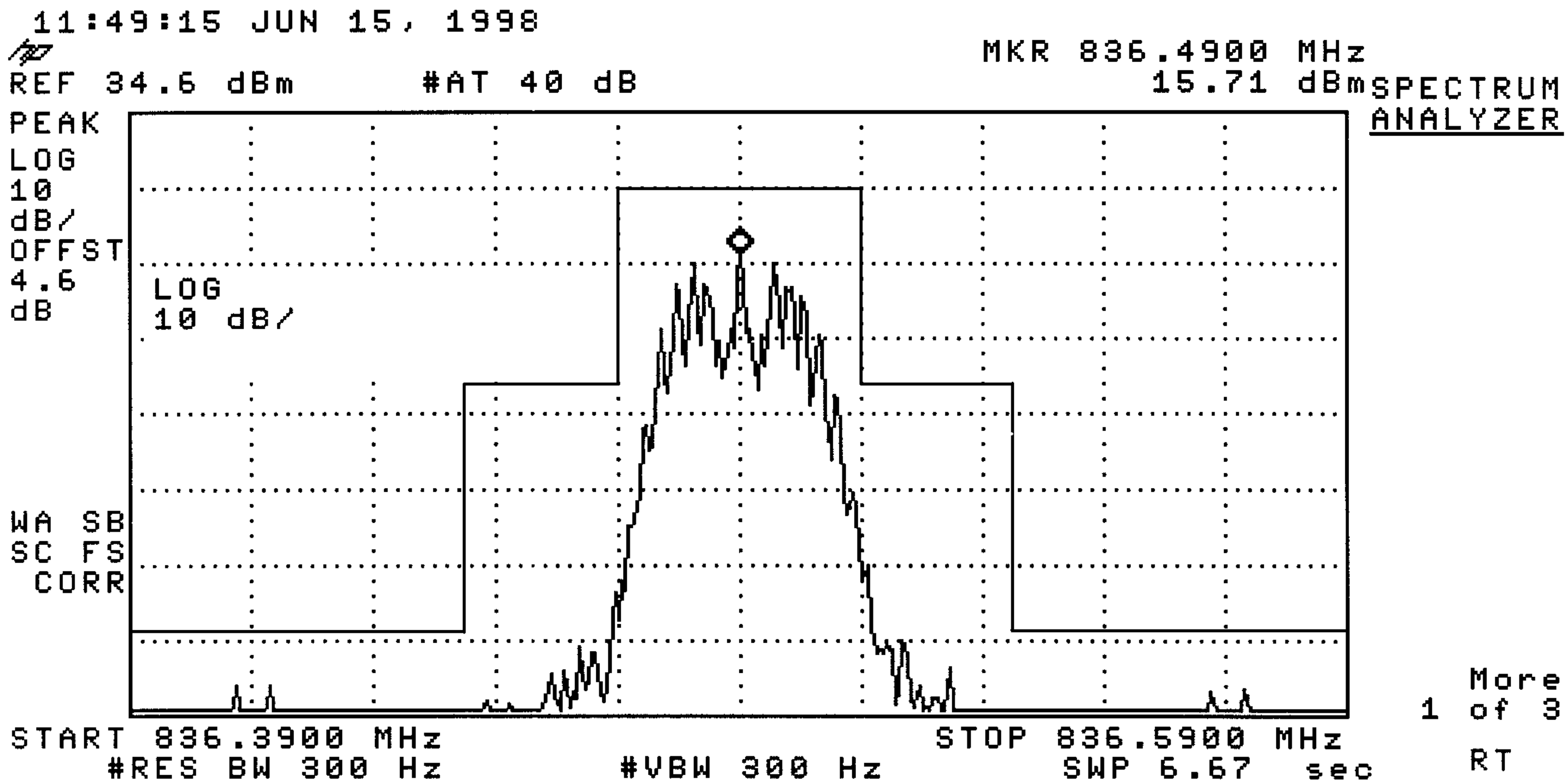
HP 8958A	Cellular Interface
HP 6623A	DC Power Supply
HP 8596E	Spectrum Analyzer
HP 437B	RF Power Meter
HP 8901B	Modulation Analyzer
HP 8903B	Audio Analyzer
Thermotron SM-8C	Temperature Chamber



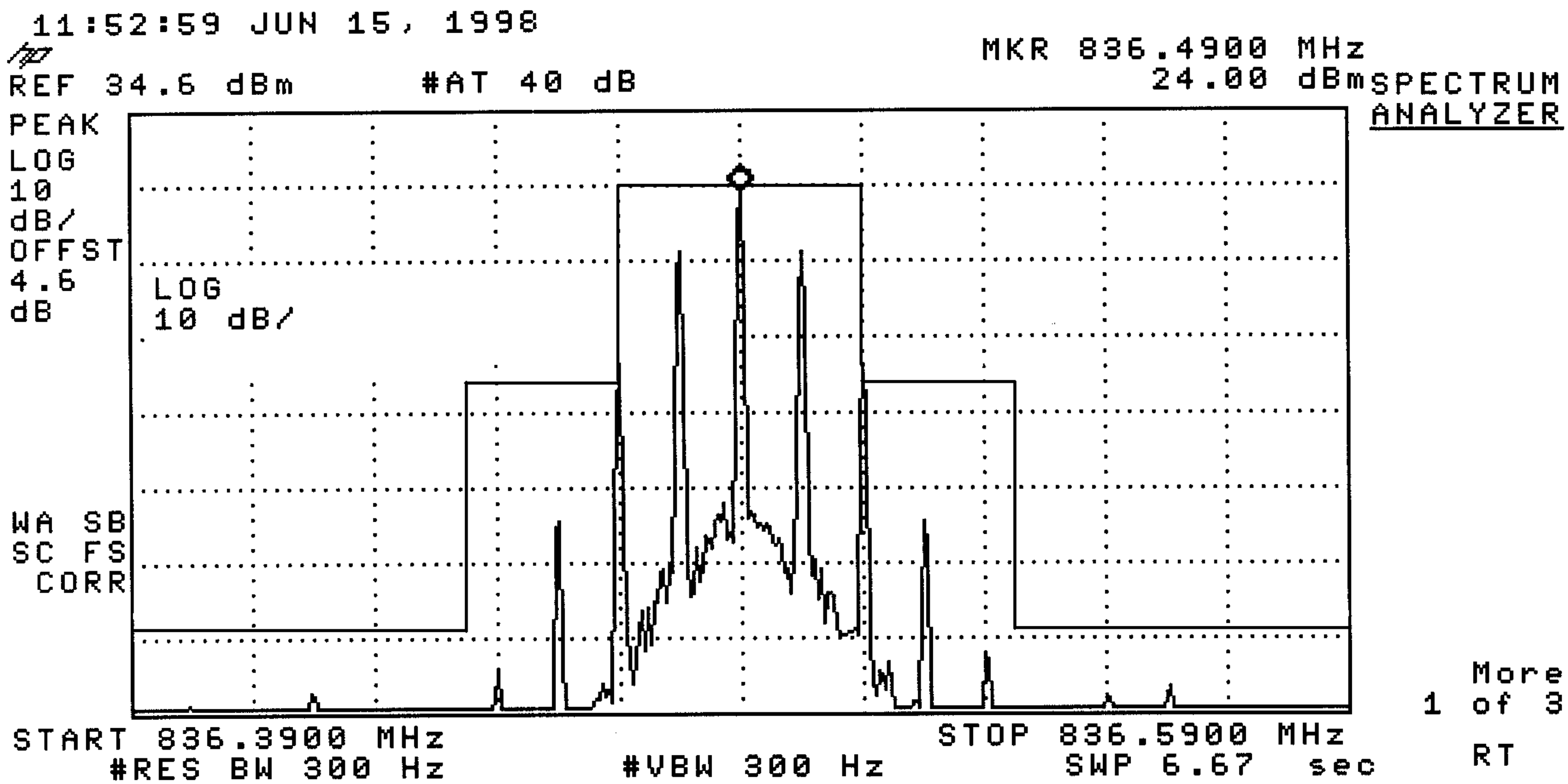
Unmodulated Carrier. Power Level 0, Carrier Frequency 836.49 MHz, Carrier Power 25.11 dBm.



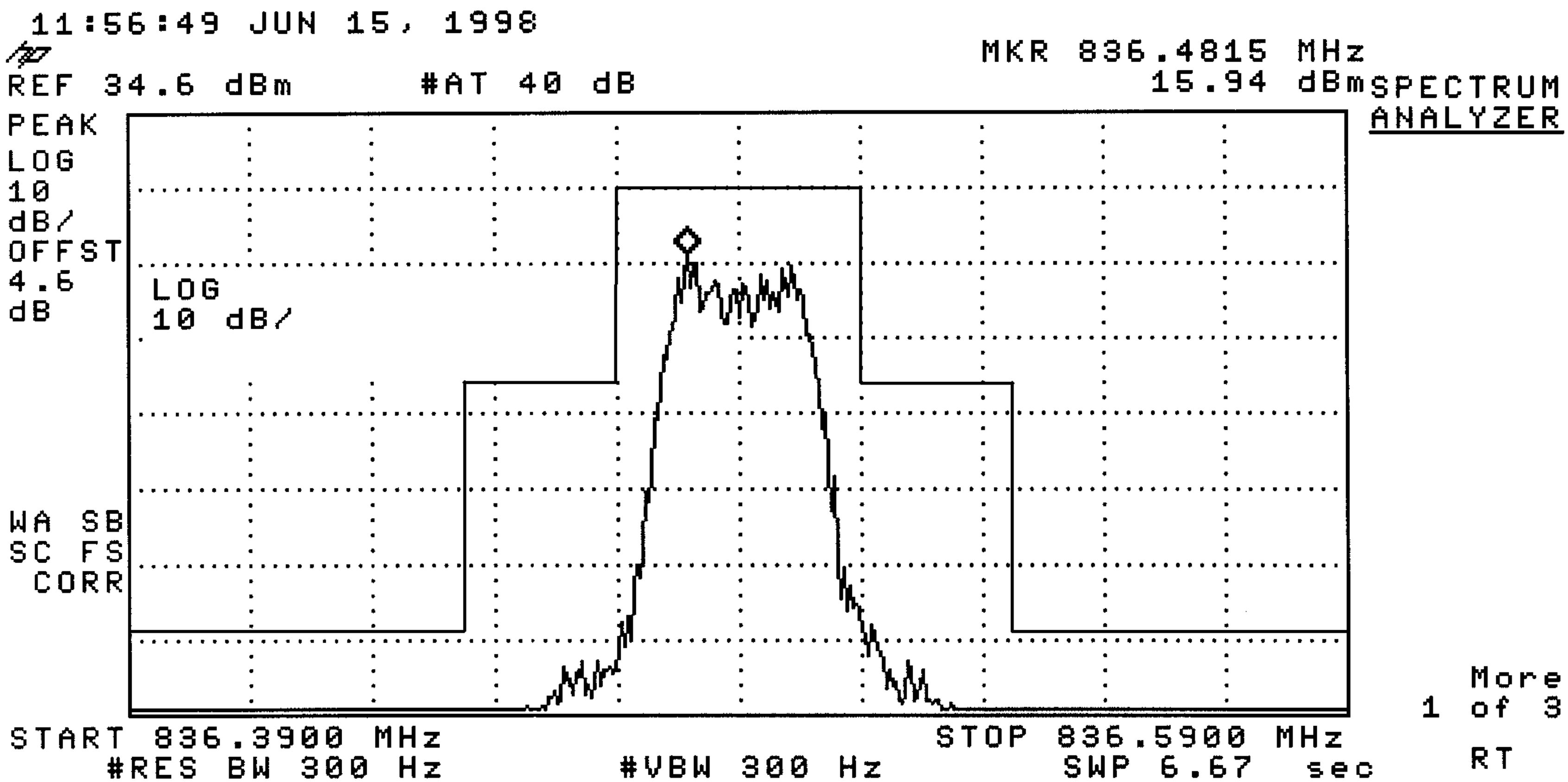
Unmodulated Carrier. Power Level 7, Carrier Frequency 836.49 MHz, Carrier Power 7.41 dBm.



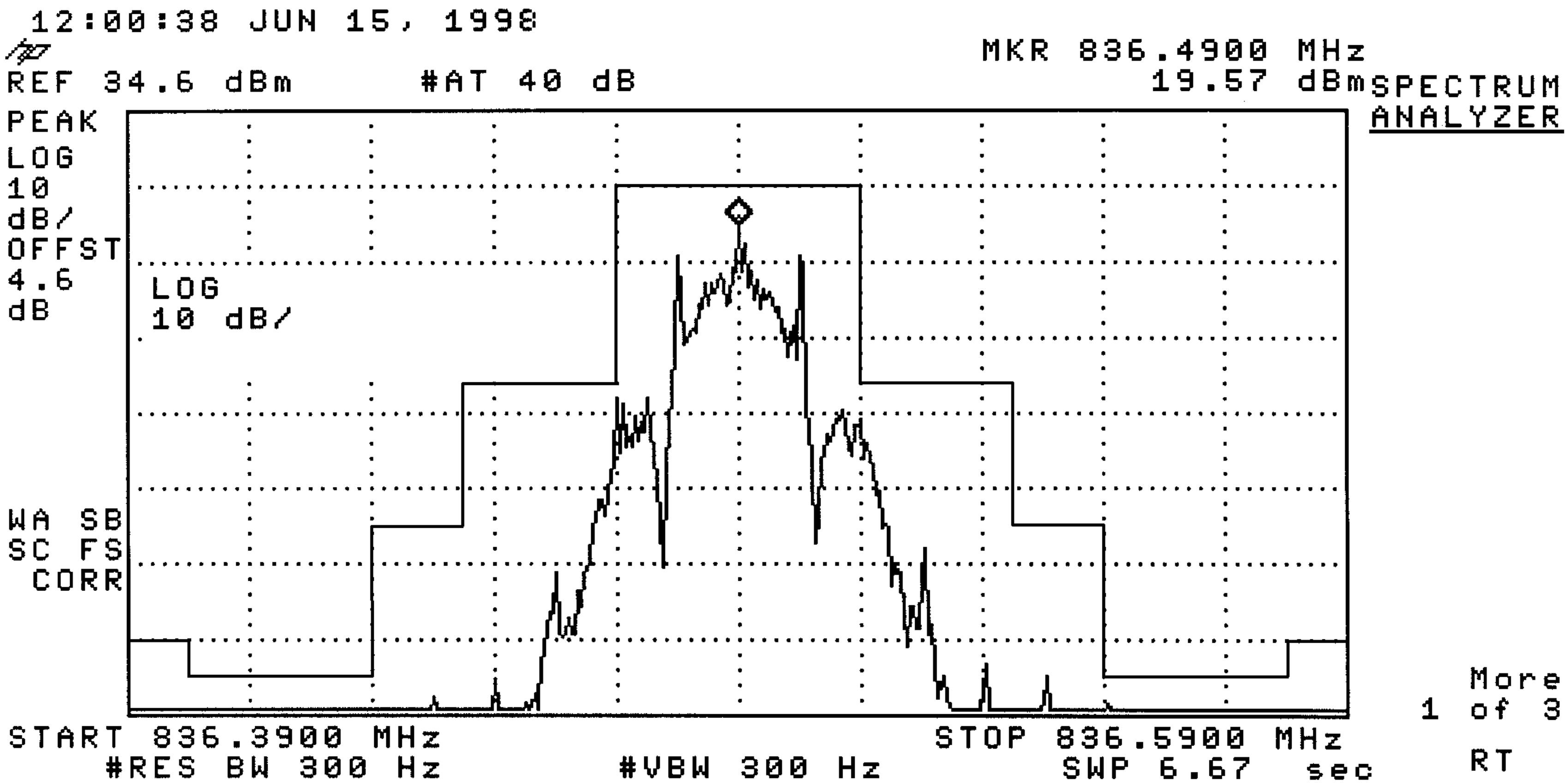
SAT and Voice. Power Level 0, Carrier Frequency 836.49 MHz, Carrier Power 25.44 dBm. F3E Emissions Mask.



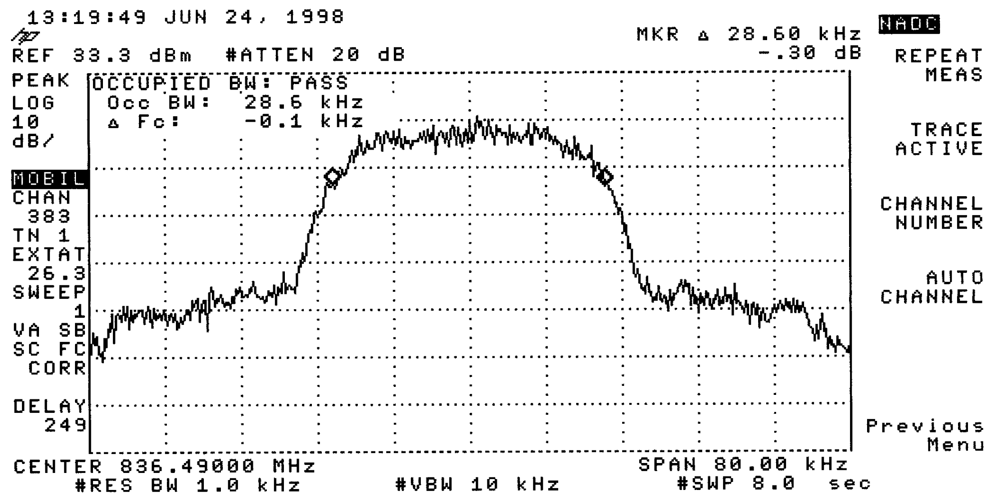
SAT and Signalling Tone. Power Level 0, Carrier Frequency 836.49 MHz, Carrier Power 25.2 dBm. F3E Emissions Mask.

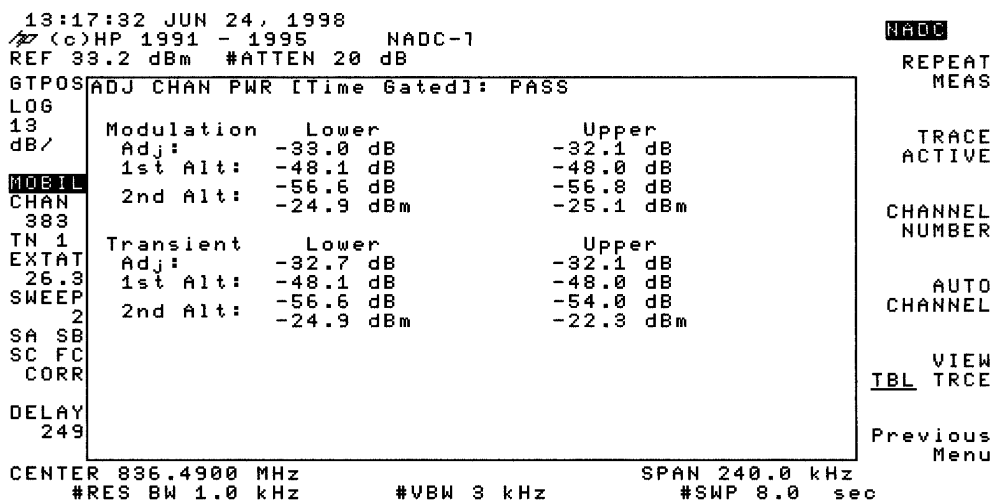


SAT and DTMF #3. Power Level 0, Carrier Frequency 836.49 MHz, Carrier Power 25.63 dBm. F3E Emissions Mask

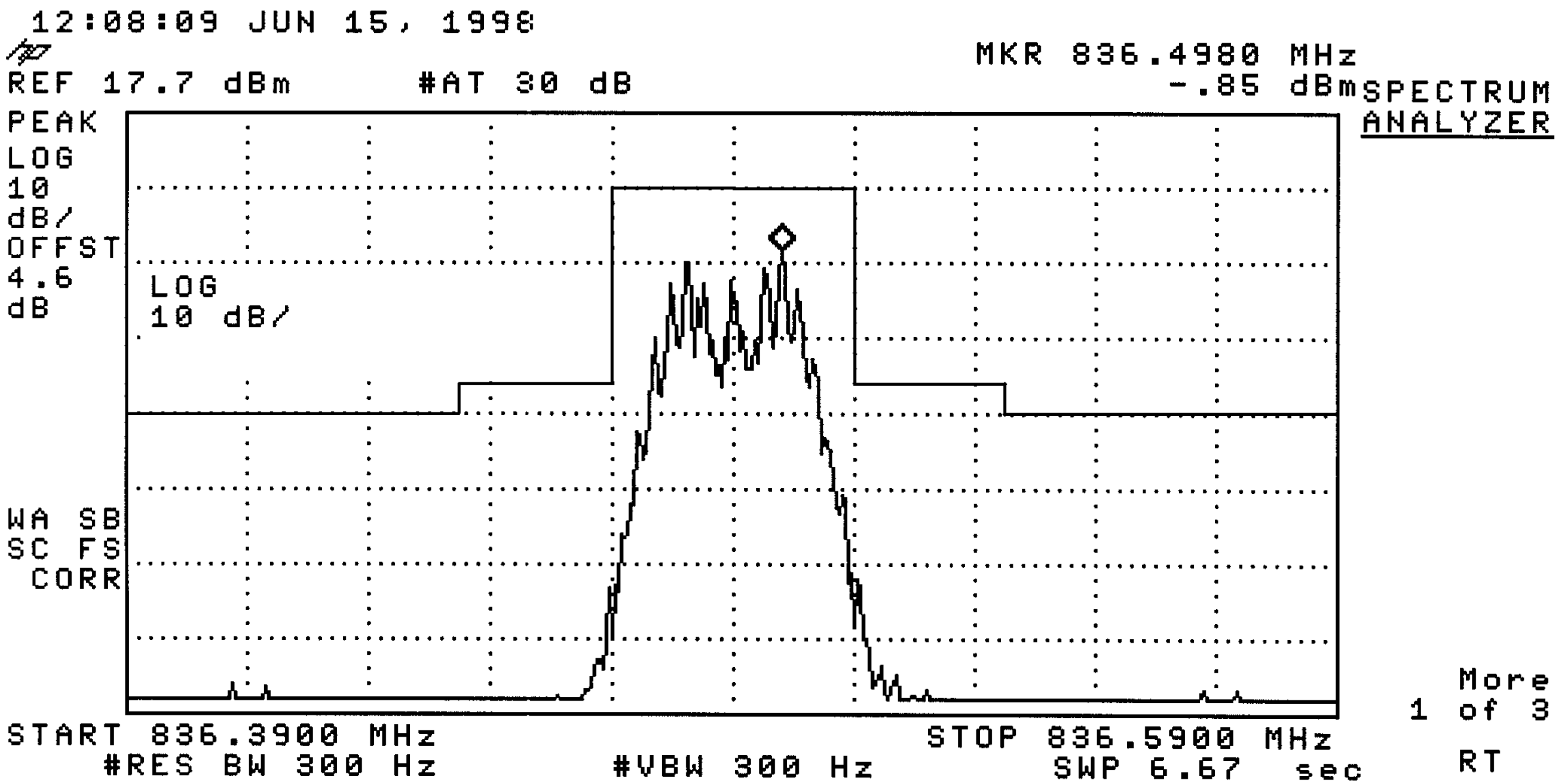


SAT and Wideband 10 kb/S Digital data. Power Level 0, Carrier Frequency 836.49 MHz, Carrier Power 25.4 dBm. F1D Emissions Mask.

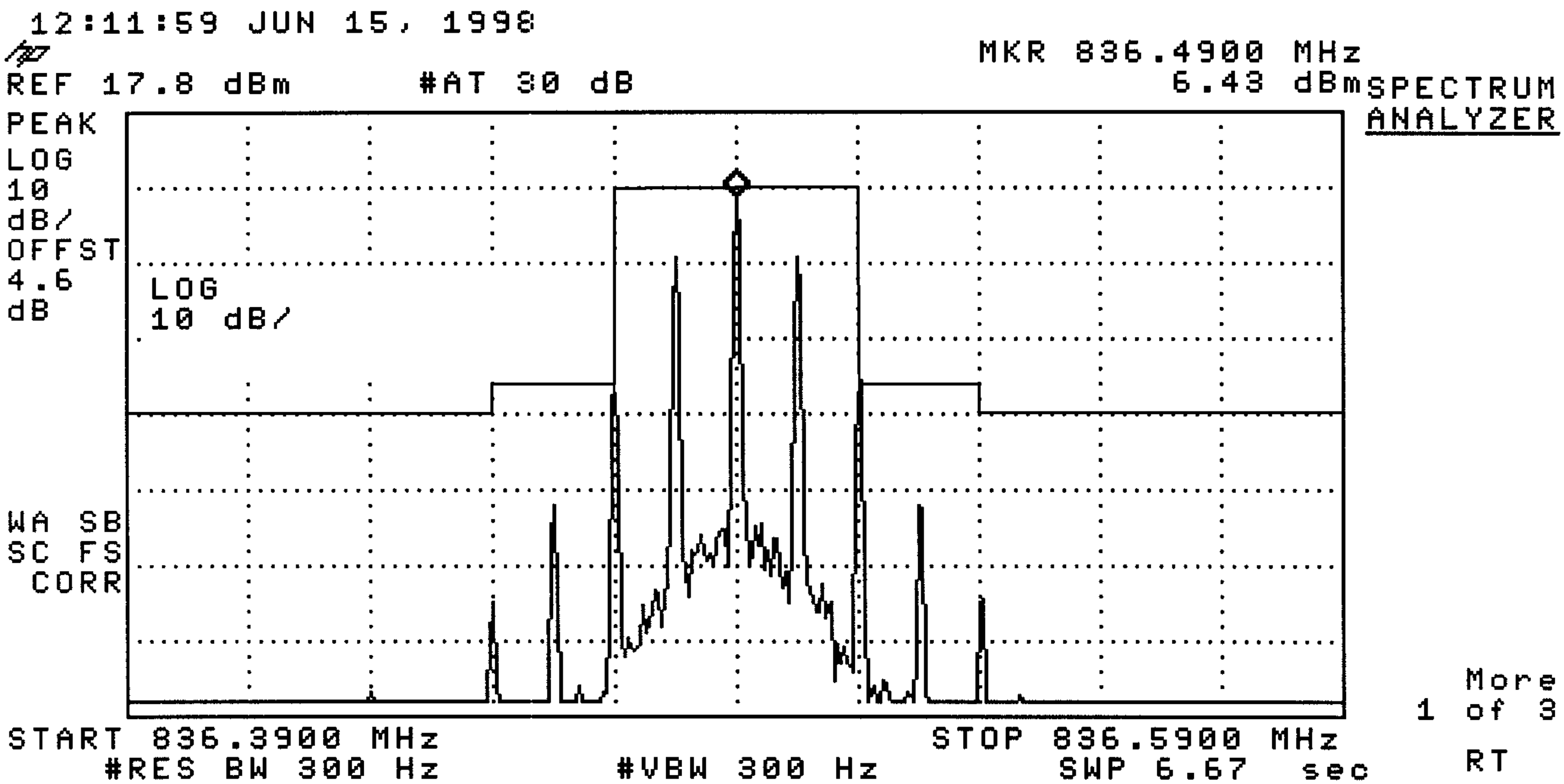




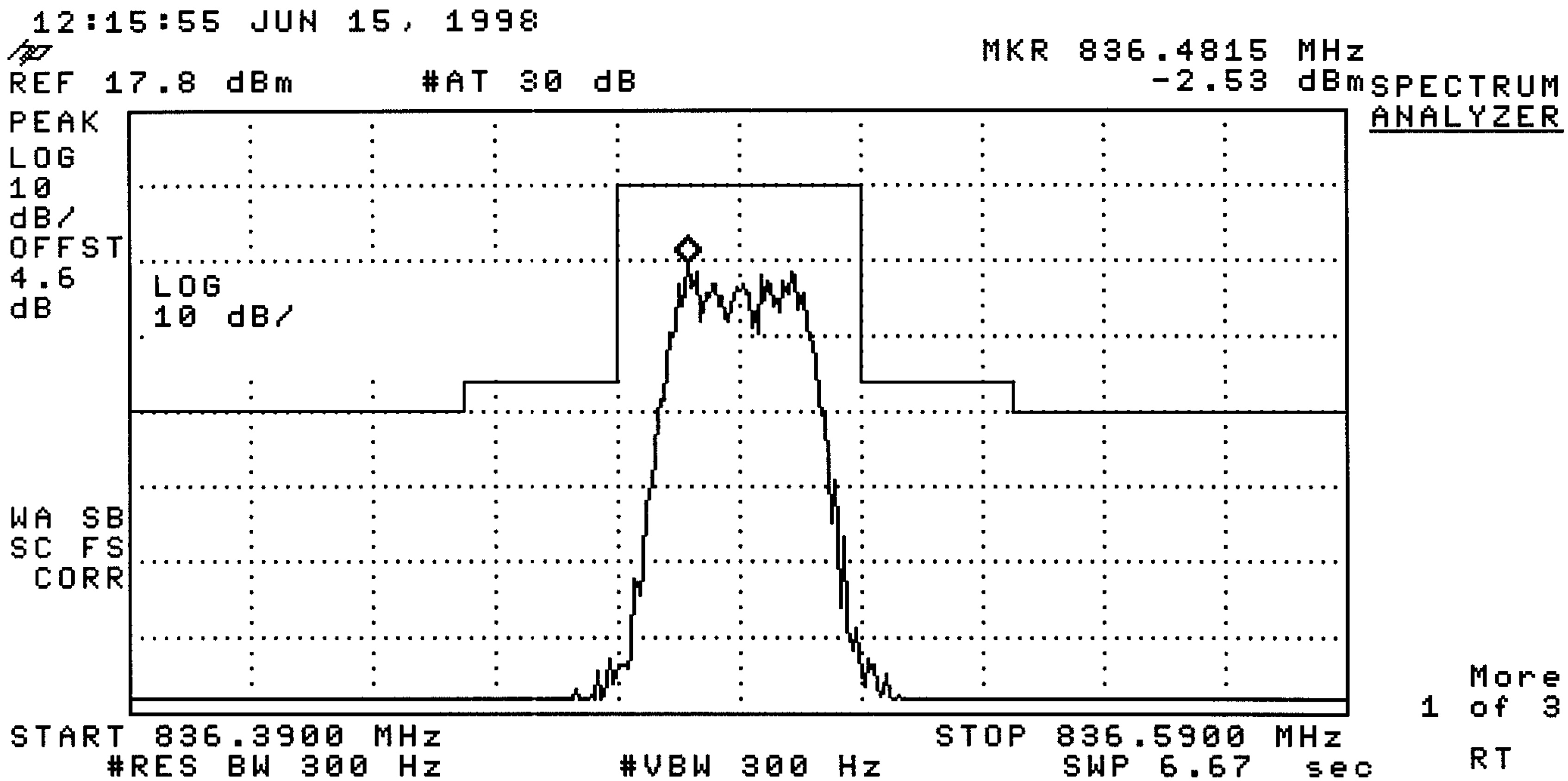
Wideband Data 48.6 kb/s switched (Data). Power Level 0, Carrier Frequency 836.49 MHz, Carrier Power 25.2 dBm.
Plots showing occupied bandwidth of 28.6 kHz and alternate and adjacent power



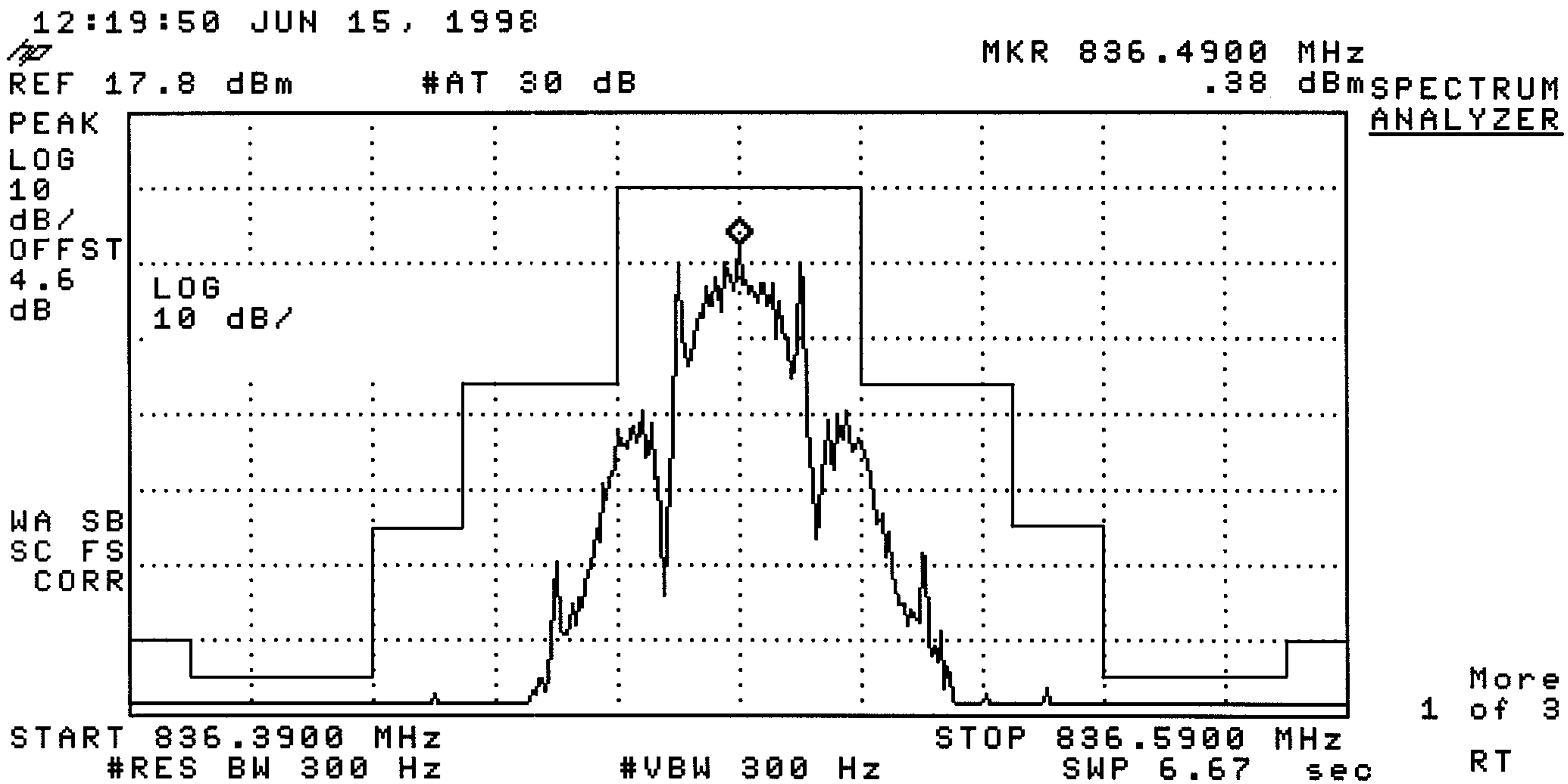
SAT and Voice. Power Level 7, Carrier Frequency 836.49 MHz, Carrier Power 7.76 dBm. F3E Emissions Mask.



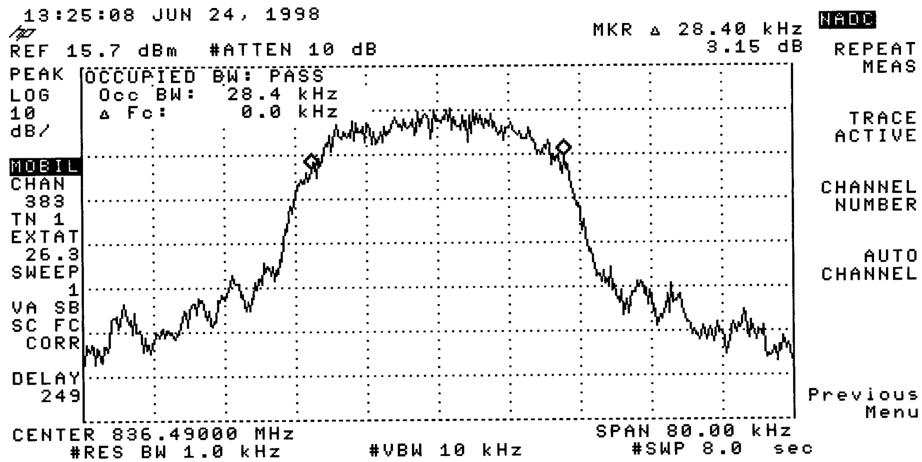
SAT and Signalling Tone. Power Level 7, Carrier Frequency 836.49 MHz, Carrier Power 7.76 dBm. F3E Emissions Mask.

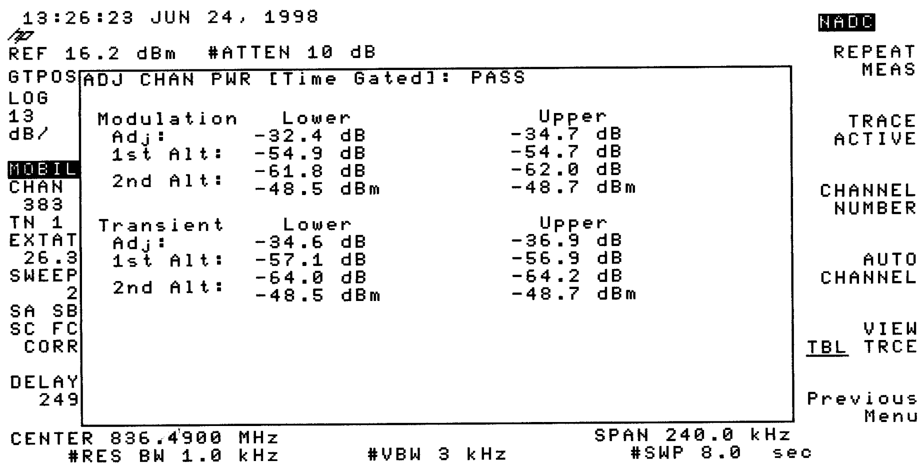


SAT and DTMF #3. Power Level 7, Carrier Frequency 836.49 MHz, Carrier Power 7.76 dBm. F3E Emissions Mask.



SAT and Wideband 10 kb/S Digital data. Power Level 7, Carrier Frequency 836.49 MHz, Carrier Power 7.76 dBm. F1D Emissions Mask.





Wideband Data 48.6 kb/s switched (Data). Power Level 7, Carrier Frequency 836.49 MHz, Carrier Power 7.76 dBm.
Plots showing occupied bandwidth of 28.4 kHz and alternate and adjacent power.

800 MHz : SPURIOUS EMISSIONS (CONDUCTED)

Per 2.991 Spurious emissions at the antenna terminals (conducted) when properly loaded with an appropriate artificial antenna were measured per IS-137A.

EXHIBIT #	FREQUENCY	Output Power
6D2	824.04	.0004
6D3	824.04	.4
6D4	848.97	.0004
6D5	848.97	.4

The measurements were made per IS-137A using the following equipment:

Hp 8958A	Cellular Interface
Hp 8901B	Modulation Analyzer
Hp 8559A	Spectrum Analyzer

APPLICANT:
ERICSSON INC

FCC ID NO:
AXATR-387-A2

Exhibit 6D2

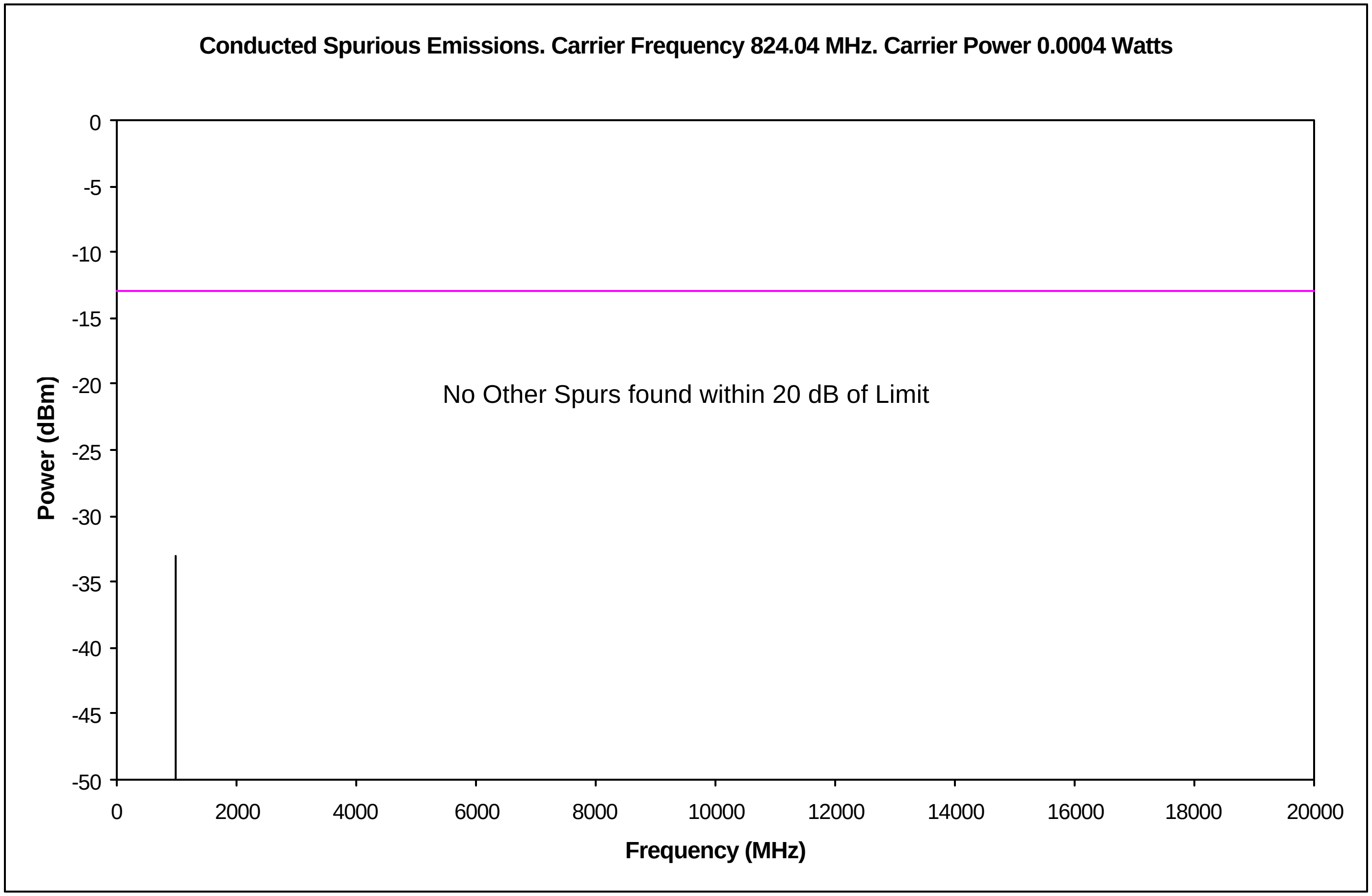


Exhibit 6D3

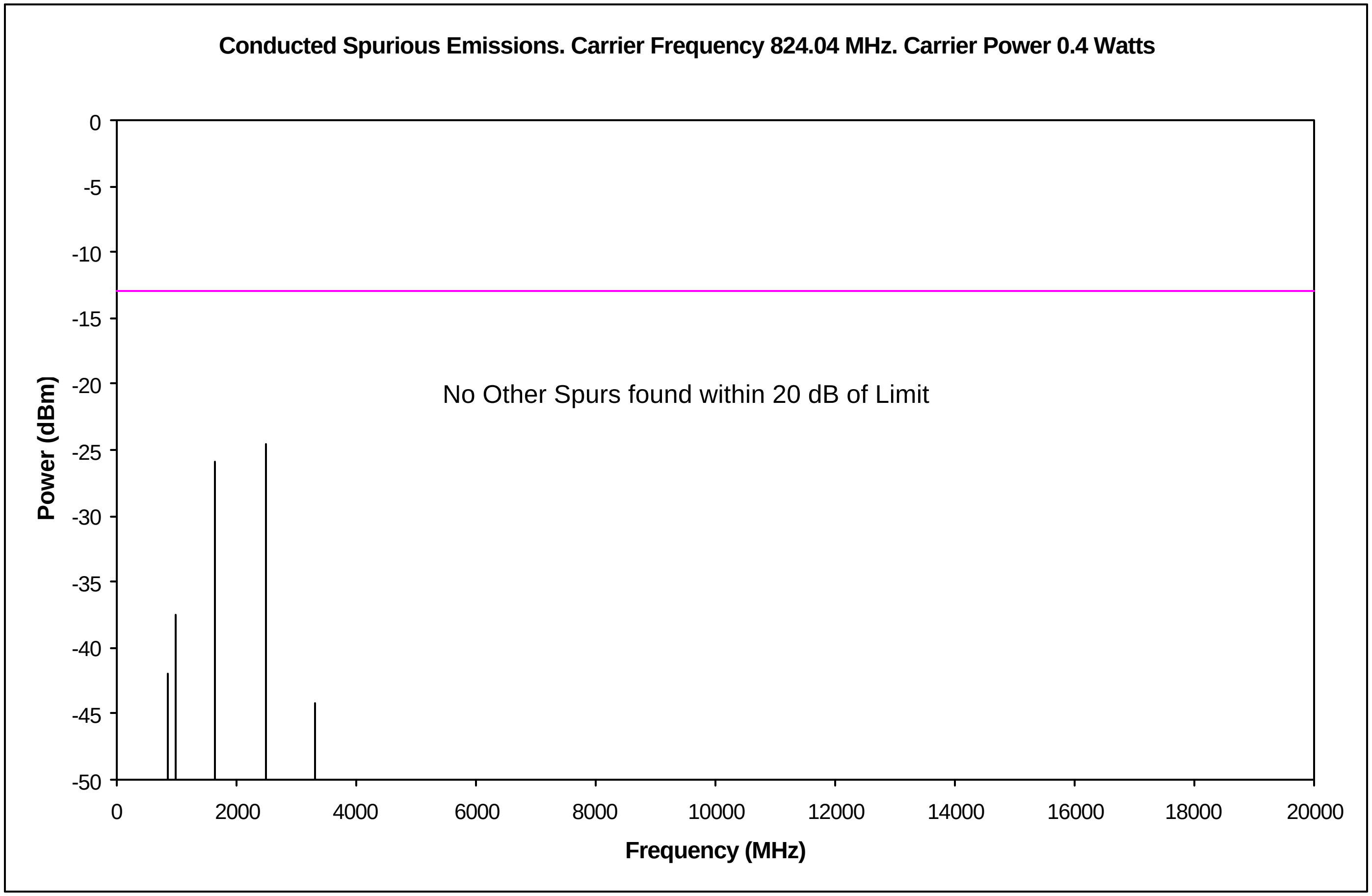
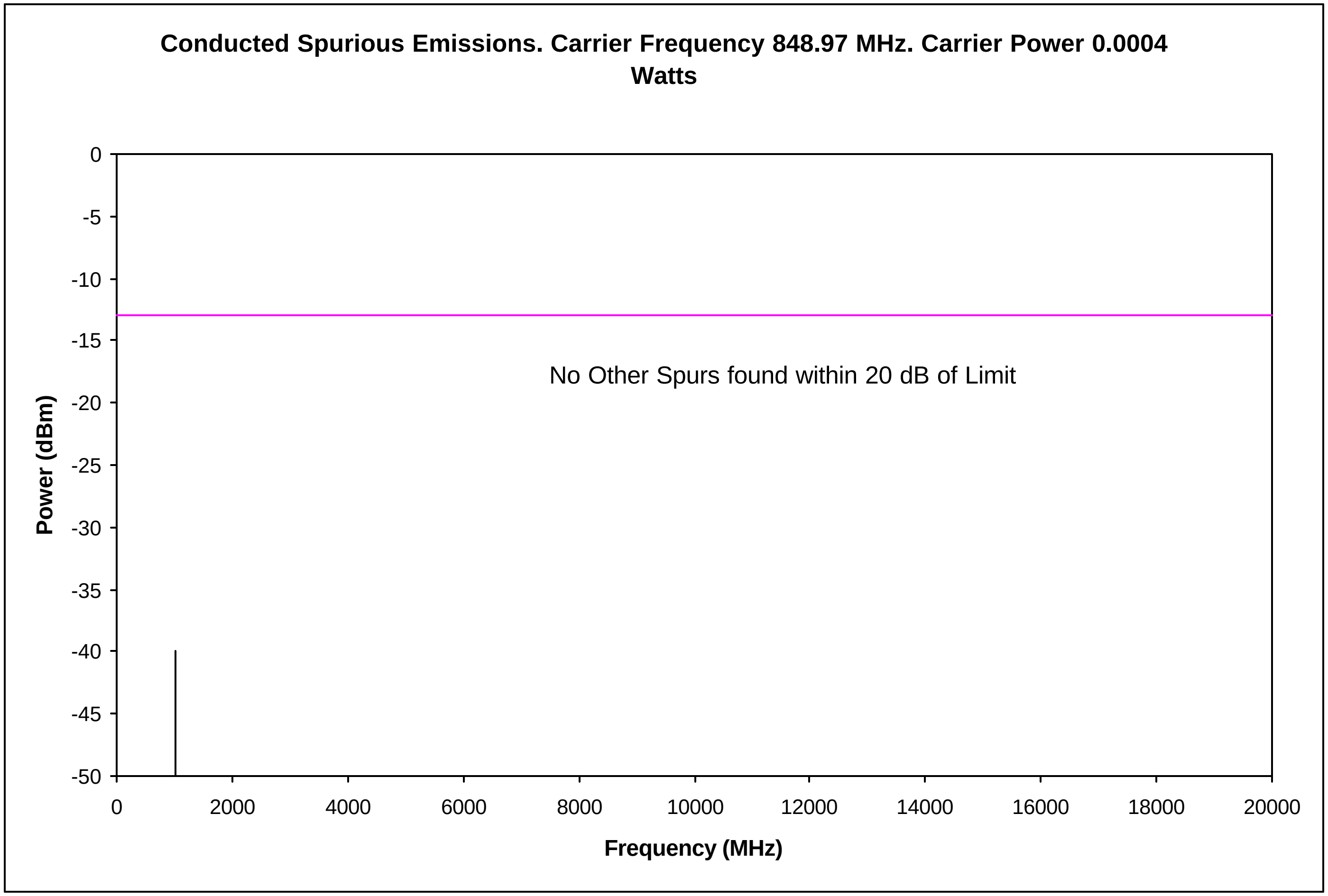
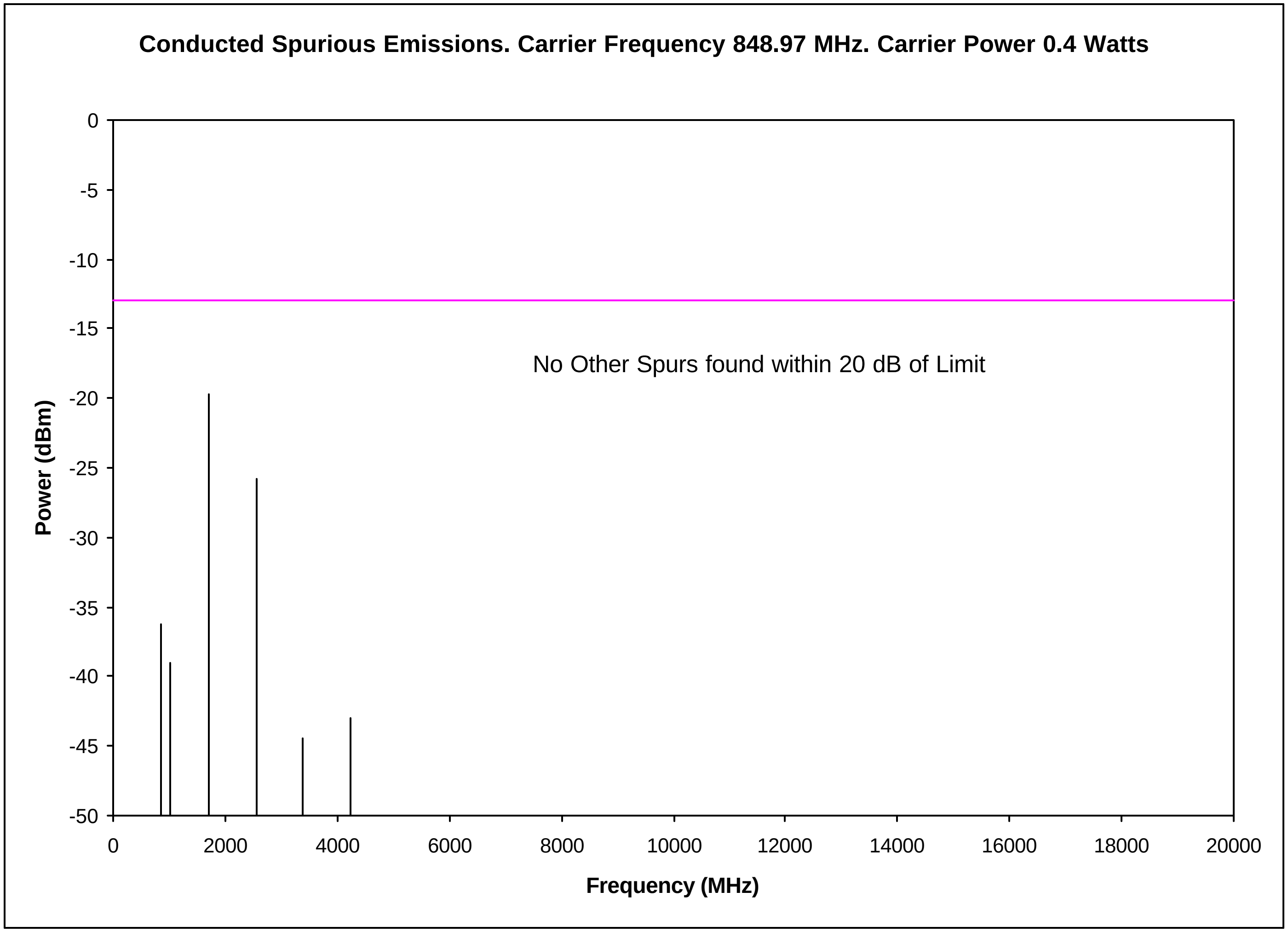

Conducted Spurious Emissions. Carrier Frequency 824.04 MHz. Carrier Power 0.4 Watts
No Other Spurs found within 20 dB of Limit
Power (dBm)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Frequency (MHz)

Exhibit 6D4


Conducted Spurious Emissions. Carrier Frequency 848.97 MHz. Carrier Power 0.0004 Watts
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
Power (dBm)
No Other Spurs found within 20 dB of Limit
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Frequency (MHz)

Ehibit 6D5


Conducted Spurious Emissions. Carrier Frequency 848.97 MHz. Carrier Power 0.4 Watts
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
Power (dBm)
No Other Spurs found within 20 dB of Limit
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Frequency (MHz)

800 MHz: SPURIOUS EMISSIONS (Radiated)

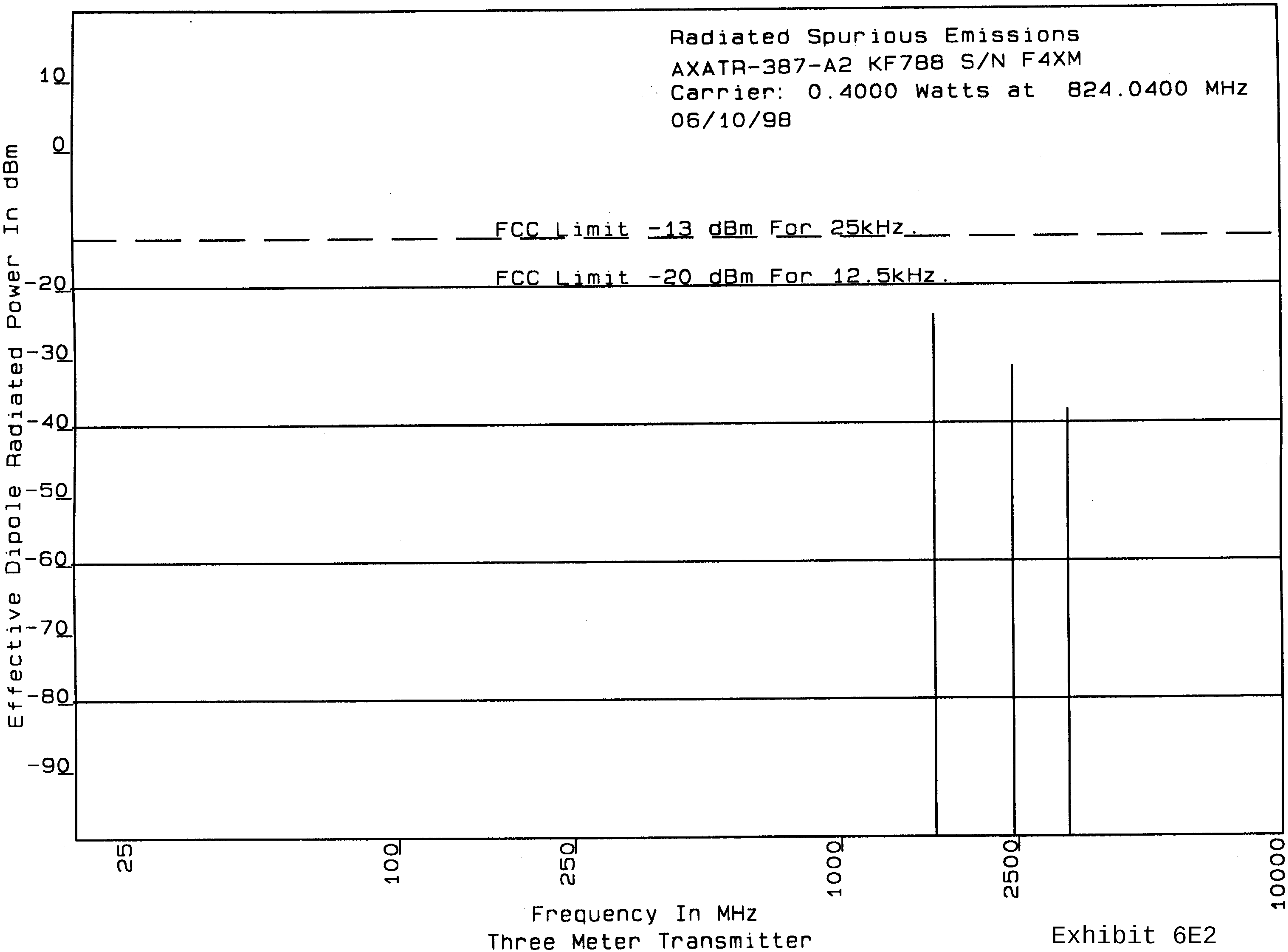
Per 2.993 and 22.917 (e), field strength of spurious radiation was measured on Ericsson's 3 meter site in Lynchburg, VA. The site and equipment are described in the site description and attenuation measurements for the Ericsson Inc. 3 meter radiation site #2 filed with the FCC in Columbia, MD, on June 5, 1997. The measurement procedure is per EIA IS-19B but done on a 3 meter test site. Results are shown on the following Exhibits.

Note: The Spectrum was examined through the 10th harmonic of the carrier. All measurements were taken and recorded on the following plots, 11G – J. Measurements recorded are Peak measurements.

EXHIBIT	FREQUENCY	OUTPUT POWER
6E2	824.04	.4
6E3	824.04	.0004
6E4	848.97	.4
6E5	848.97	.0004

The measurements were made per IS-137A using the following equipment:

Hewlett Packard 8566B Spectrum Analyzer
Hewlett Packard 8559A Spectrum Analyzer



Radiated Spurious Emissions
AXATR-387-A2 KF788 S/N F4XM
Carrier: 0.4000 Watts at 824.0400 MHz
06/10/98
FCC Limit -13 dBm For 25kHz.
FCC Limit -20 dBm For 12.5kHz.
Effective Dipole Radiated Power In dBm
10
0
-20
-30
-40
-50
-60
-70
-80
-90
25
100
250
1000
2500
10000
Frequency In MHz
Three Meter Transmitter

Exhibit 6E2

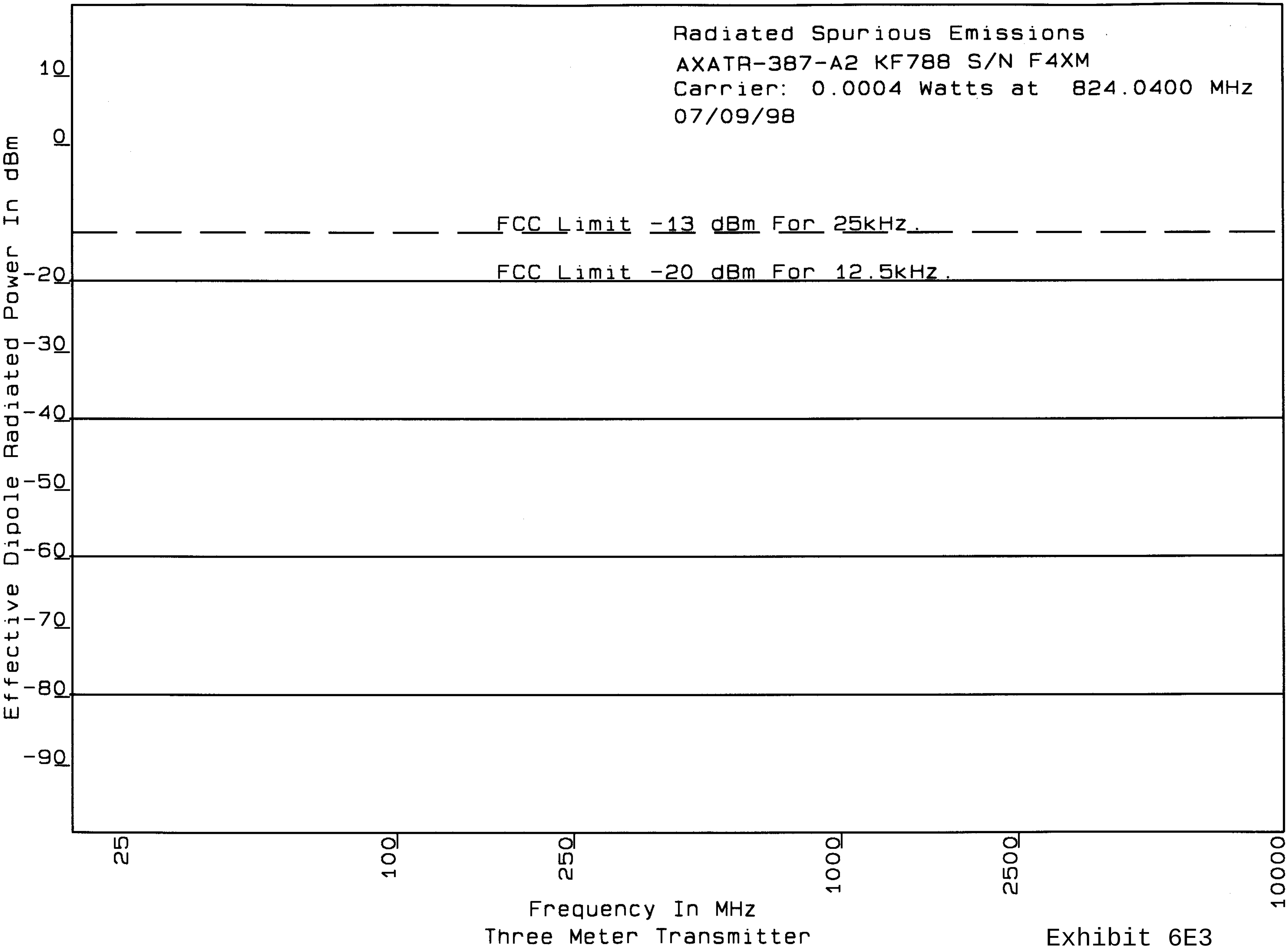

Radiated Spurious Emissions
AXATR-387-A2 KF788 S/N F4XM
Carrier: 0.0004 Watts at 824.0400 MHz
07/09/98
FCC Limit -13 dBm For 25kHz.
FCC Limit -20 dBm For 12.5kHz.
Effective Dipole Radiated Power In dBm
10
0
-20
-30
-40
-50
-60
-70
-80
-90
25
100
250
1000
2500
10000
Frequency In MHz
Three Meter Transmitter

Exhibit 6E3

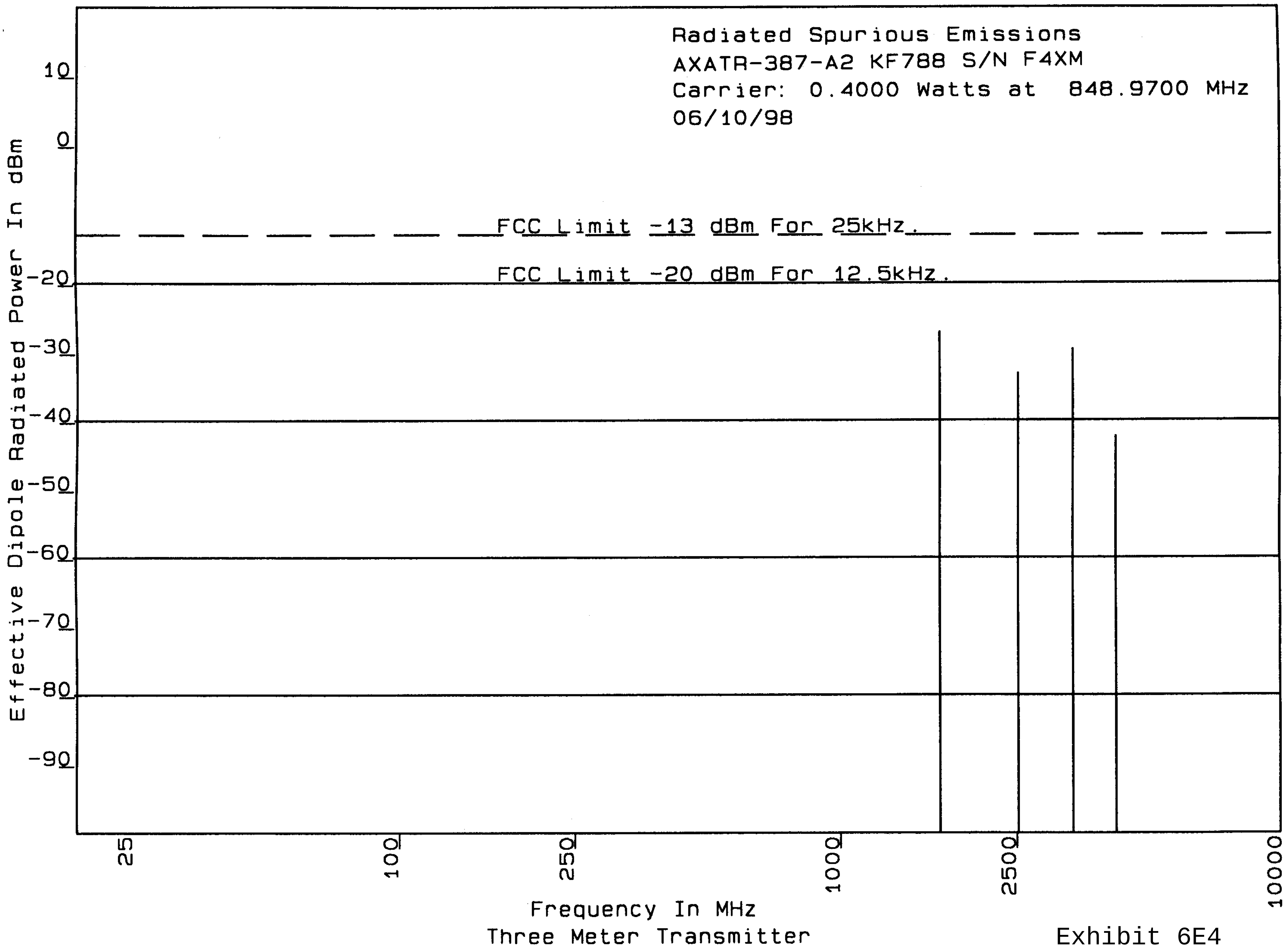

Radiated Spurious Emissions
AXATR-387-A2 KF788 S/N F4XM
Carrier: 0.4000 Watts at 848.9700 MHz
06/10/98
FCC Limit -13 dBm For 25kHz.
FCC Limit -20 dBm For 12.5kHz.
Effective Dipole Radiated Power In dBm
10
0
-20
-30
-40
-50
-60
-70
-80
-90
25
100
250
1000
2500
10000
Frequency In MHz
Three Meter Transmitter

Exhibit 6E4

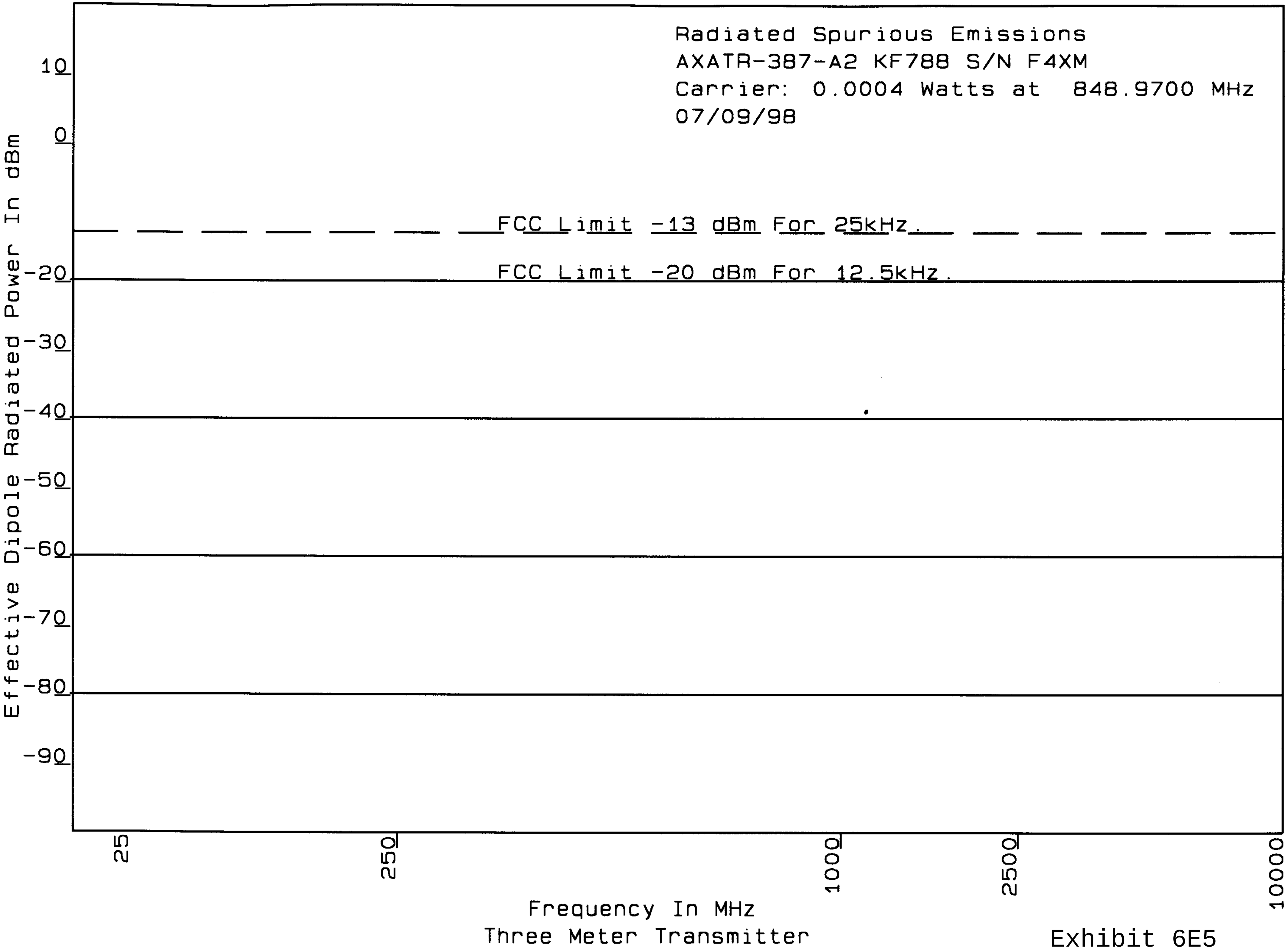

Radiated Spurious Emissions
AXATR-387-A2 KF788 S/N F4XM
Carrier: 0.0004 Watts at 848.9700 MHz
07/09/98
FCC Limit -13 dBm For 25kHz.
FCC Limit -20 dBm For 12.5kHz.
Effective Dipole Radiated Power In dBm
10
0
-20
-30
-40
-50
-60
-70
-80
-90
25
250
1000
2500
10000
Frequency In MHz
Three Meter Transmitter

Exhibit 6E5

EXHIBIT 6F1

800 MHz : FREQUENCY STABILITY

Per 2.995 (a)(1),(b),(d)(1)

Per 2.995 (a)(1),(b),(d)(1), variation of output frequency as a result of Varying either voltage or temperature is shown in Exhibit 6F2 and 6F3 respectively.

EXHIBIT #	Voltage	Temperature
6F2	4.3 to 5.3 Volts (varied)	+25 C
6F3	4.8 Volts	Varied

Note: The manufacturers rated voltage for the battery is 4.3 VDC to 5.3 VDC.

The measurements were made per IS-137A using a Hewlett Packard 8953DT North American Dual Mode Cellular Test System which includes the following equipment:

HP8958A Cellular Interface
HP 6623A DC Power Supply
HP 8596E Spectrum Analyzer
HP 437B RF Power Meter
HP 8901B Modulation Analyzer
HP 8903B Audio Analyzer
Thermotron SM-8C Temperature Chamber

Exhibit 6F2

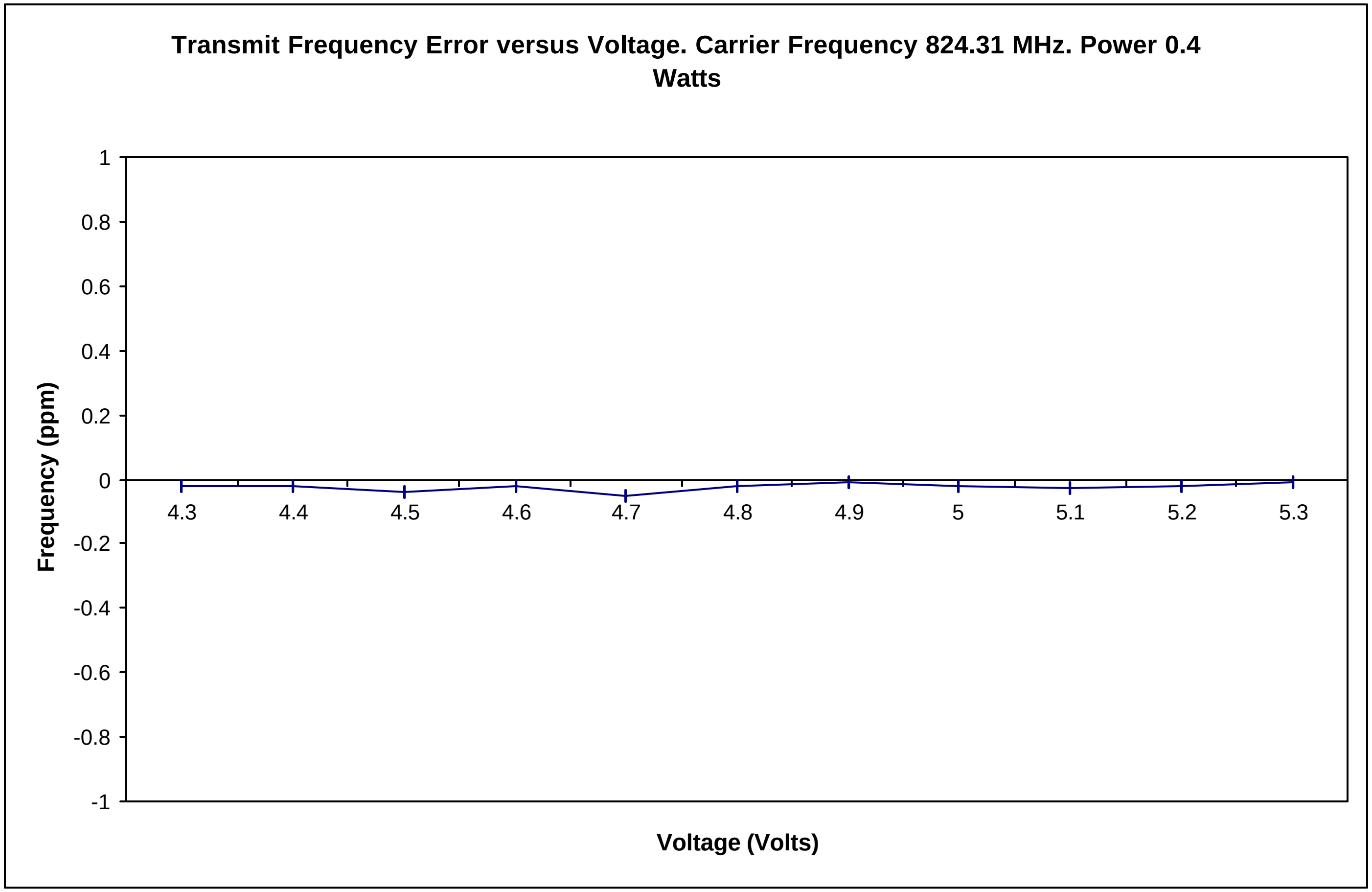
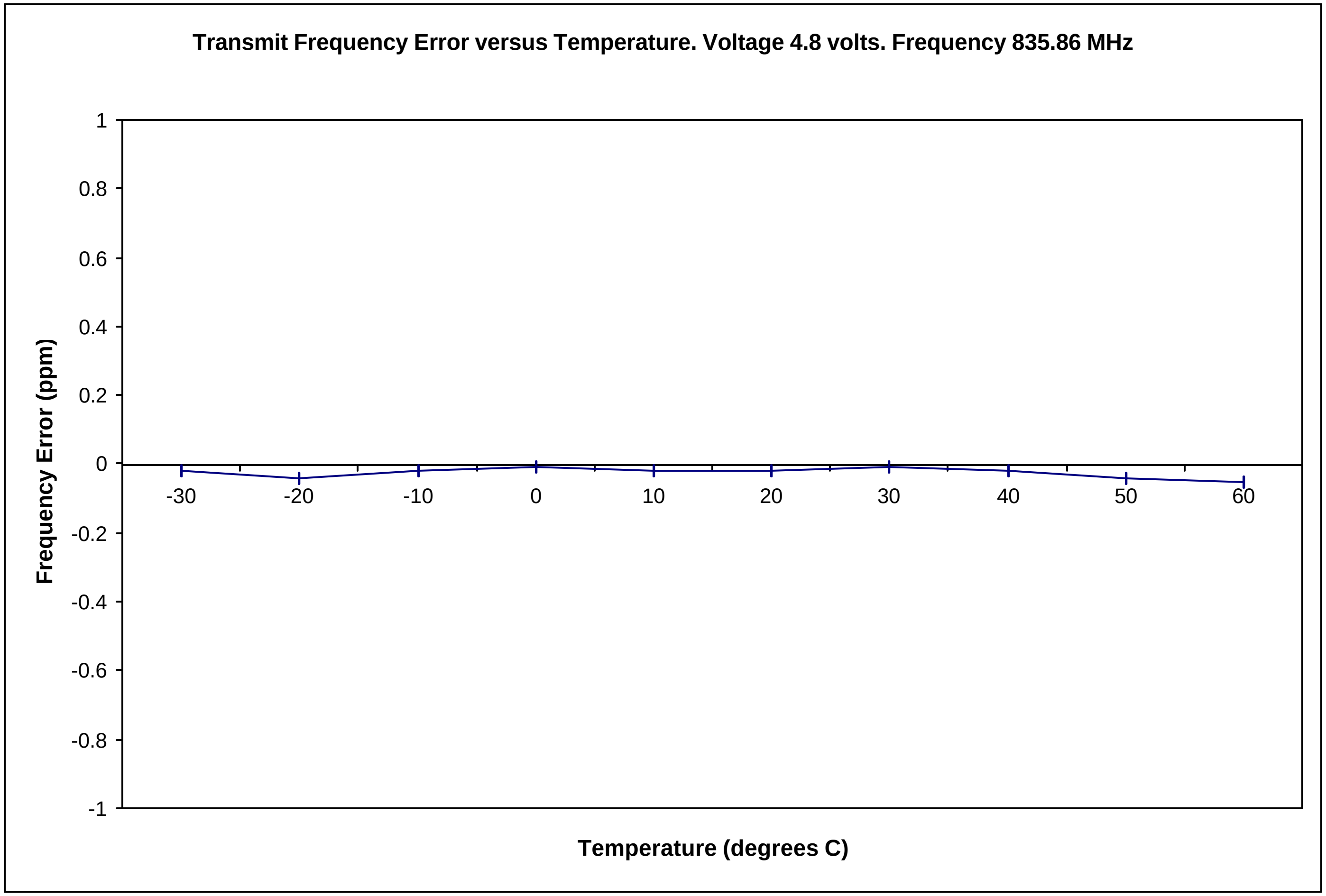

Transmit Frequency Error versus Voltage. Carrier Frequency 824.31 MHz. Power 0.4 Watts
Frequency (ppm)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
4.3
4.4
4.5
4.6
4.7
4.8
4.9
5
5.1
5.2
5.3
Voltage (Volts)

Exhibit 6F3


Transmit Frequency Error versus Temperature. Voltage 4.8 volts. Frequency 835.86 MHz
Frequency Error (ppm)
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-30
-20
-10
0
10
20
30
40
50
60
Temperature (degrees C)

1900 MHz: RF POWER OUTPUT

Para. 2.985 (a)

The RF Power measured at the output terminals (antenna connector) is plotted against supply voltage variations at the highest levels.

EXHIBIT	SUPPLY VOLTAGE (V)	TEMPERATURE	POWER LEVEL	TX FREQ	Output (Watts)
6G2	4.8Volts	Varied	0	Mid Band	.4
6G3	Varied	+ 25 C	0	Mid Band	.4

Output power was measured conducted, via a standard antenna connector.

The measurements were made per IS137A using a Hewlett Packard 8922 M System Simulator with the following equipment:

Hewlett Packard 8922 M System Simulator
Hewlett Packard 8593 E Spectrum Analyzer
Hewlett Packard 8566 B Spectrum Analyzer

ESTIMATED ISOTROPIC RADIATED POWER

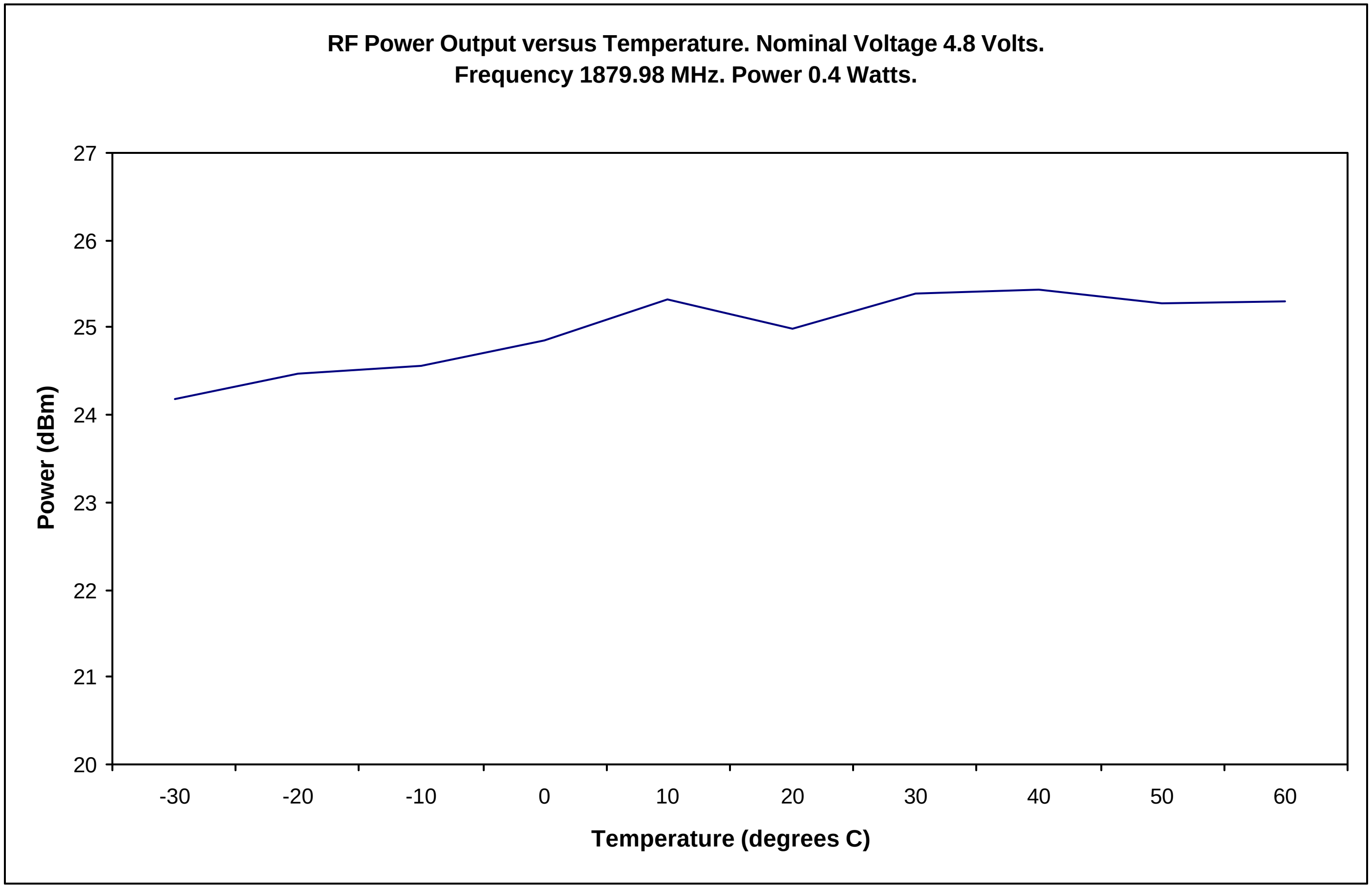
The following is a description of the substitution method used to obtain accurate EIRP readings at the carrier fundamental frequency:

(1) EUT measurements are made at 3 m using calibrated antennas and equipment with known cable losses.
(2) A peak measurement is made by raising and lowering the antenna and rotating the EUT 360 degrees. Horizontal and Vertical Polarization data is recorded.
(3) A generator and dipole antenna are then substituted for the EUT. The dipole antenna is a half-wave dipole. If a dipole antenna cannot be used, then the designated antenna is referenced to a dipole antenna.
(4) Measurements are made through the dipole antenna at known power levels to determine the system calibration factors at a given frequency.
(5) At frequencies where no calibration data is taken, the value is interpolated between the closest data point above and below the transmit frequency. Calibration data is taken with a half-wave dipole antenna.

Measurements at a distance of 3 m from the source at the highest power level setting:

Frequency (MHz)	Rated Output Power (W)	EIRP (dBm)
1879.98	0.40	24.36

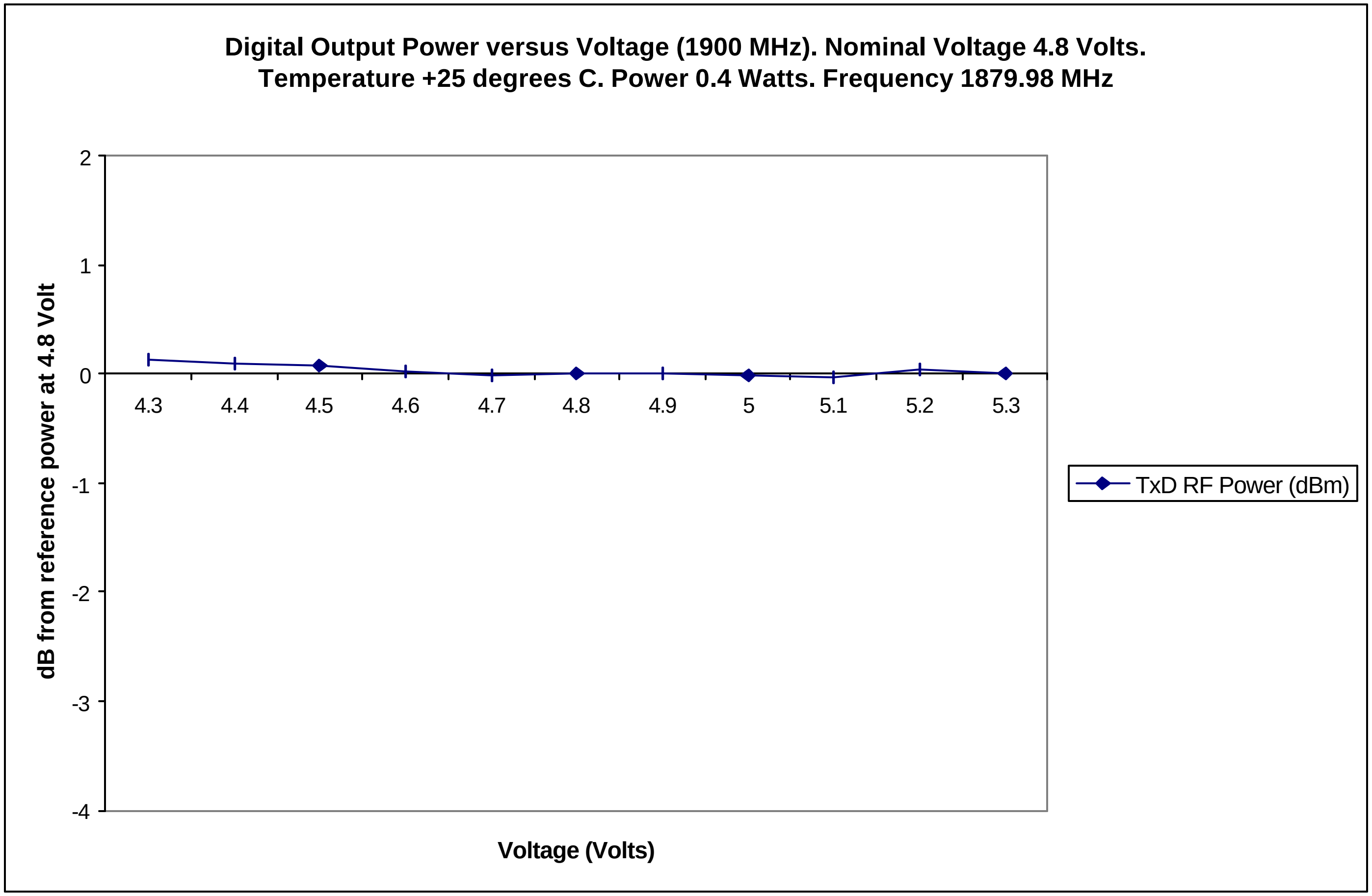
Exhibit 6G2


RF Power Output versus Temperature. Nominal Voltage 4.8 Volts.
Frequency 1879.98 MHz. Power 0.4 Watts.
Power (dBm)
27
26
25
24
23
22
21
20
-30
-20
-10
0
10
20
30
40
50
60
Temperature (degrees C)

APPLICANT:
ERICSSON INC

FCC ID NO:
AXATR-387-A2

Exhibit 6G3



800/1900 MHz: MODULATION CHARACTERISTICS

Definition

The transceiver shall be capable of generating $\pi/4$ shifted differentially encoded quadrature phase shift keying signals. The transmitted signal is given by:

$$S(t) = \sum_n g(t-nT) \cos(\phi n) \cos(\omega ct) - \sum_n g(t-nT) \sin(\phi n) \sin(\omega ct)$$

where g(t) is the pulse shaping function that corresponds to a square root raised cosine baseband filter with roll off factor of 0.35, ωc is the radian carrier frequency, T is the symbol period, and ϕn is the absolute phase corresponding to the nth symbol interval. The symbol rate (1/T) is 24.3 k symbols /sec.

The modulation accuracy requirement is specified by setting limits on the RMS difference between the actual transmitted signal waveform and the ideal signal waveform. The ideal waveform is derived mathematically from the specification of modulation shown above. The specified requirement is error vector magnitude.

For this measurement, frequency accuracy shall meet the requirements of Section 3.1 prior to measurement.

The average carrier frequency error is the difference between the average carrier frequency of the actual transmitted waveform and the average signal waveform carrier frequency.

The ideal modulation is defined above. The definition is such that, observing an ideal transmitter through an ideal root raised-cosine receiver filter at the correct sampling instants one symbol apart would result in the sequence of values given by:

$$S(k)=S(k-1)e^{j\{\pi/4+B(k)*\pi/2\}}$$

where B(k) = 0,1,2,3 according to the following table:

Xk	Yk	B(k)
0	0	0
0	1	1
1	1	2
1	0	3

In the forward channel, S(k) forms part of a continuous data stream. In the reverse channel, the transit bursts from the mobile are truncated by power up and down ramping. In this case, S(6) is the first sample that enters into demodulation, which yields the first two information bits by comparing S(6) with S(7). The last information bits lie in the comparison of S(162) and S(161).

The ideal transmit and receive filters in cascade form a raised cosine Nyquist filter having an impulse response going through zero at symbol period intervals, so there is no inter-symbol interference at the ideal sampling points. The ideal signal sampler therefore, take on one of the eight values defined above, at the output of the receive filter.

This section defines how the output signal from a transmitter is to be evaluated against the ideal signal.

Let Z(k) be the complex vectors produced by observing the real transmitter through an ideal measuring receive filter at instants k, one symbol period apart. With S(k) defined as above, the transmitter is modeled as:

$$Z(k) = [C0 + C1 * [S(k)+E(k)]] * W^{k}$$

where:

$k = n/24.3KHz$

$W = e^{dr=jda}$ accounts for both a frequency offset giving "da" radians per symbol phase rotation and an amplitude changes of "dr" nepers per symbol:

C0 is a constant origin offset representing quadrature modulator imbalance,
C1 is a complex constant representing the arbitrary phase and output power of the transmitter, and
E(k) is the residual vector error on sample S(k)

The sum square vector error is then:

$$\sum_{k=MIN}^{k=MAX} |E(k)|^2 \qquad \sum_{k=MIN}^{k=MAX} |\{[Z(k) * W \quad -C0]/C1\} - S(k)|$$

C0, C1 and W shall be chosen to minimize this expression and are then used to compute the individual vector errors E(k) on each symbol. The symbol timing phase of the receiver output samples used to compute the vector error shall also be chosen to give the lowest value.

The values of MAX and MIN for the reverse channel (mobile station transmitter) are:

MIN = 6
MAX = 162

The RMS vector error is then computed as the square root of the sum-square vector divided by the number of symbols in the slot, (157 in the reverse direction).

Method of Measurement

Connect the mobile station to the Standard Test Source and Modulation Accuracy Equipment. Modulate the Standard Test Source with pseudo-random Data Field bits. The mobile station shall transpond the Data Field bits using the TDMAON command. Use the Modulation Accuracy Measurement Equipment to measure the modulation accuracy of the mobile station.

Minimum Standard

The RMS vector error in any burst shall be less than 12.5%. In addition, the normalized error vector magnitude during the first 10 symbols (20 bits) of a burst following the ramp-up, must have an RMS value of less than 25% when averaged over 10 bursts within a 1 minute interval. The minimum standard for frequency offset is specified in section 3.1.2.2.3 of IS 137. The origin offset in any burst shall be less than -20 dBc.

1900 MHz: OCCUPIED BANDWIDTH

Per 2.989 (c, I, h) the exhibits presented show the modulations that have to exist in a 1900 MHz Cellular System.

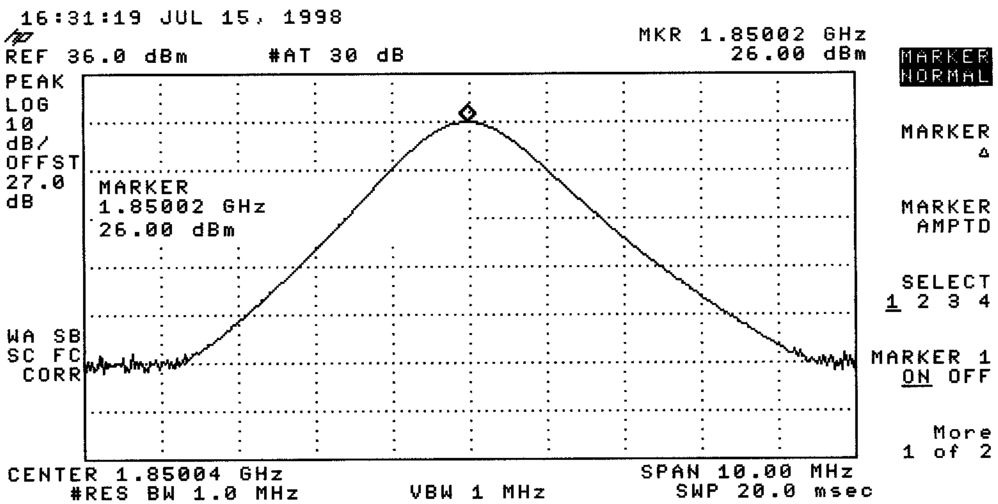
All the exhibits listed below are plots where the modulation condition is Psuedorandom Data (48.6 kb/s switched), operating in the DAMPS (TDMA) mode. All plots were taken while transmitting at Power Level 0. Any frequency span not covered at the exhibits below was found to be unaffected by the transmitter/modulation.

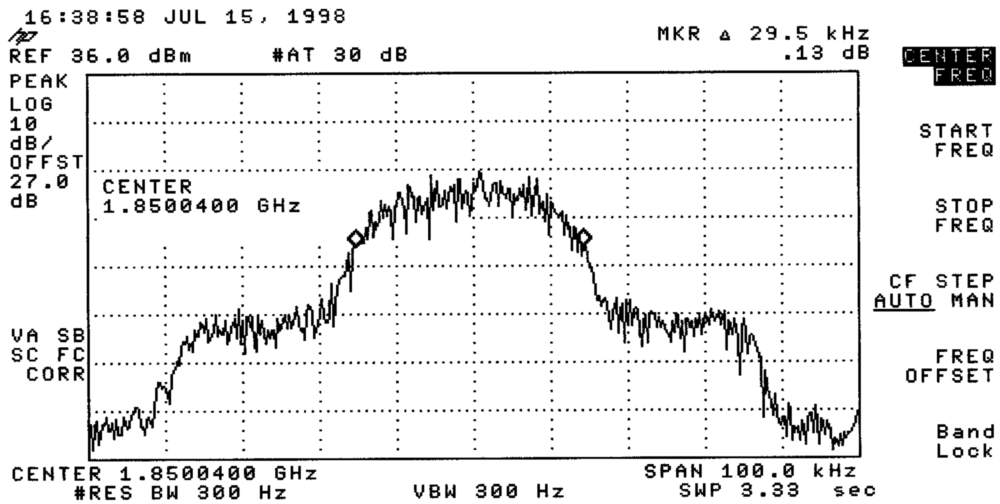
EXHIBIT

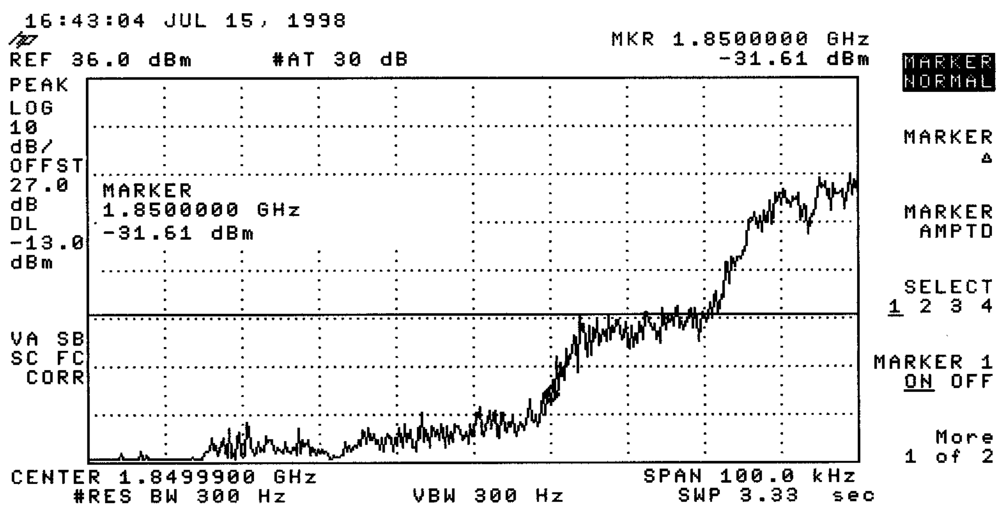
	Lower Channel (Channel 2)
	Normal bursted operation. Data rate 48.6 kb/s, Output power 0.4 Watts., 1850.04 MHz.
6I2	1 MHz Resolution Bandwidth reference plot.
6I3	Emission Bandwidth
6I4	1 MHz span, Center Frequency 1849.99 MHz.
	Upper Channel (Channel 1998)
	Normal bursted operation. Data rate 48.6 kb/s, Output power 0.4 Watts, 1850.04 MHz.
6I5	1 MHz Resolution Bandwidth reference plot.
6I6	Emission Bandwidth
6I7	1 MHz span, Center Frequency 1909.97 MHz.

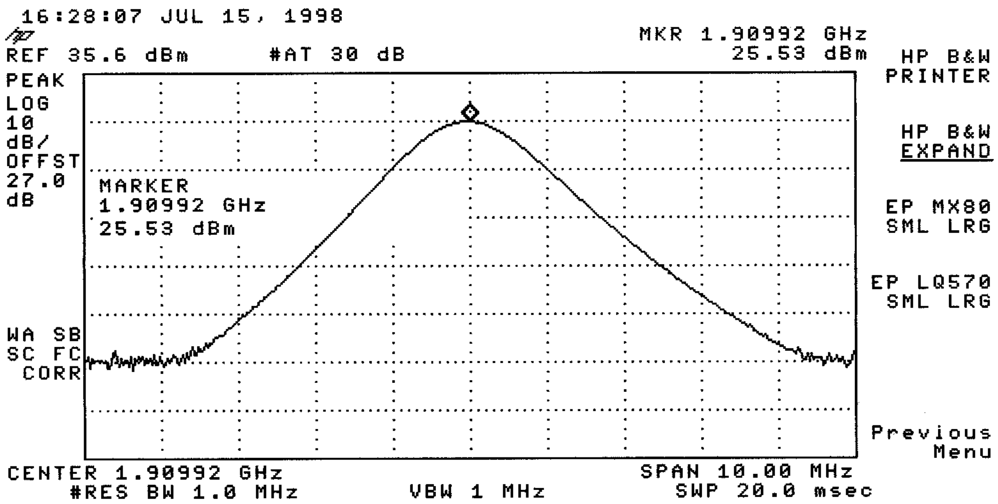
The measurements were made per CFR 47, part 24 using the following equipment:

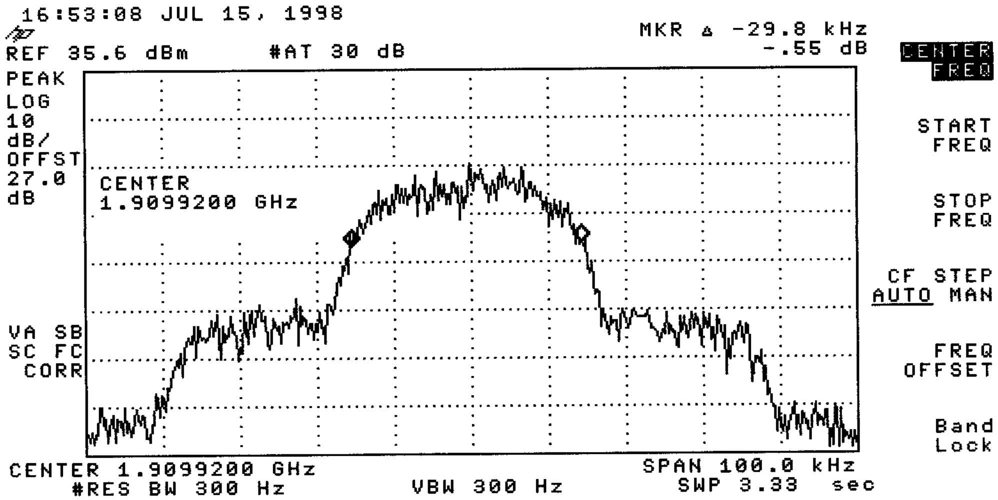
Hewlett Packard 8922 M System Simulator
Hewlett Packard 8593 E Spectrum Analyzer

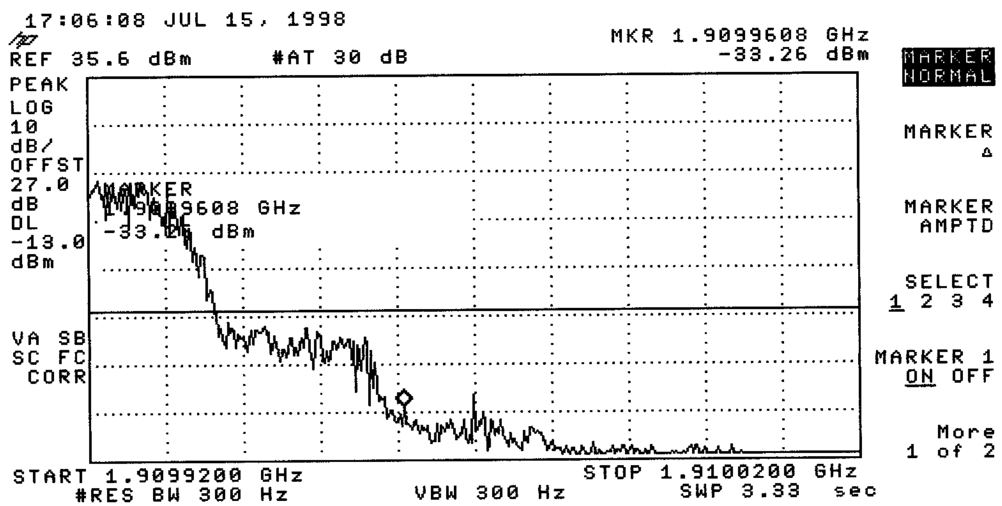

16:31:19 JUL 15, 1998
MKR 1.85002 GHz
26.00 dBm
REF 36.0 dBm #AT 30 dB
PEAK
LOG
10
dB/
OFFST
27.0
dB
MARKER
1.85002 GHz
26.00 dBm
WA SB
SC FC
CORR
CENTER 1.85004 GHz
#RES BW 1.0 MHz
VBW 1 MHz
SPAN 10.00 MHz
SWP 20.0 msec
MARKER NORMAL
MARKER Δ
MARKER AMPTD
SELECT 1 2 3 4
MARKER 1 ON OFF
More 1 of 2


16:38:58 JUL 15, 1998
MKR Δ 29.5 kHz
.13 dB
REF 36.0 dBm #AT 30 dB
PEAK
LOG
10
dB/
OFFST
27.0
dB
CENTER
1.8500400 GHz
VA SB
SC FC
CORR
CENTER 1.8500400 GHz
#RES BW 300 Hz
VBW 300 Hz
SPAN 100.0 kHz
SWP 3.33 sec
CENTER FREQ
START FREQ
STOP FREQ
CF STEP
AUTO MAN
FREQ OFFSET
Band Lock


16:43:04 JUL 15, 1998
MKR 1.8500000 GHz
REF 36.0 dBm #AT 30 dB
-31.61 dBm
PEAK
LOG
10
dB/
OFFST
27.0
dB
DL
-13.0
dBm
MARKER
1.8500000 GHz
-31.61 dBm
VA SB
SC FC
CORR
CENTER 1.8499900 GHz
#RES BW 300 Hz
VBW 300 Hz
SPAN 100.0 kHz
SWP 3.33 sec
MARKER NORMAL
MARKER Δ
MARKER AMPTD
SELECT 1 2 3 4
MARKER 1 ON OFF
More 1 of 2


16:28:07 JUL 15, 1998
MKR 1.90992 GHz
25.53 dBm
REF 35.6 dBm #AT 30 dB
PEAK
LOG
10
dB/
OFFST
27.0
dB
MARKER
1.90992 GHz
25.53 dBm
WA SB
SC FC
CORR
HP B&W
PRINTER
HP B&W
EXPAND
EP MX80
SML LRG
EP LQ570
SML LRG
Previous
Menu
CENTER 1.90992 GHz SPAN 10.00 MHz
#RES BW 1.0 MHz VBW 1 MHz SWP 20.0 msec


16:53:08 JUL 15, 1998
MKR Δ -29.8 kHz
-.55 dB
REF 35.6 dBm
#AT 30 dB
PEAK
LOG
10
dB/
OFFST
27.0
dB
CENTER
1.9099200 GHz
VA SB
SC FC
CORR
CENTER 1.9099200 GHz
#RES BW 300 Hz
VBW 300 Hz
SPAN 100.0 kHz
SWP 3.33 sec
CENTER
FREQ
START
FREQ
STOP
FREQ
CF STEP
AUTO MAN
FREQ
OFFSET
Band
Lock


17:06:08 JUL 15, 1998
MKR 1.9099608 GHz
-33.26 dBm
REF 35.6 dBm #AT 30 dB
MARKER
NORMAL
PEAK
LOG
10
dB/
OFFST
27.0
dB
DL
-13.0
dBm
MARKER
1.9099608 GHz
-33.26 dBm
MARKER
Δ
MARKER
AMPTD
SELECT
1 2 3 4
VA SB
SC FC
CORR
MARKER 1
ON OFF
More
1 of 2
START 1.9099200 GHz
#RES BW 300 Hz
VBW 300 Hz
STOP 1.9100200 GHz
SWP 3.33 sec

1900 MHz: SPURIOUS EMISSIONS (Conducted)

Para: 2.991 and Part 24

Per 2.991 Spurious emissions at the antenna terminals (conducted) when properly loaded with an appropriate artificial antenna were measured per IS137A.

Exhibit	Frequency (MHz)	Output Power (W)
6J2	1850.4	.4
6J3	1850.4	.0004
6J4	1909.92	.4
6J5	1909.92	.0004

The measurements were made using the following equipment:

HP8958A Cellular Interface
HP 6623A DC Power Supply
HP 8596E Spectrum Analyzer
Amr8801B Cellular System Simulator

Exhibit 6J2

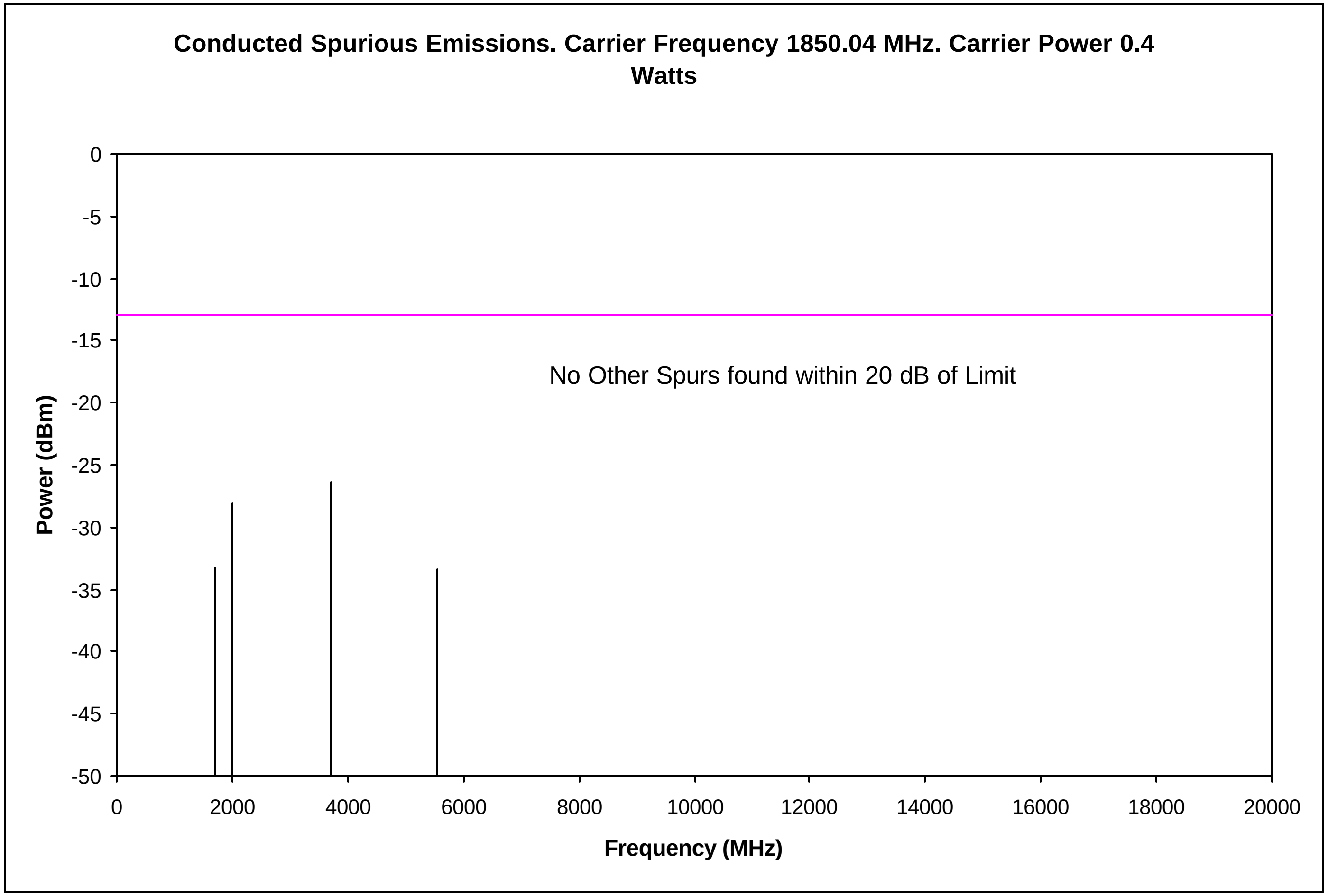

Conducted Spurious Emissions. Carrier Frequency 1850.04 MHz. Carrier Power 0.4 Watts
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
Power (dBm)
No Other Spurs found within 20 dB of Limit
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Frequency (MHz)

Exhibit 6J3

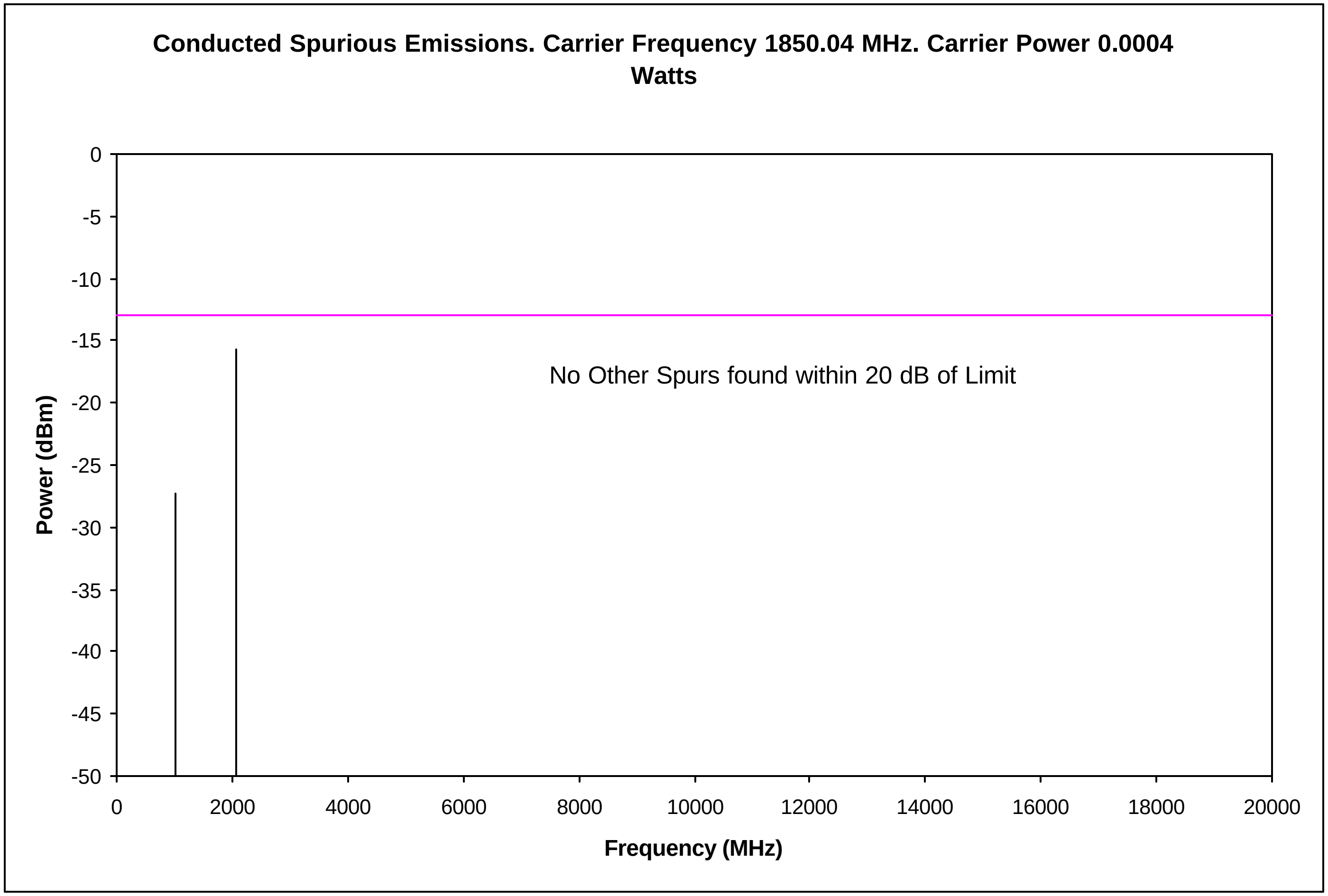
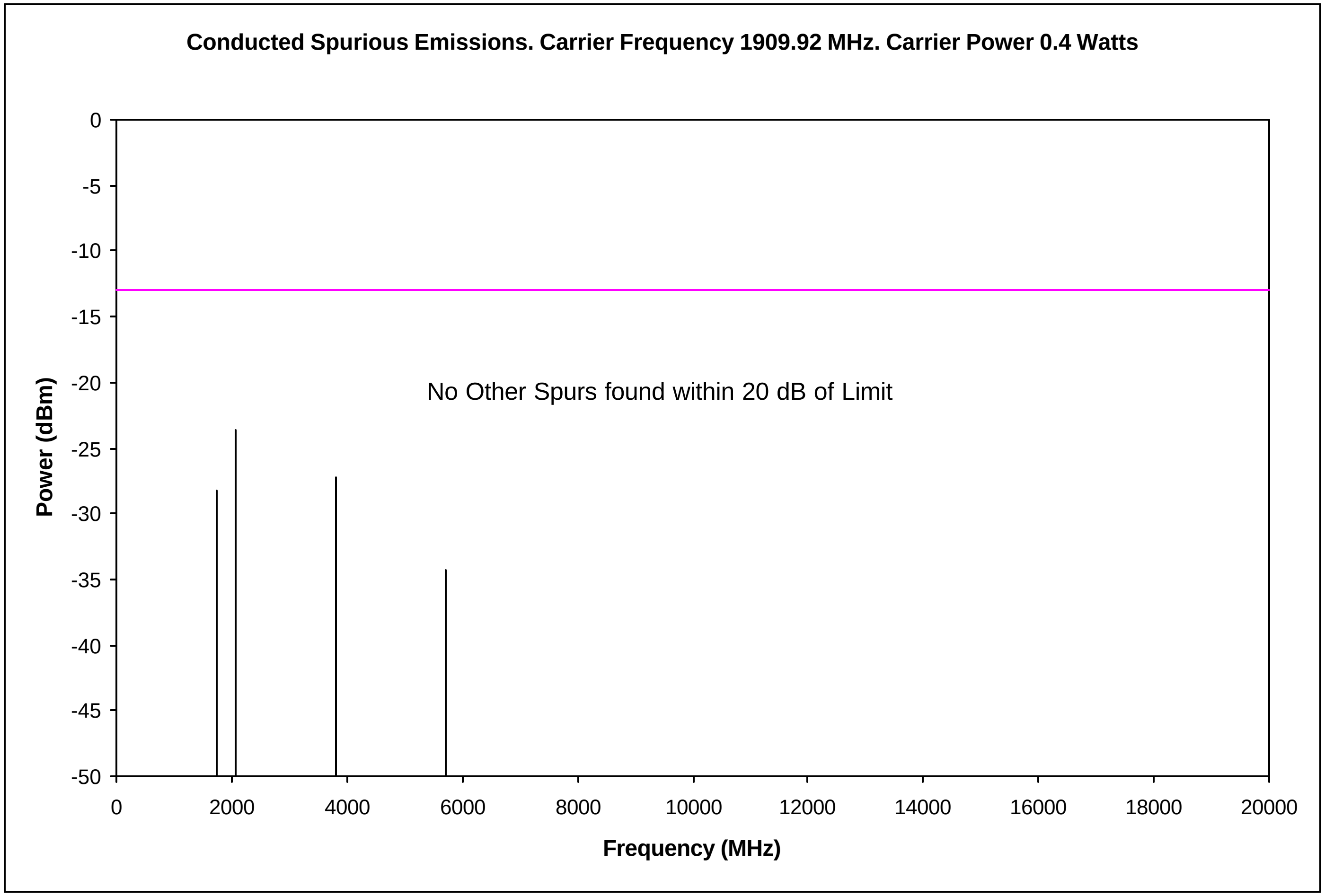

Conducted Spurious Emissions. Carrier Frequency 1850.04 MHz. Carrier Power 0.0004 Watts
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
Power (dBm)
No Other Spurs found within 20 dB of Limit
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Frequency (MHz)

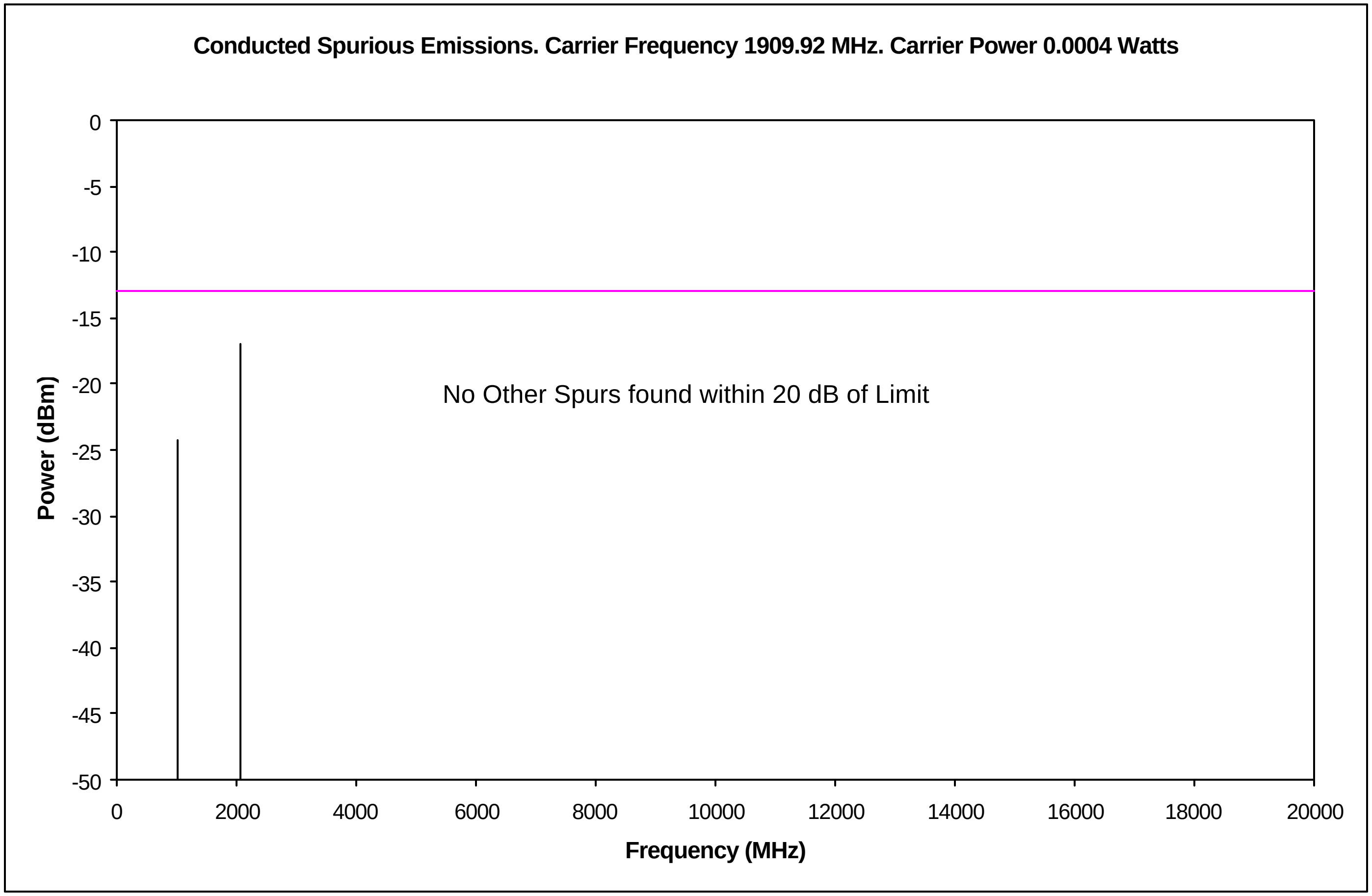
Exhibit 6J4


Conducted Spurious Emissions. Carrier Frequency 1909.92 MHz. Carrier Power 0.4 Watts
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
Power (dBm)
No Other Spurs found within 20 dB of Limit
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Frequency (MHz)

APPLICANT:
ERICSSON INC

FCC ID NO:
AXATR-387-A2

Exhibit 6J5



1900 MHz: SPURIOUS EMISSIONS. RADIATED

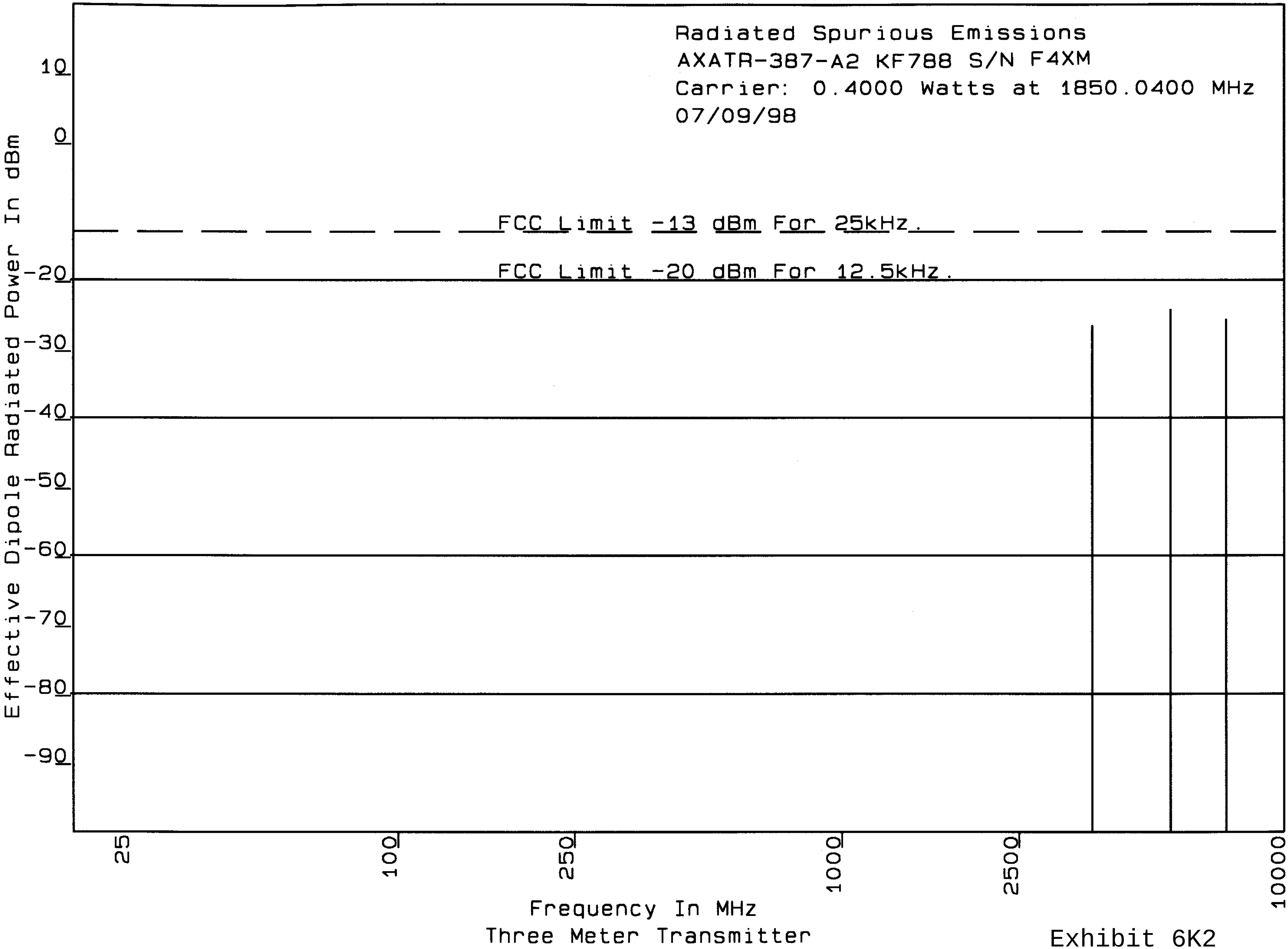
Para: 2.993 and Part 24

Per 2.993 and Part 24, field strength of spurious radiation was measured on Ericsson's 3 meter site in Lynchburg, VA. The site and equipment are described in the site description and attenuation measurements for the Ericsson Inc. 3 meter radiation site #2 filed with the FCC in Columbia, MD on June 5, 1997. The measurement procedure is per IS-137A but done on a 3 meter test site. Results are shown on the following exhibits:

Exhibit	Frequency (MHz)	Output Power (W)
6K2	1850.4	.4
6K3	1850.4	.0004
6K4	1909.92	.4
6K5	1909.92	.0004

The measurements were made using the following equipment:

HP437 B Power Meter
HP8563E S.A. (9kHz-26.5GHz)
HP 83732A Signal generator (10MHz-20GHz)
Rohde & Schwarz EMI test receiver ESBI (20Hz- 5GHz)
Adventest R3271H Spectrum Analyzer (100Hz- 26.5GHz)



Radiated Spurious Emissions
AXATR-387-A2 KF788 S/N F4XM
Carrier: 0.4000 Watts at 1850.0400 MHz
07/09/98
FCC Limit -13 dBm For 25kHz.
FCC Limit -20 dBm For 12.5kHz.
Effective Dipole Radiated Power In dBm
10
0
-20
-30
-40
-50
-60
-70
-80
-90
25
100
250
1000
2500
10000
Frequency In MHz
Three Meter Transmitter

Exhibit 6K2

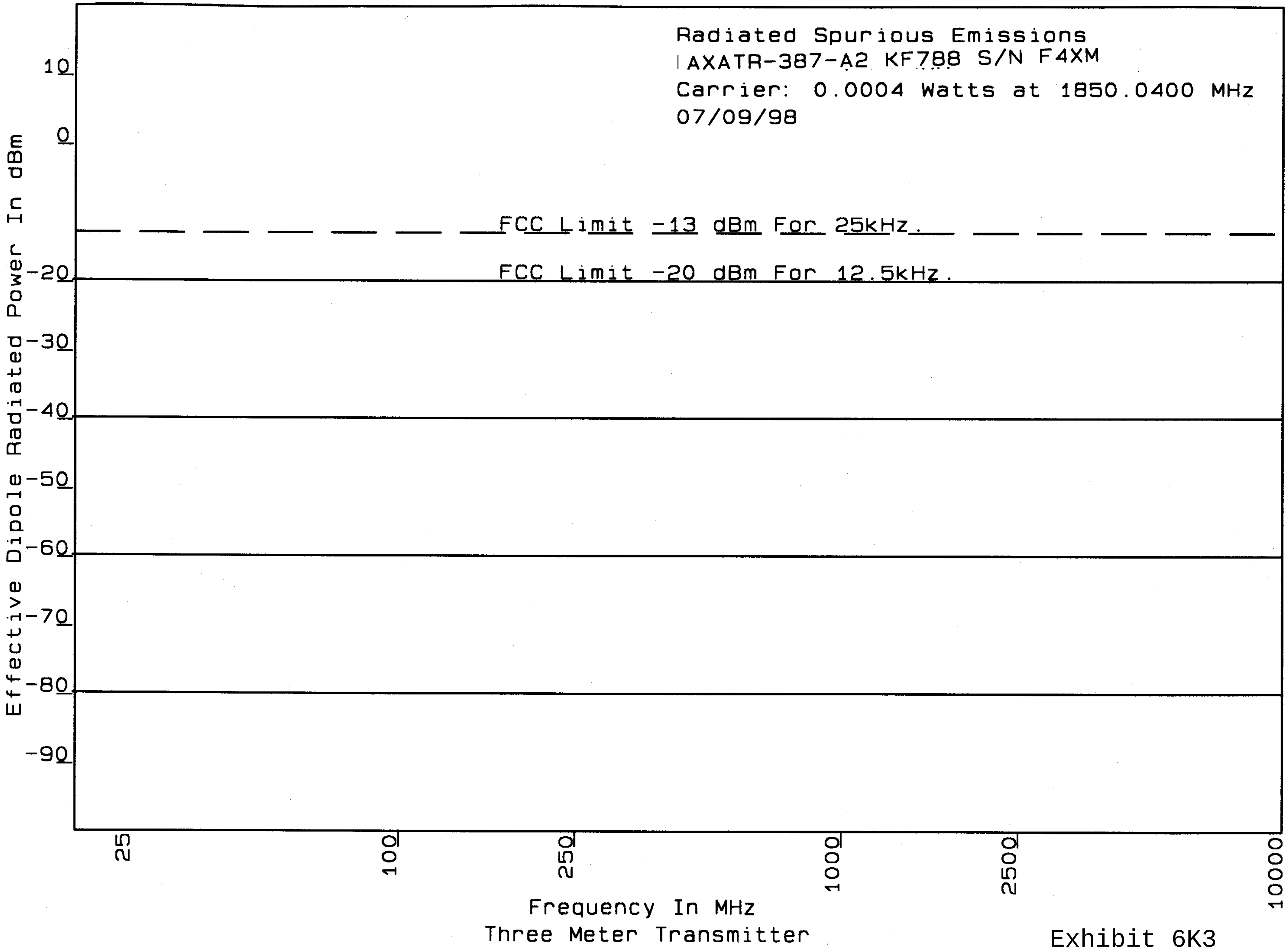

Radiated Spurious Emissions
IAXATR-387-A2 KF788 S/N F4XM
Carrier: 0.0004 Watts at 1850.0400 MHz
07/09/98
FCC Limit -13 dBm For 25kHz.
FCC Limit -20 dBm For 12.5kHz.
Effective Dipole Radiated Power In dBm
10
0
-20
-30
-40
-50
-60
-70
-80
-90
25
100
250
1000
2500
10000
Frequency In MHz
Three Meter Transmitter

Exhibit 6K3

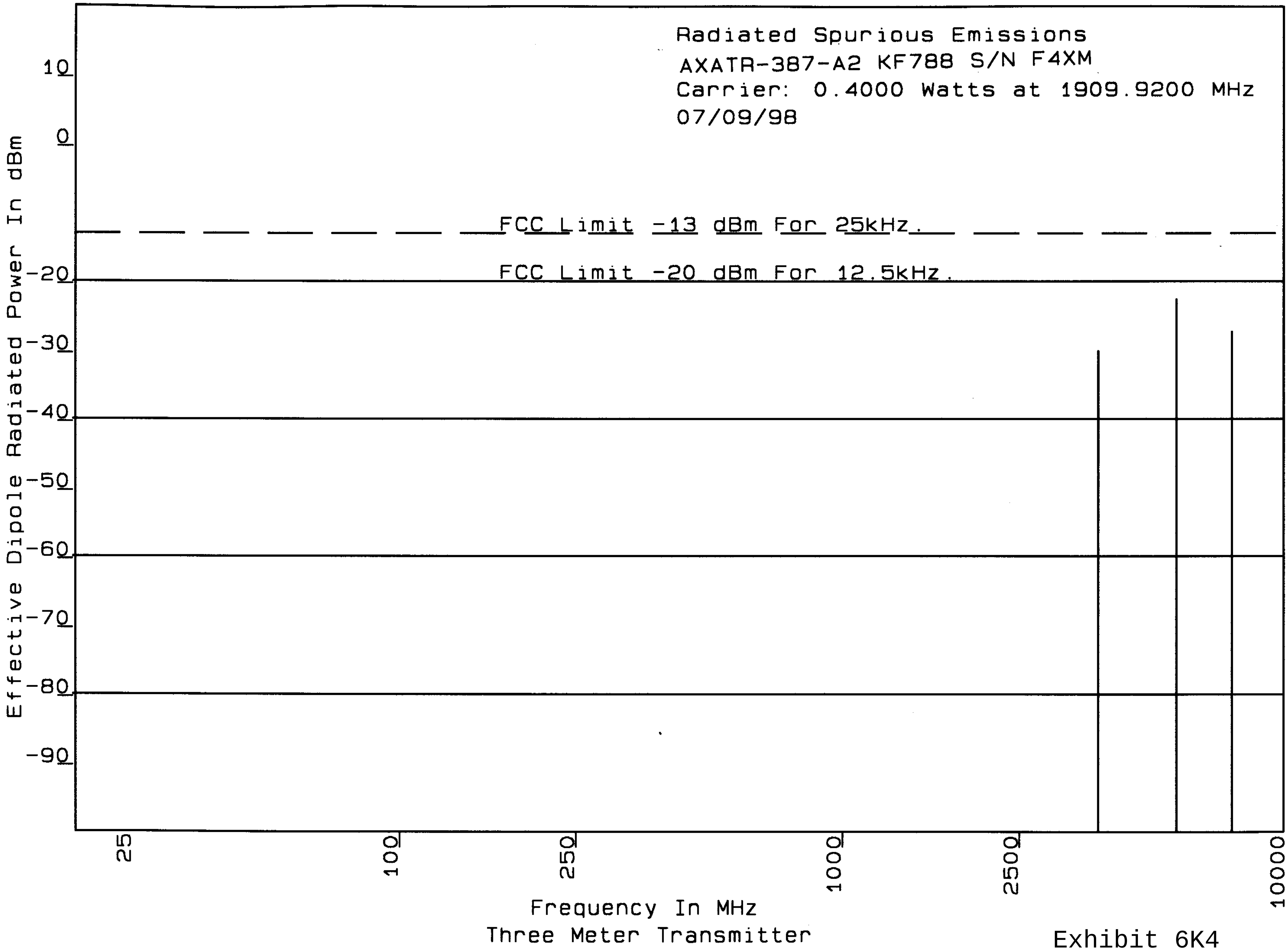
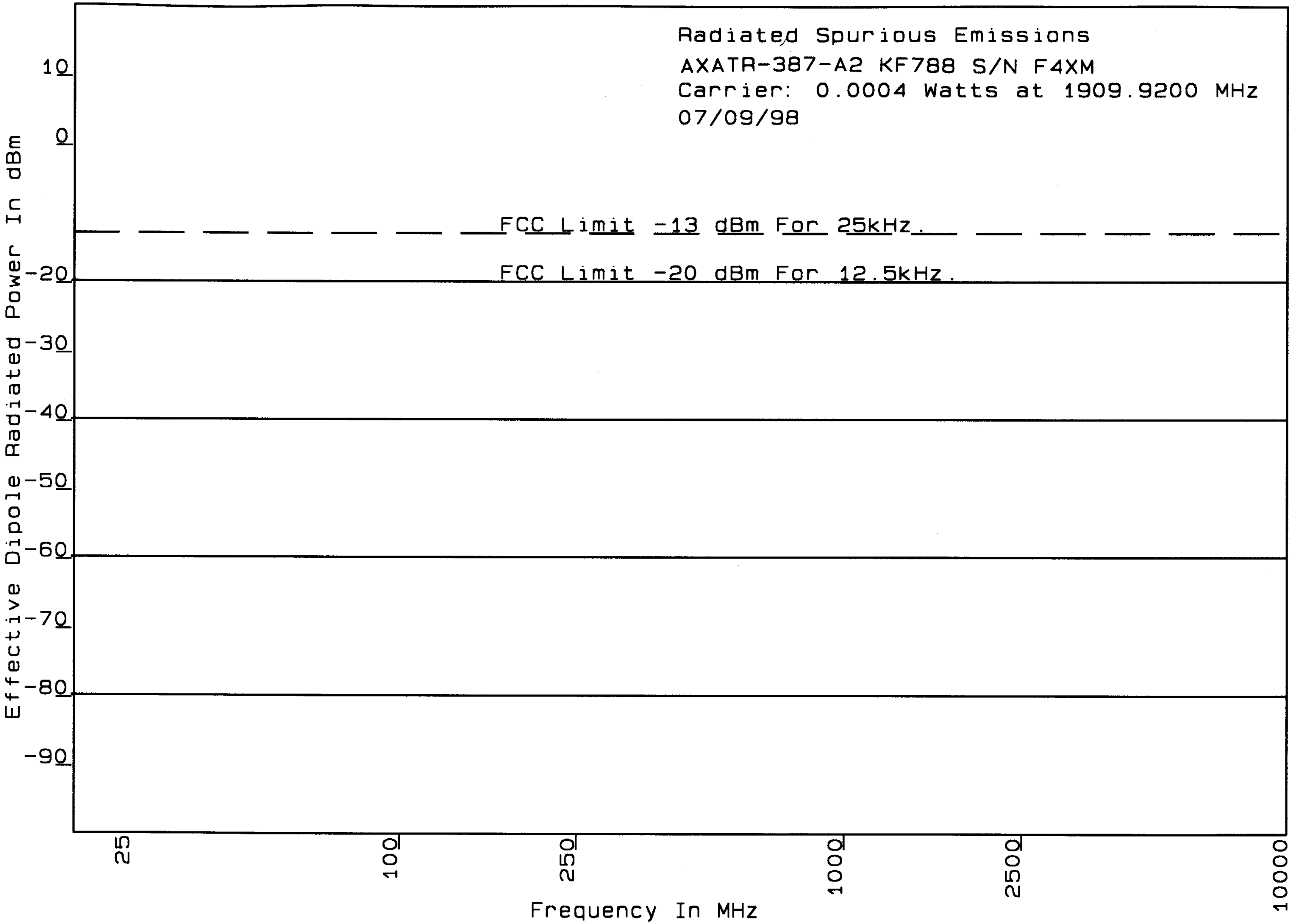

Radiated Spurious Emissions
AXATR-387-A2 KF788 S/N F4XM
Carrier: 0.4000 Watts at 1909.9200 MHz
07/09/98
FCC Limit -13 dBm For 25kHz.
FCC Limit -20 dBm For 12.5kHz.
Effective Dipole Radiated Power In dBm
10
0
-20
-30
-40
-50
-60
-70
-80
-90
25
100
250
1000
2500
10000
Frequency In MHz
Three Meter Transmitter

Exhibit 6K4



Three Meter Transmitter

Exhibit 6K5

1900 MHz : FREQUENCY STABILITY

Per 2.995 (a)(1),(b),(d)(1)

Per 2.995 (a)(1),(b),(d)(1), variation of output frequency as a result of Varying either voltage or temperature is shown in Exhibit 6F2 and 6F3 respectively.

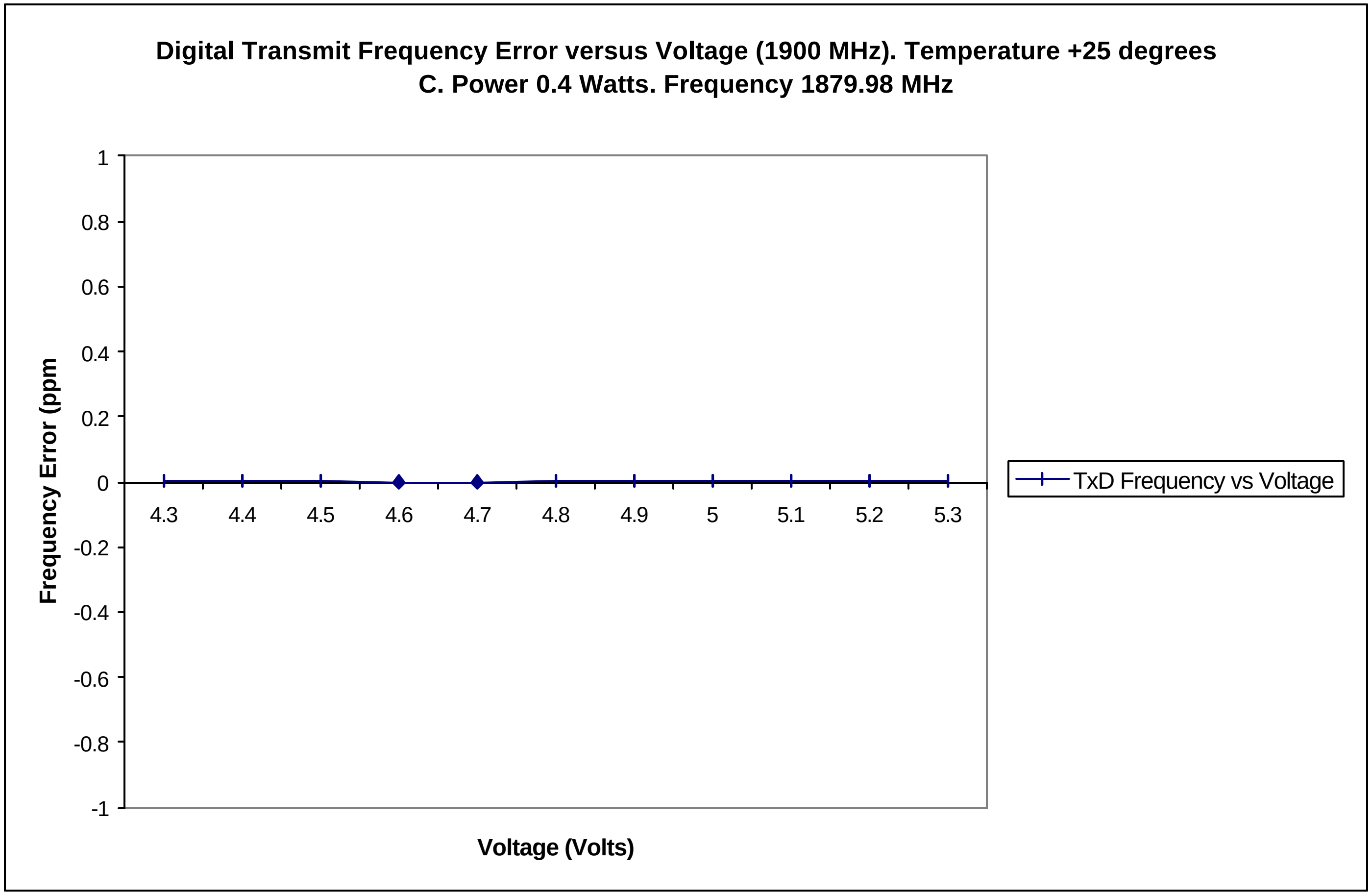
EXHIBIT #	Voltage	Temperature
6F2	4.3 to 5.3 Volts (varied)	+25 C
6F3	4.8 Volts	Varied

Note: The manufacturers rated voltage for the battery is 4.3 VDC to 5.3 VDC.

The measurements were made per IS-137A using a Hewlett Packard 8953DT North American Dual Mode Cellular Test System which includes the following equipment:

HP8958A Cellular Interface
HP 6623A DC Power Supply
HP 8596E Spectrum Analyzer
HP 437B RF Power Meter
HP 8901B Modulation Analyzer
HP 8903B Audio Analyzer
Thermotron SM-8C Temperature Chamber

Exhibit 6L2


Digital Transmit Frequency Error versus Voltage (1900 MHz). Temperature +25 degrees C. Power 0.4 Watts. Frequency 1879.98 MHz
Frequency Error (ppm
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
4.3
4.4
4.5
4.6
4.7
4.8
4.9
5
5.1
5.2
5.3
Voltage (Volts)
TxD Frequency vs Voltage

APPLICANT:
ERICSSON INC

FCC ID NO:
AXATR-387-A2

Exhibit 6L3