EXHIBIT 6A1

800 MHz AMPS RF POWER OUTPUT

Para. 2.1033 (c,6,7), 2.1046 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	Voltage (V)	Temperature	TX Freq	Power Level
6A2	4.8	Varied	Mid Band	0
6A3	Varied	+25 C	Mid Band	0

Output power was measured conducted.

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

HP8958A Cellular Interface
Thermotron SM-8C Temperature Chamber
HP E7405A EMC Spectrum Analyzer 9 kHz – 26.5 GHz
HP EPM-441A Power Meter
HP 66309B Dual Output Mobile Comm. DC Source
HP 83712B CW Signal Generator 10 MHz – 20 GHz

EFFECTIVE RADIATED POWER

The following is a description of the substitution method used in accordance with IS-137A to obtain accurate EDRP 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 maximized 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.

Table: EDRP

Mode	f (MHz)	Radiated (dBm/mW)
AMPS	824	25.2/ 331
	836	24.4/ 275
	849	23.7/ 235

Exhibit 6A2

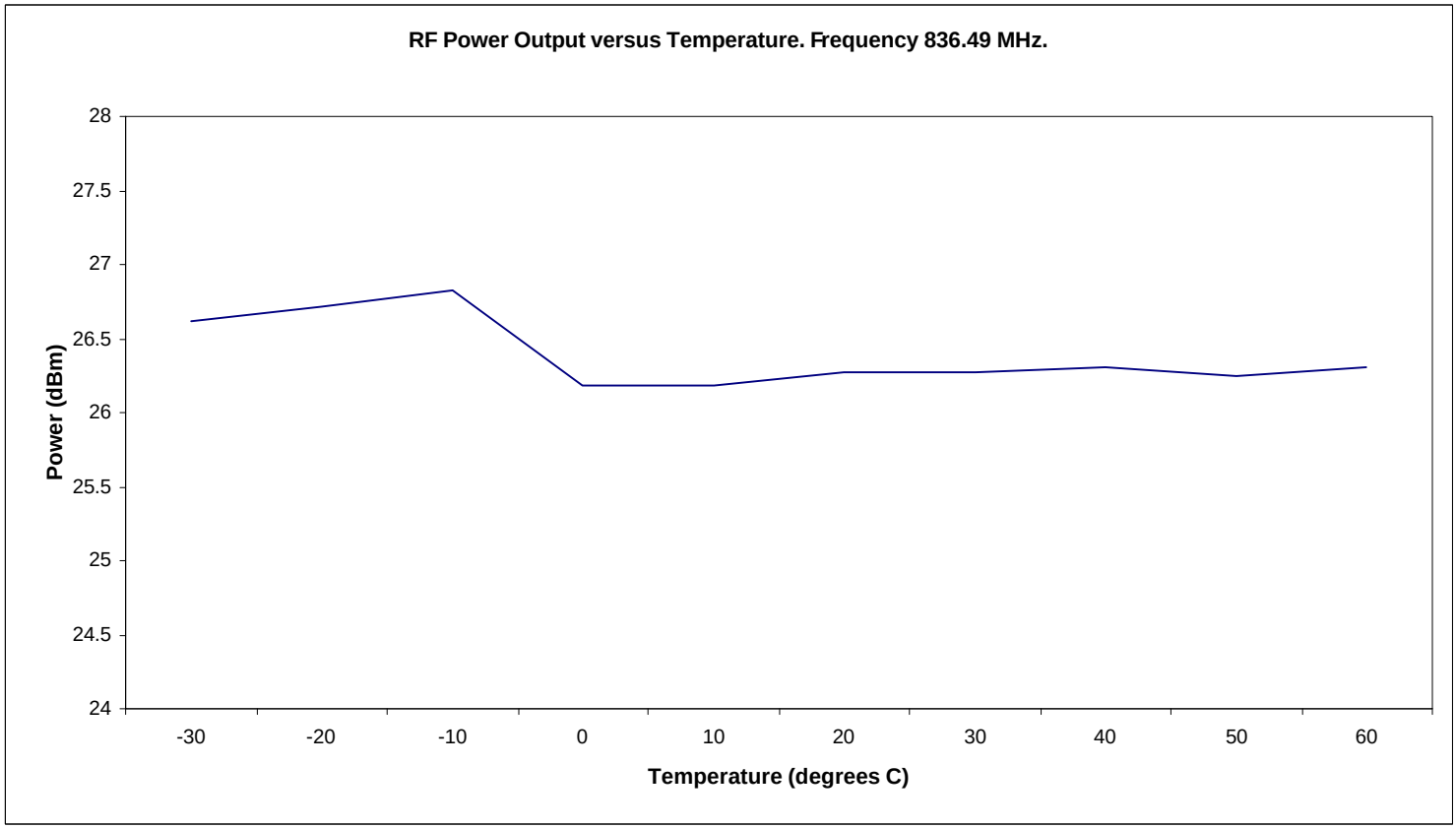


Exhibit 6A3

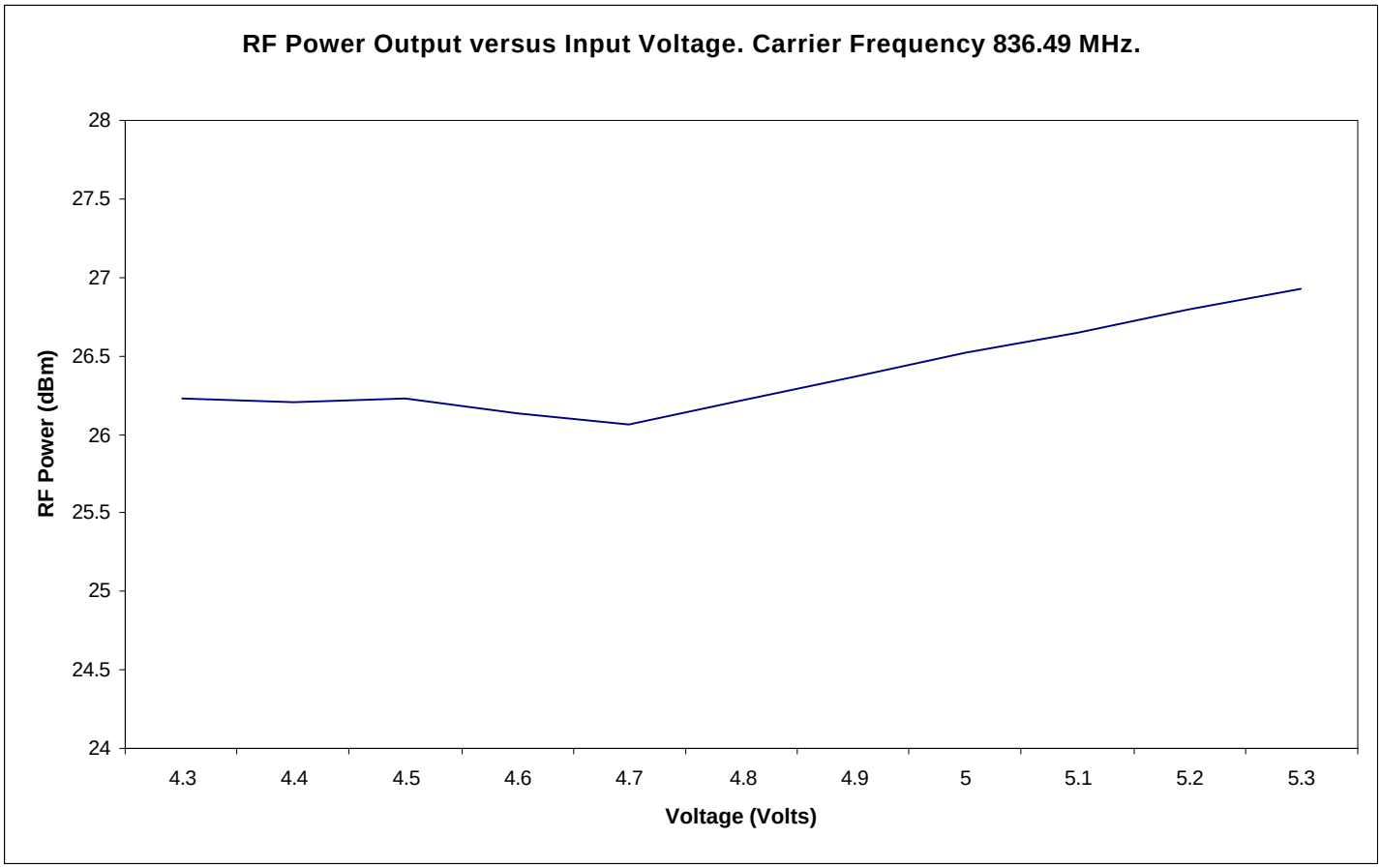


EXHIBIT 6B1

800 MHz AMPS MODULATION CHARACTERISTICS

The frequency and amplitude response to audio inputs measured per IS-137A are shown on the following:

Exhibit #	Description	Clause
6B2	Transmit Audio Frequency Response	2.1047 (a,b)
6B3	Post Limiter Filter Attenuation	22.915 (d)
6B4	Modulation Limiting vs. Input Voltage	2.1047, 22.915 (b,1)

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
HP 35679 Signal Analyzer

Exhibit 6B2

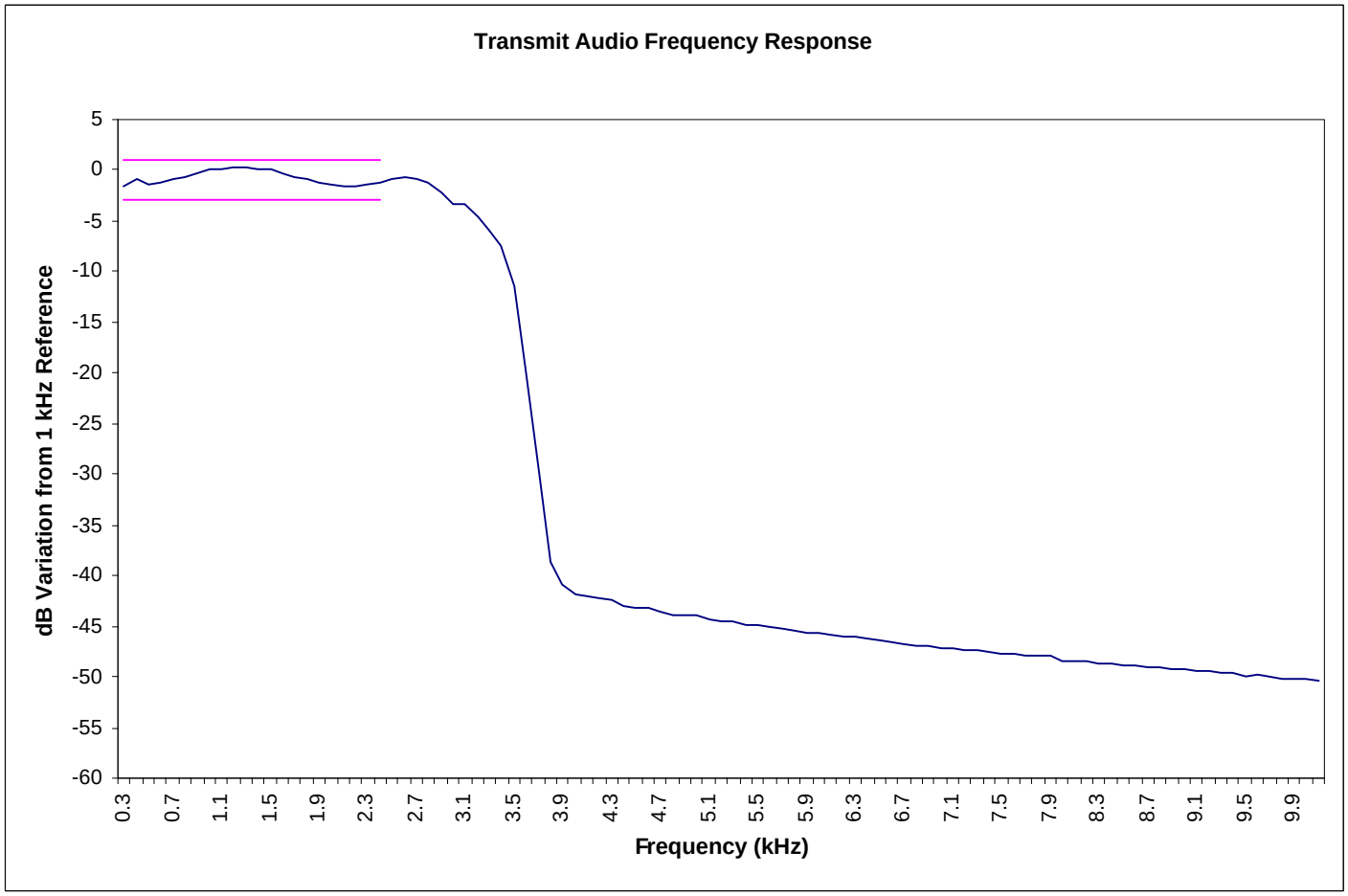


Exhibit 6B3

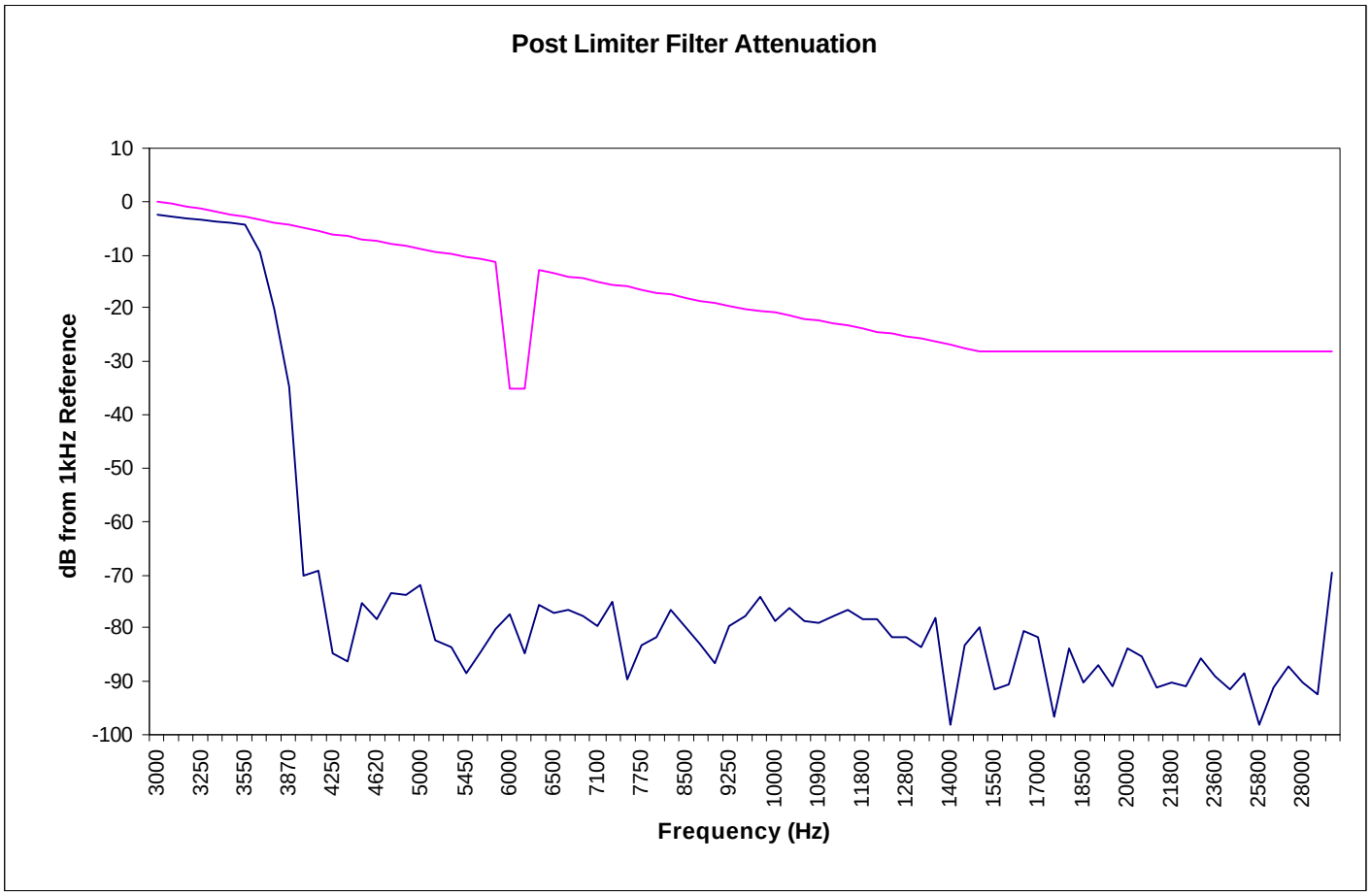
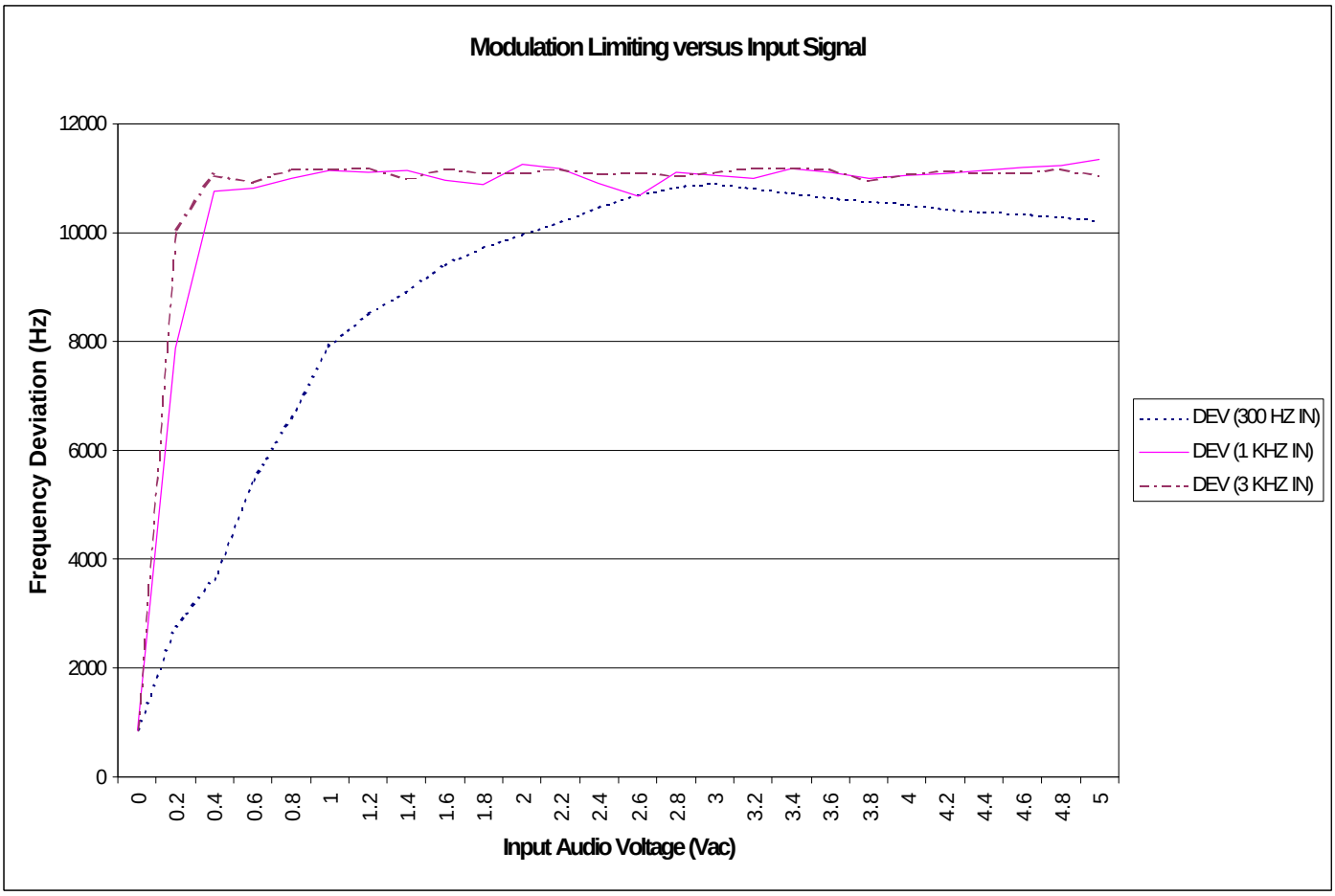


Exhibit 6B4



800 MHz AMPS OCCUPIED BANDWIDTH

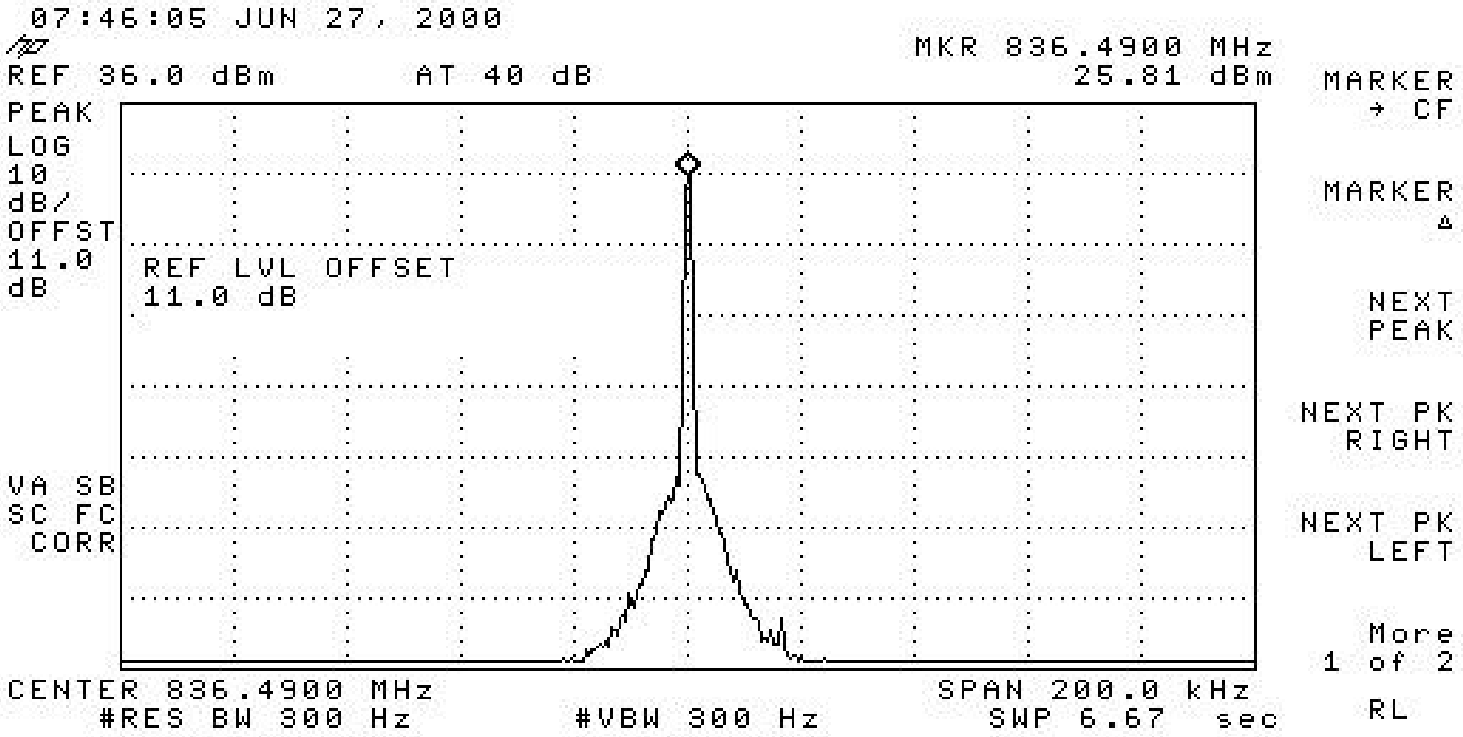
Part 2.1049 and 22.917 the exhibits presented show the modulations that co-exist in a cellular system:

Exhibit #	Description	Power Level
6C2	Unmodulated Carrier	0
6C3	SAT	0
6C4	Voice	0
6C5	Signal Tone	0
6C6	10kb/s Wideband Data	0

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

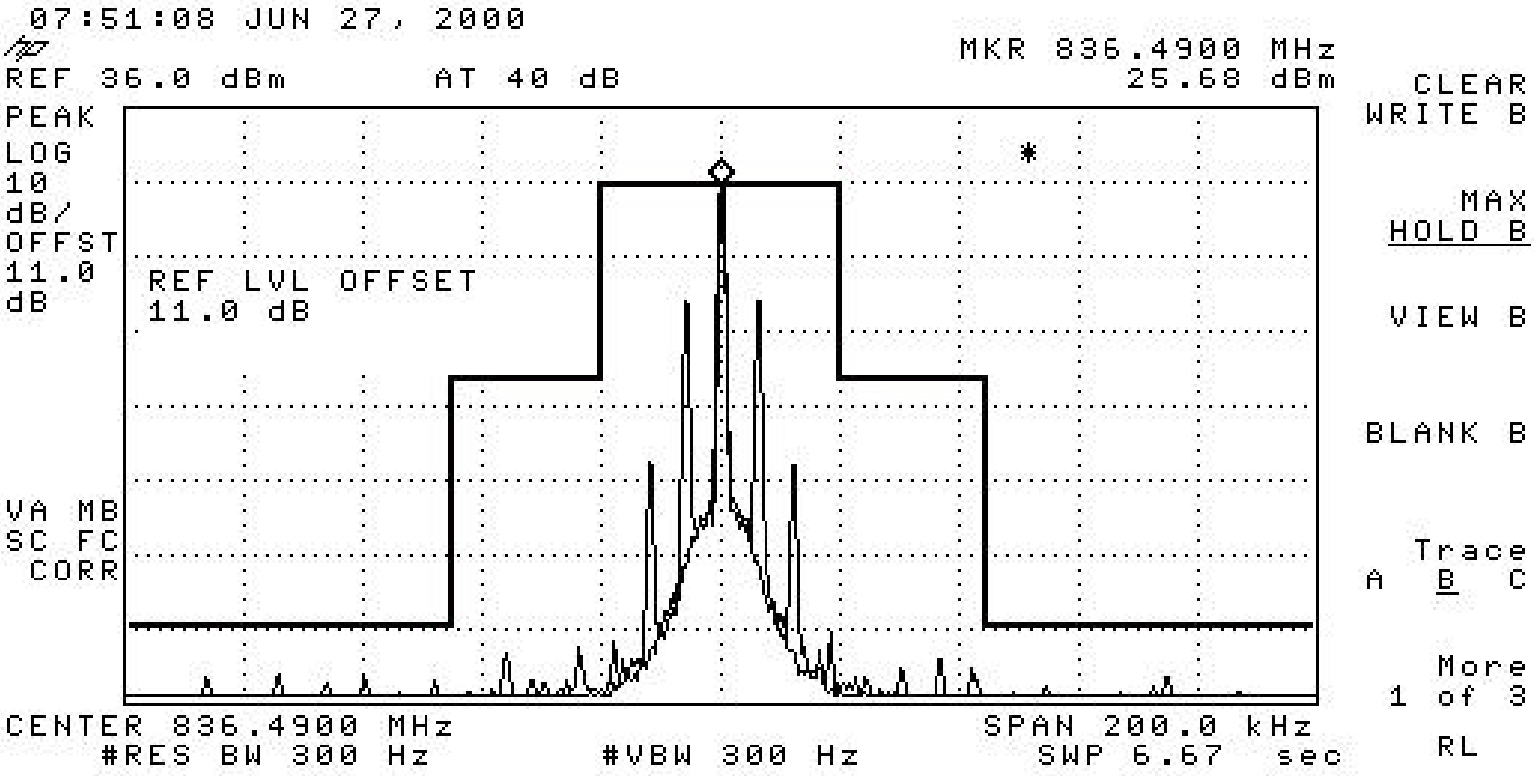
HP 8901B Modulation Analyzer
HP 8903B Audio Analyzer
HP 8593E Spectrum Analyzer 9 kHz – 22 GHz
Anritzu MT 8802A Radio Communications Analyzer 300 kHz – 3 GHz
HP EPM-441A Power Meter

Exhibit 6C2



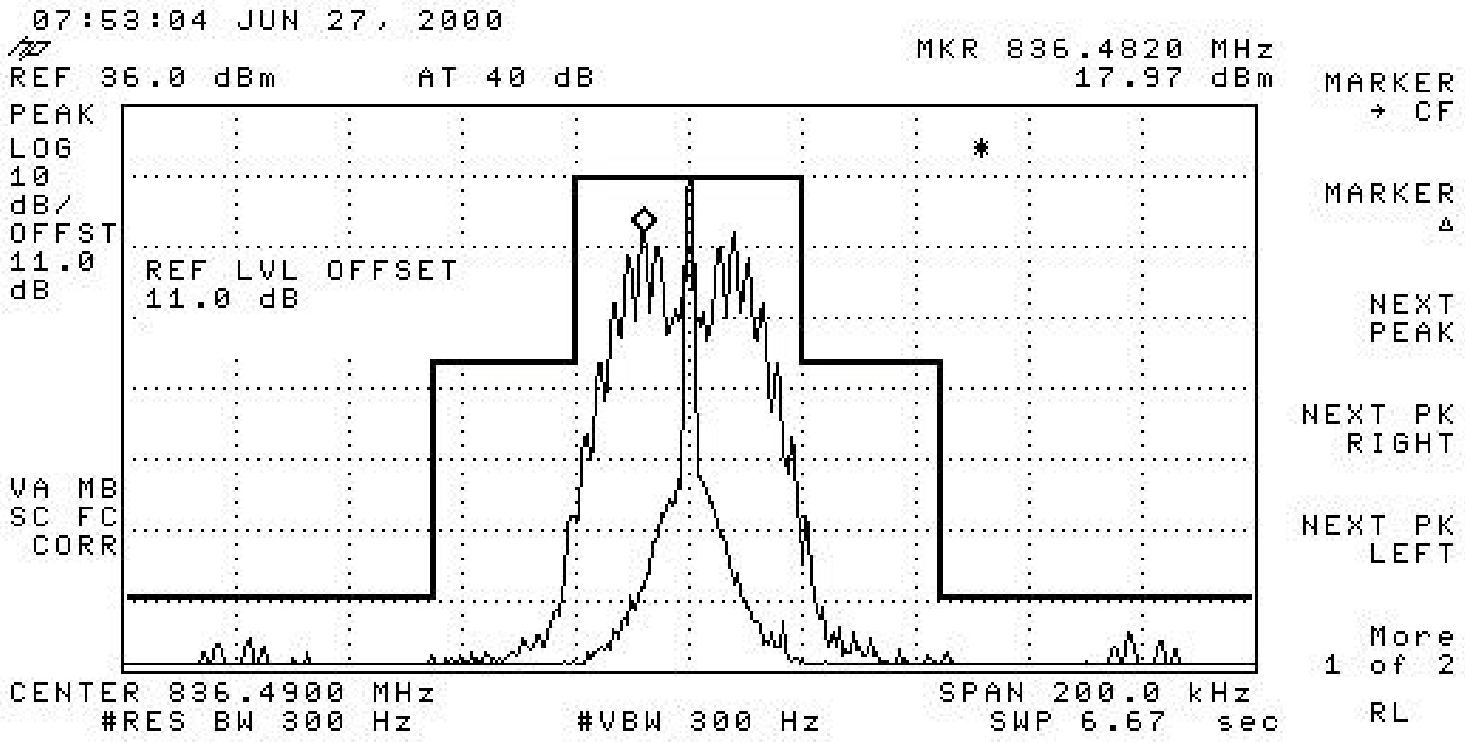
Unmodulated Carrier

Exhibit 6C3



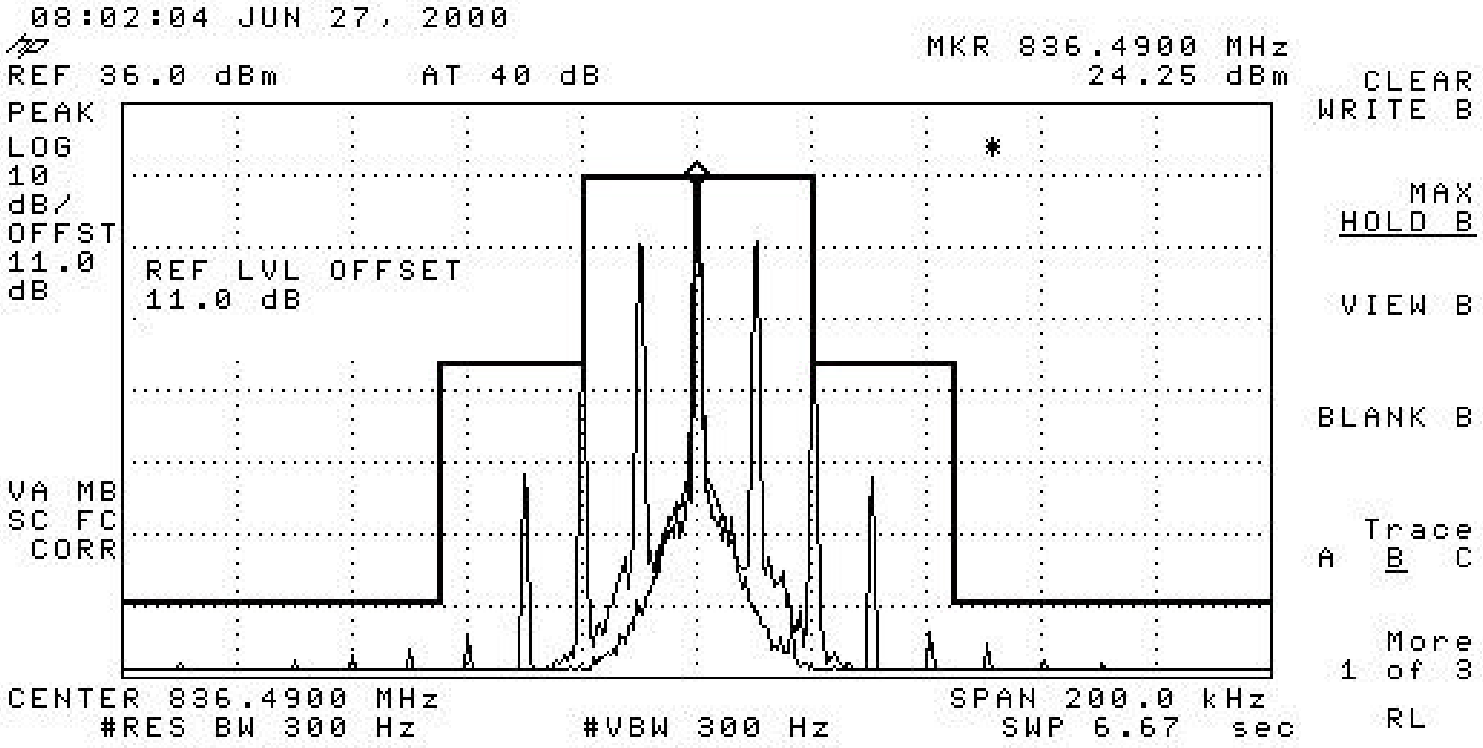
SAT

Exhibit 6C4



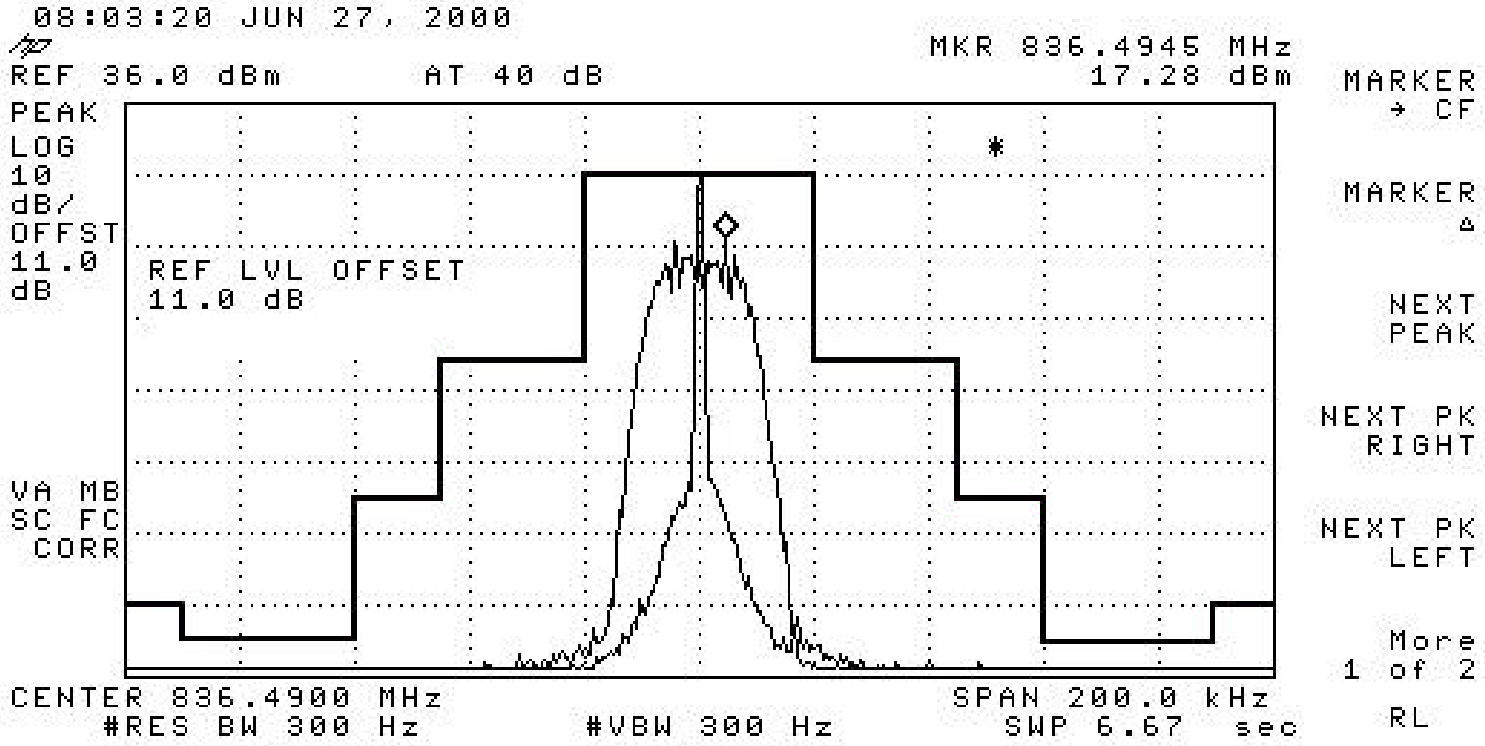
Voice

Exhibit 6C5



Signal Tone

Exhibit 6C6



10kb/s Wideband Data

800 MHz AMPS SPURIOUS EMISSIONS (CONDUCTED)

Per 2.1051 Spurious emissions at the antenna terminals (conducted) when properly loaded with an appropriate artificial antenna were measured per IS-137A.

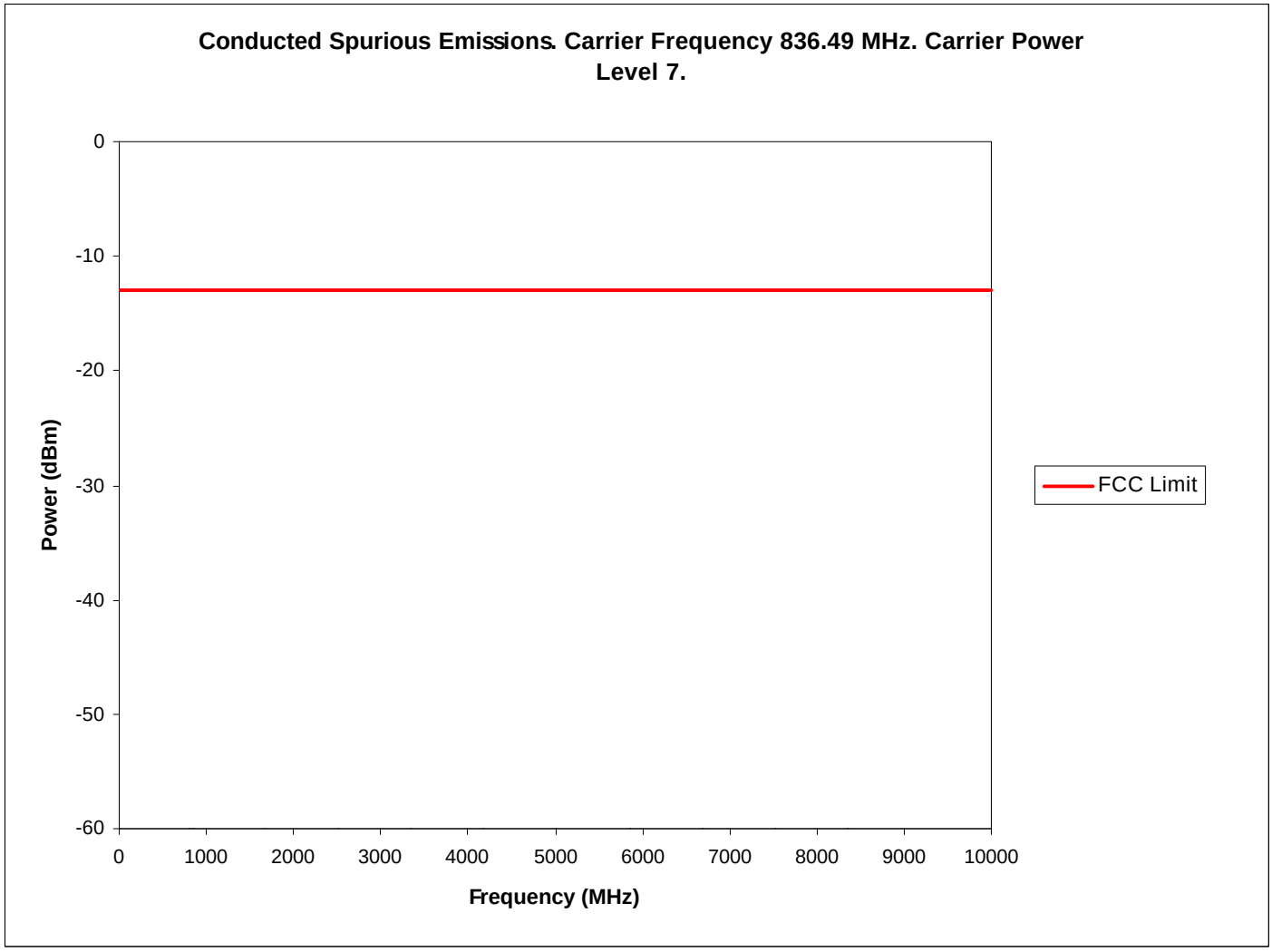
EXHIBIT #	FREQUENCY	Output Power level
6D2	836.49	7
6D3	836.49	0
6D4	mid band	0; -80dBm per 22.917f

The measurements were taken out to the 10^{th} harmonic of the carrier.

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

HP E7405A EMC Spectrum Analyzer 9 kHz – 26.5 GHz
HP EPM-441A Power Meter
HP 66309B Dual Output Mobile Comm. DC Source
HP 83712B CW Signal Generator 10 MHz – 20 GHz

Exhibit 6D2



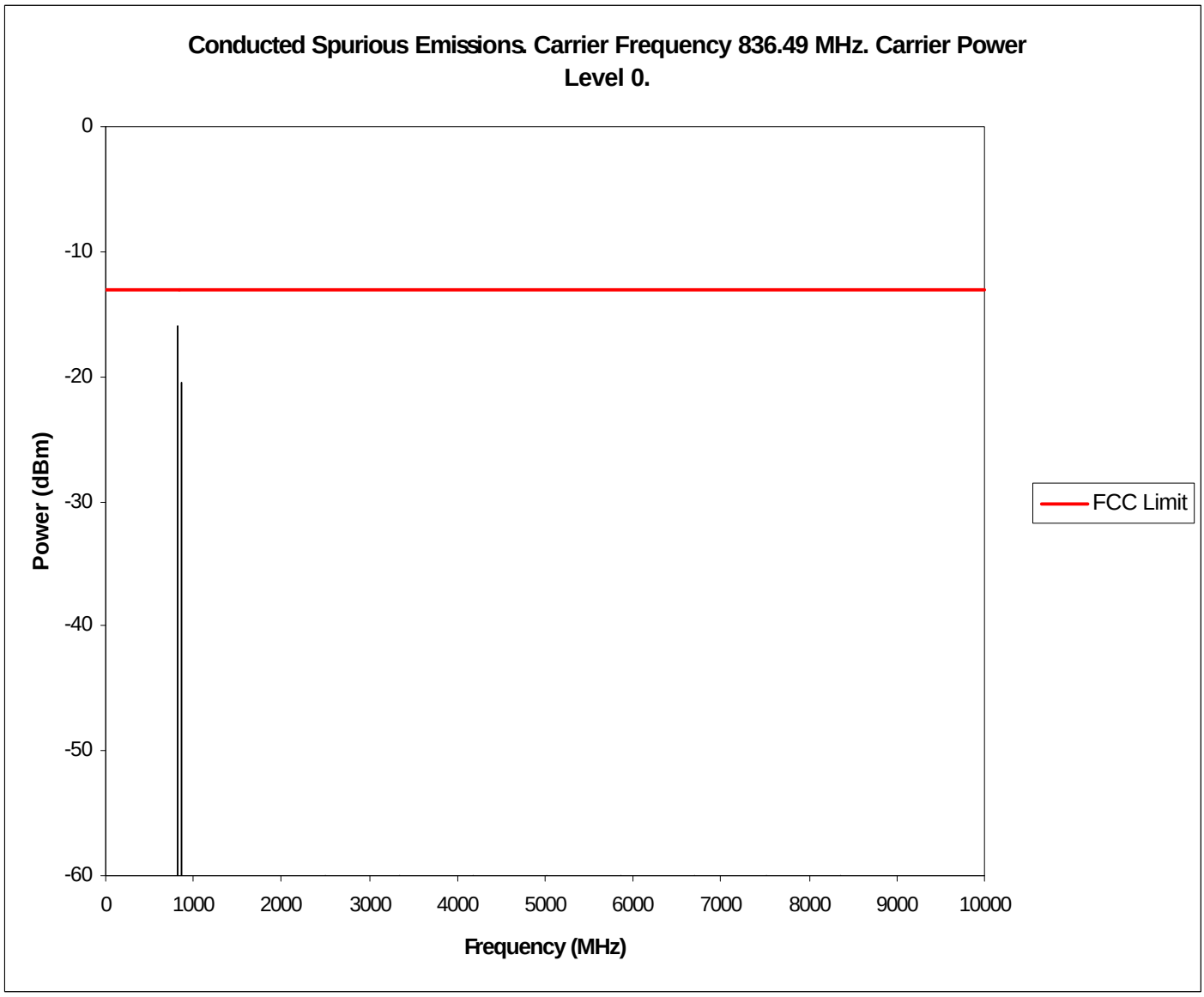
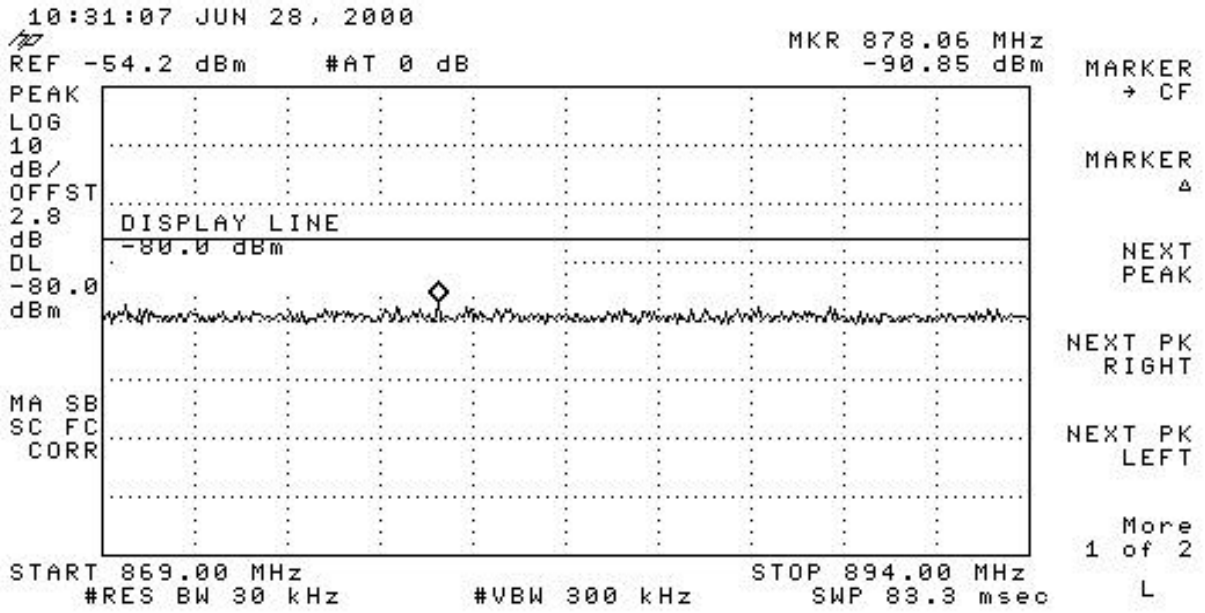


Exhibit 6D4



Mobile emissions in the base band frequency range 22.917f

800 MHz AMPS SPURIOUS EMISSIONS (Radiated)

Per 2.1053 and 22.917 (e), field strength of spurious radiation was measured at Underwriters Laboratories Inc. Research Triangle Park, NC site. The measurement procedure is per EIA IS-137 conducted 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. Measurements recorded are peak measurements.

EXHIBIT	FREQUENCY	OUTPUT POWER LEVEL
6E2	824.04 MHz	0

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

- HP85650A Quasi-Peak Adapter
- HP Opt 462 6 dB Resolution Bandwidth Spectrum Analyzer Display
- HP8566B Spectrum Analyzer 100Hz 25GHz / 2 – 22GHz
- HP11713A Attenuator / Switch Driver
- HP8449B Opt H02 Pre-Amplifier 1-26.5GHz
- HP85685 RF Pre-selector 20Hz – 2GHz
- HP83752 Signal Generator (S/N: 361DA01426) .01 – 20GHz
- Antenna 800 MHz. EMCO 3121C-DB4 Adjustable Element Dipole or similar
- Antenna 1900 MHz. EMCO 3115 Double Ridge Horn Antenna or similar

Exhibit 6E2

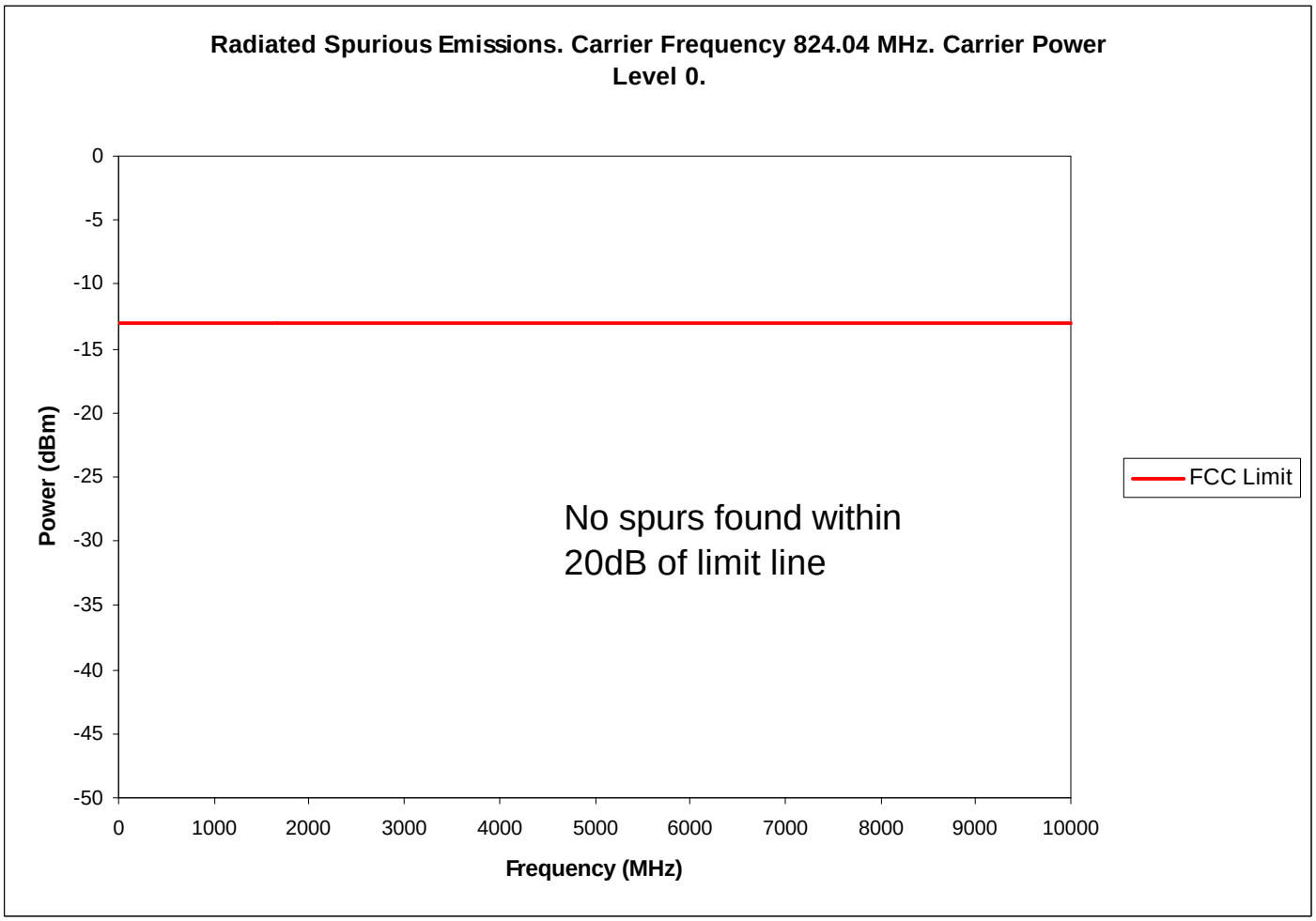


EXHIBIT 6F1

800 MHz AMPS FREQUENCY STABILITY

Per 2.1055 (a)(1),(b),(d)(1)

The 800 MHz AMPS and DAMPS modes employ the same frequency stability components to ensure stability. The data and plots shown in exhibit 6F also represent 800MHz DAMPS.

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

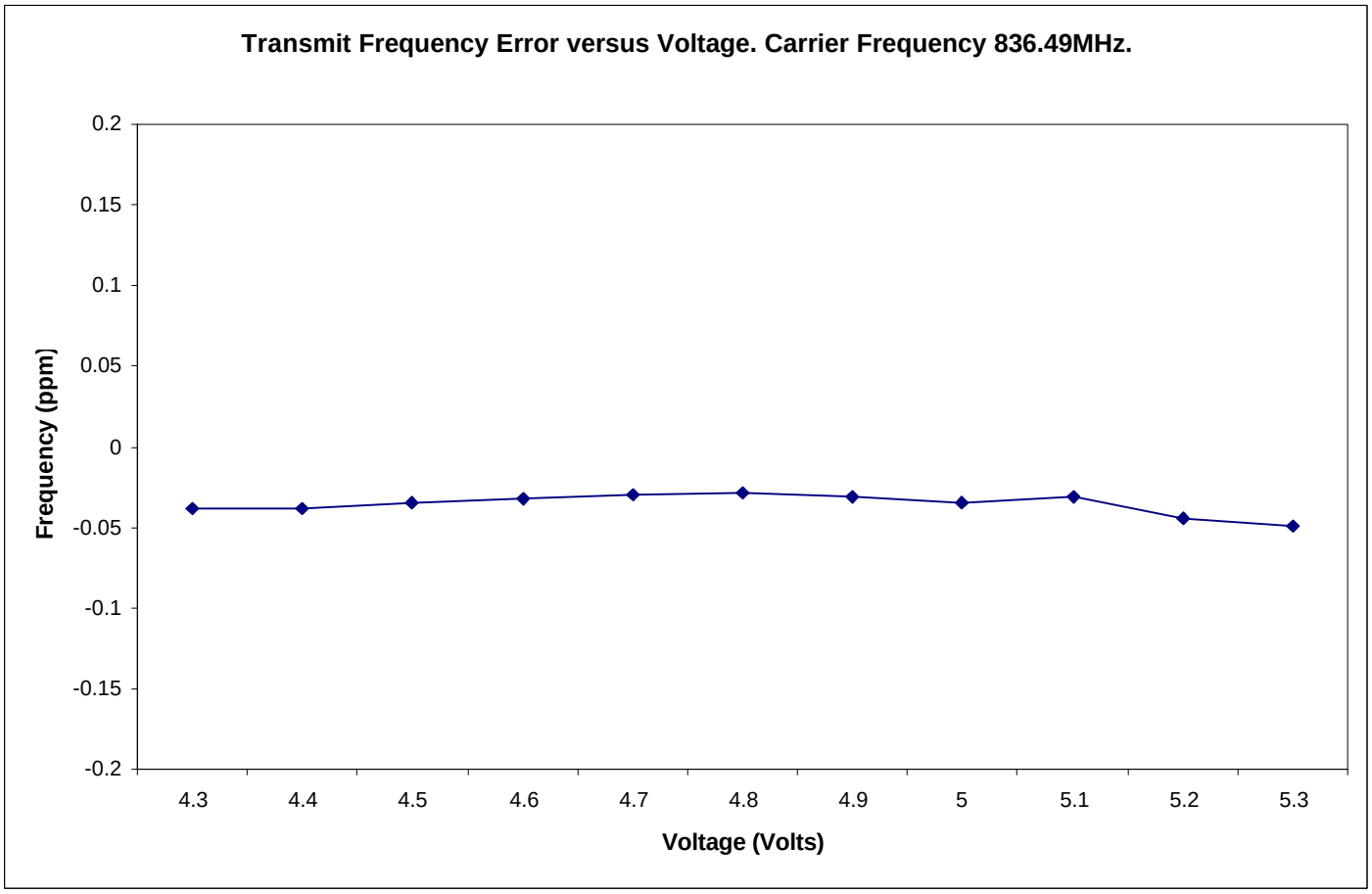
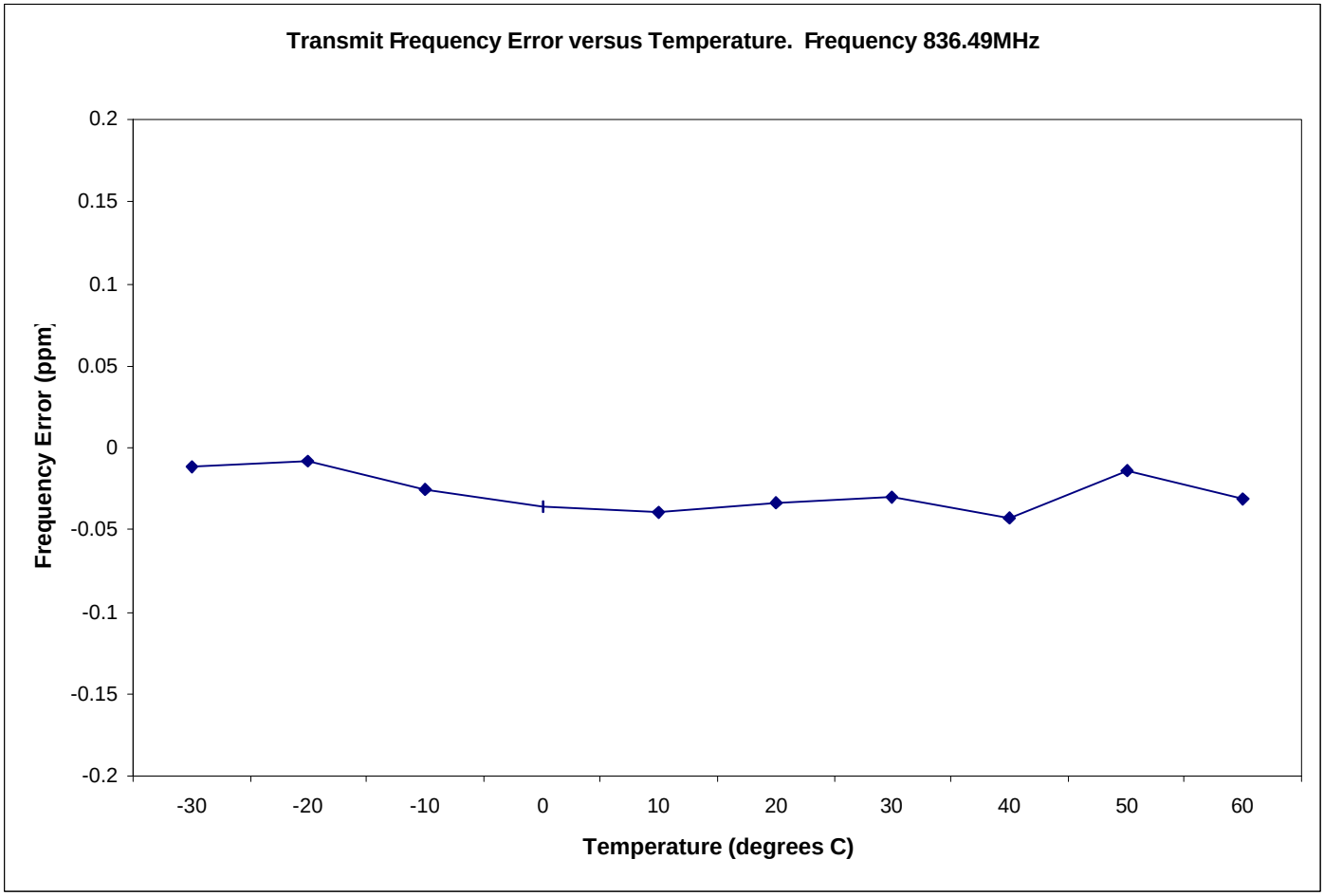


Exhibit 6F3



800 MHz DAMPS RF POWER OUTPUT

Para. 2.1033 (c,6,7), 2.1046 and 22.913 (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 t
6G2	4.8Volts	Varied	0	Mid Band
6G3	Varied	+ 25 C	0	Mid Band

Output power was measured conducted.

The measurements were made per IS137A using the following equipment:

HP8958A Cellular Interface
Thermotron SM-8C Temperature Chamber
HP E7405A EMC Spectrum Analyzer 9 kHz – 26.5 GHz
HP EPM-441A Power Meter
HP 66309B Dual Output Mobile Comm. DC Source
HP 83712B CW Signal Generator 10 MHz – 20 GHz

EDRP

The following is a description of the substitution method used to obtain accurate EDRP 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 maximized 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.

Table: EDRP

Mode	f (MHz)	* Radiated (dBm/mW)
DAMPS	824	27.5/ 562
	836	26.6/ 457
	849	26.0/ 398

Exhibit 6G2

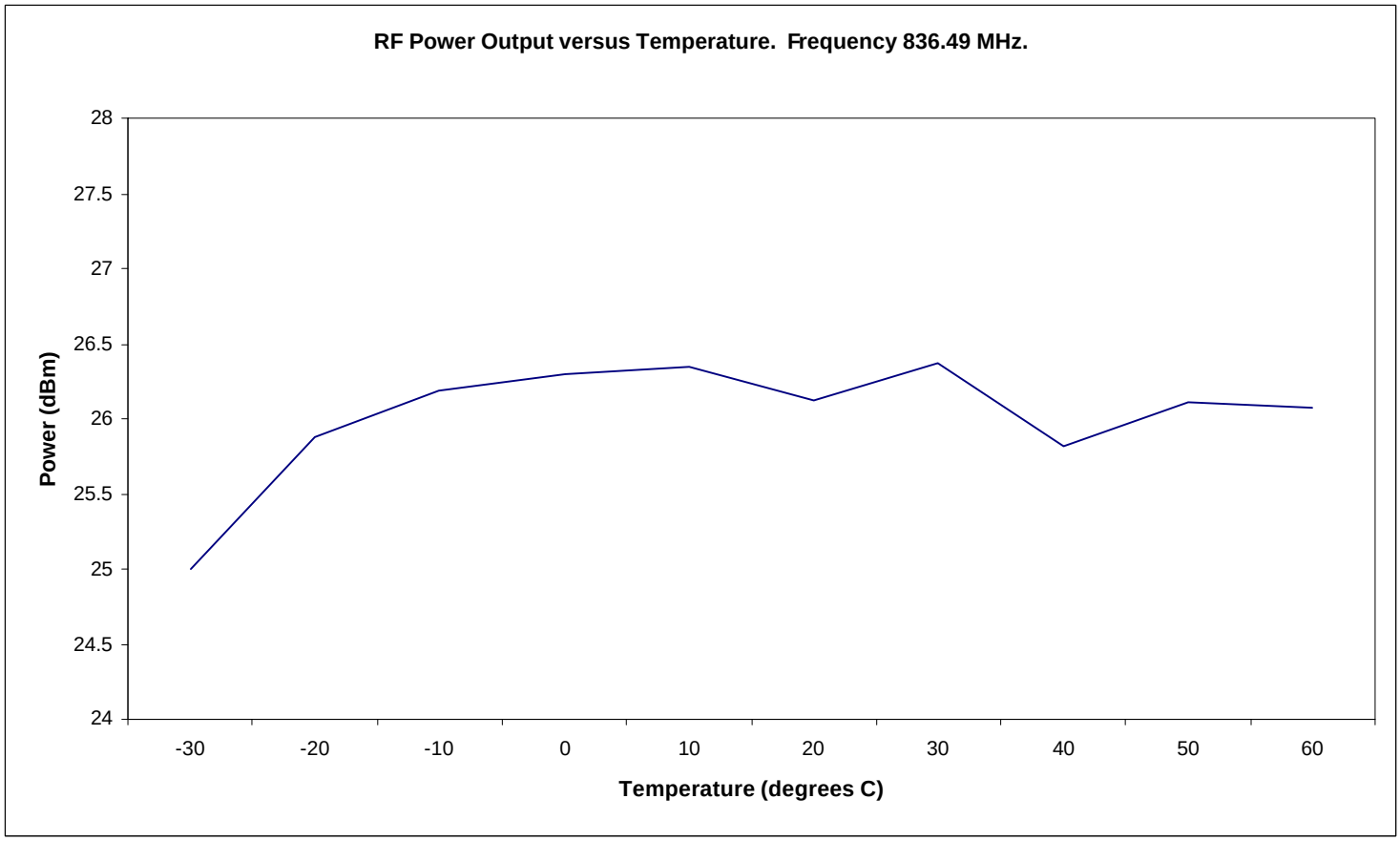
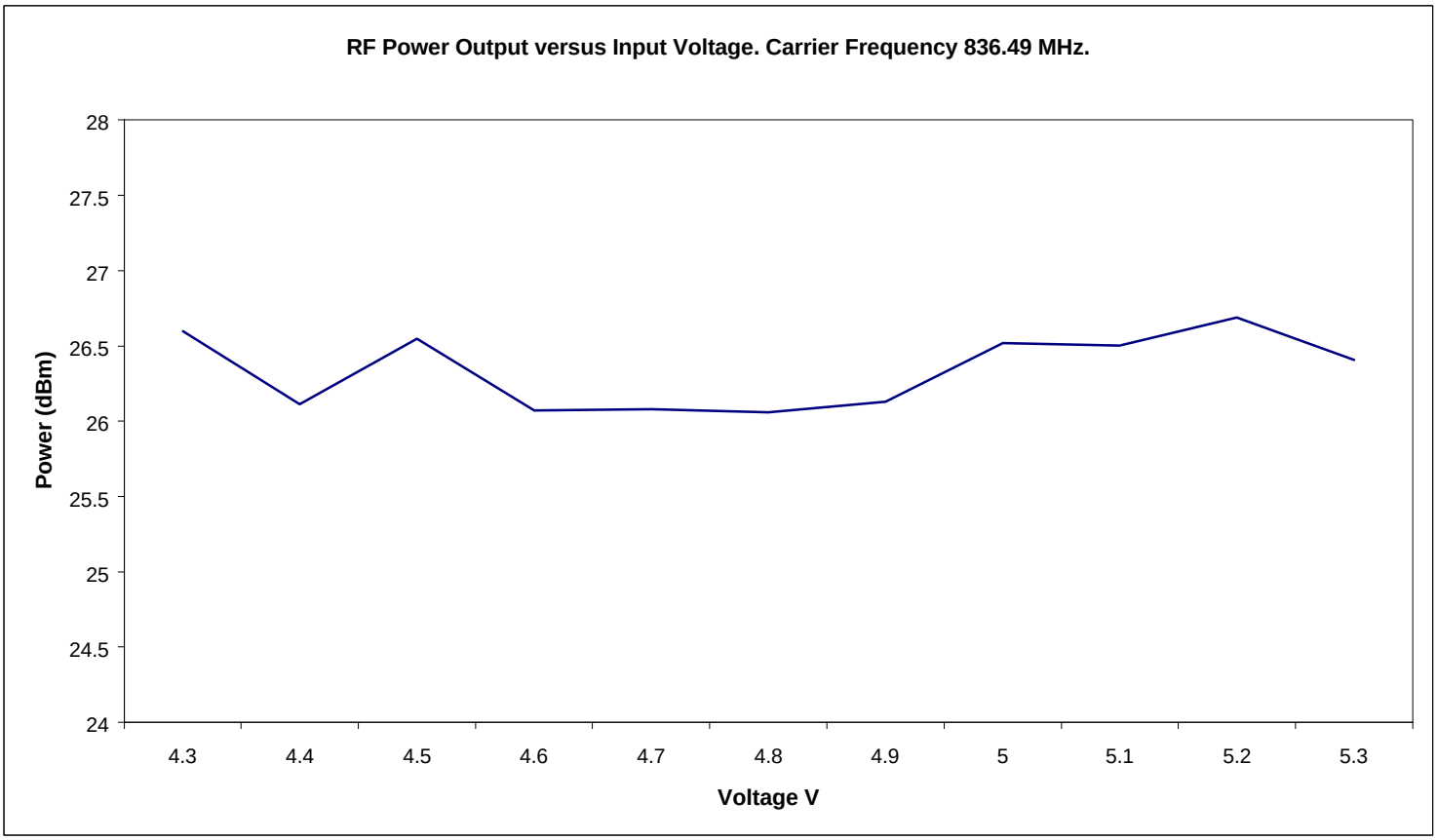


Exhibit 6G3



800 MHz: DAMPS 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.

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:

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

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:

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

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.

800 MHz DAMPS OCCUPIED BANDWIDTH

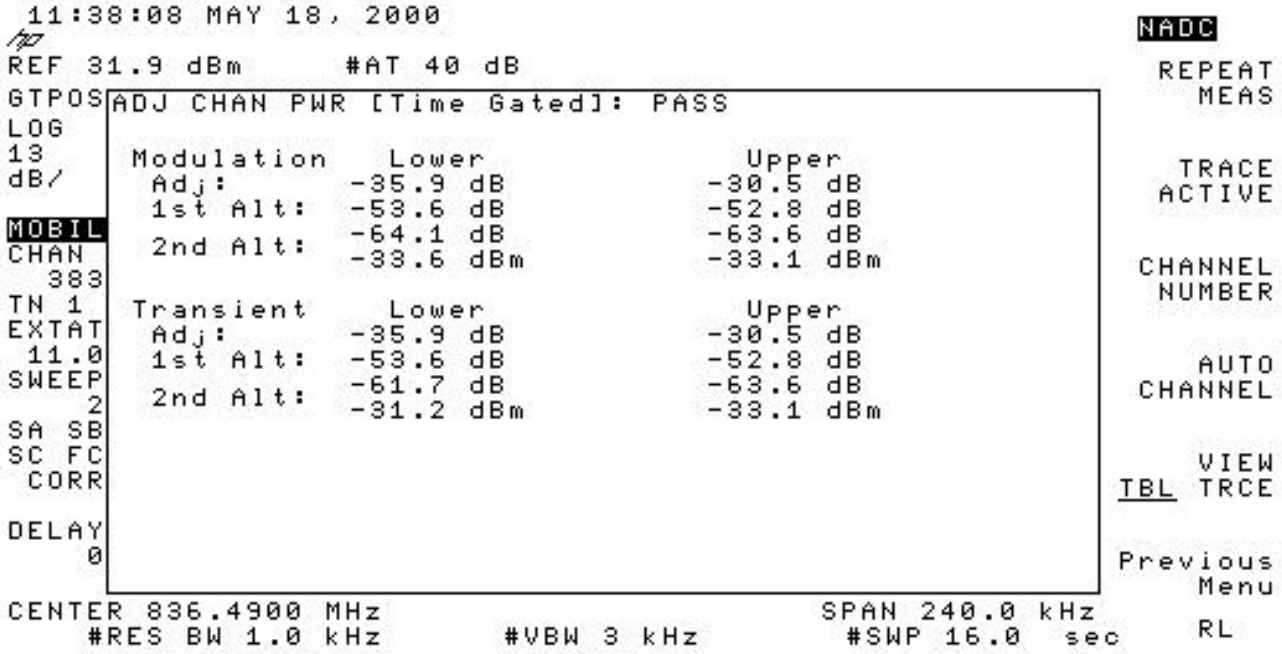
Part 2.1049 and 22.917 the exhibit presented shows the modulation that exist in a DAMPS cellular system:

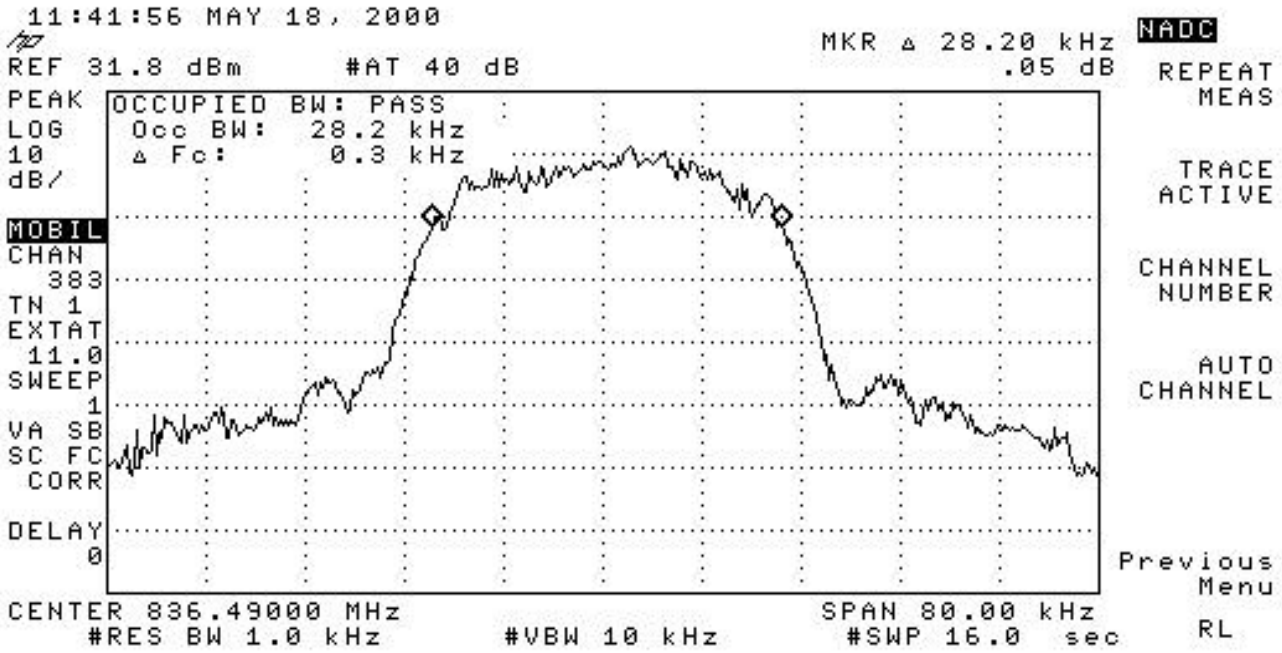
Exhibit #	Description	Power Level
6I2	48.6kb/s Wideband Data	0

These measurements were made per IS-137A using a Hewlett Packard 8953DT North American Dual Mode Cellular Test System 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

Exhibit 6I2





800 MHz DAMPS SPURIOUS EMISSIONS (CONDUCTED)

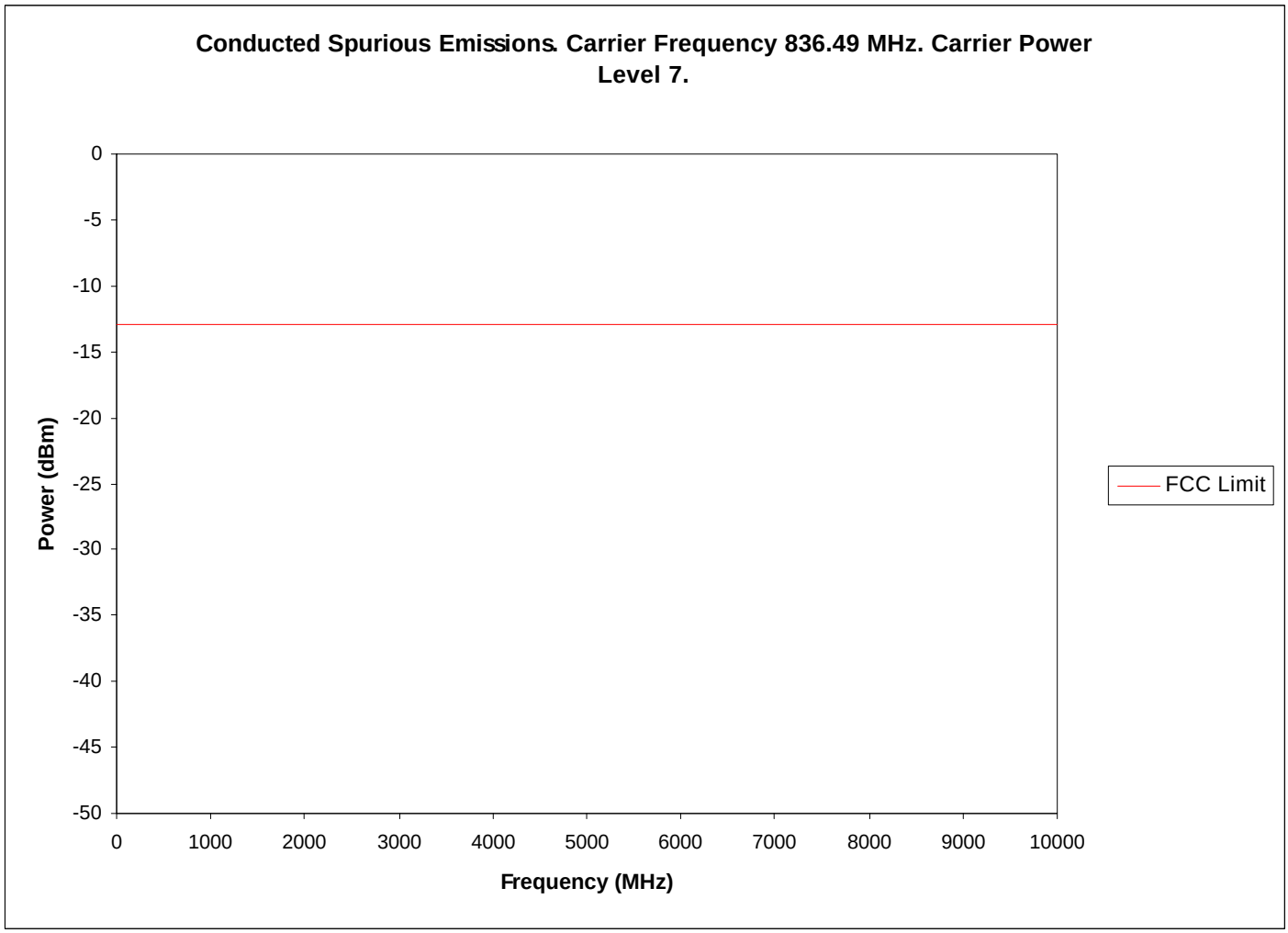
Per 2.1051 Spurious emissions at the antenna terminals (conducted) when properly loaded with an appropriate artificial antenna were measured per IS-137A.

EXHIBIT #	FREQUENCY	Output Power Level
6J2	836.49	10
6J3	836.49	0
6J4	836.4	0; -80dBm per 22.917f

The measurements were taken out to the 10^{th} harmonic of the carrier.

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

HP E7405A EMC Spectrum Analyzer 9 kHz – 26.5 GHz
HP EPM-441A Power Meter
HP 66309B Dual Output Mobile Comm. DC Source
HP 83712B CW Signal Generator 10 MHz – 20 GHz



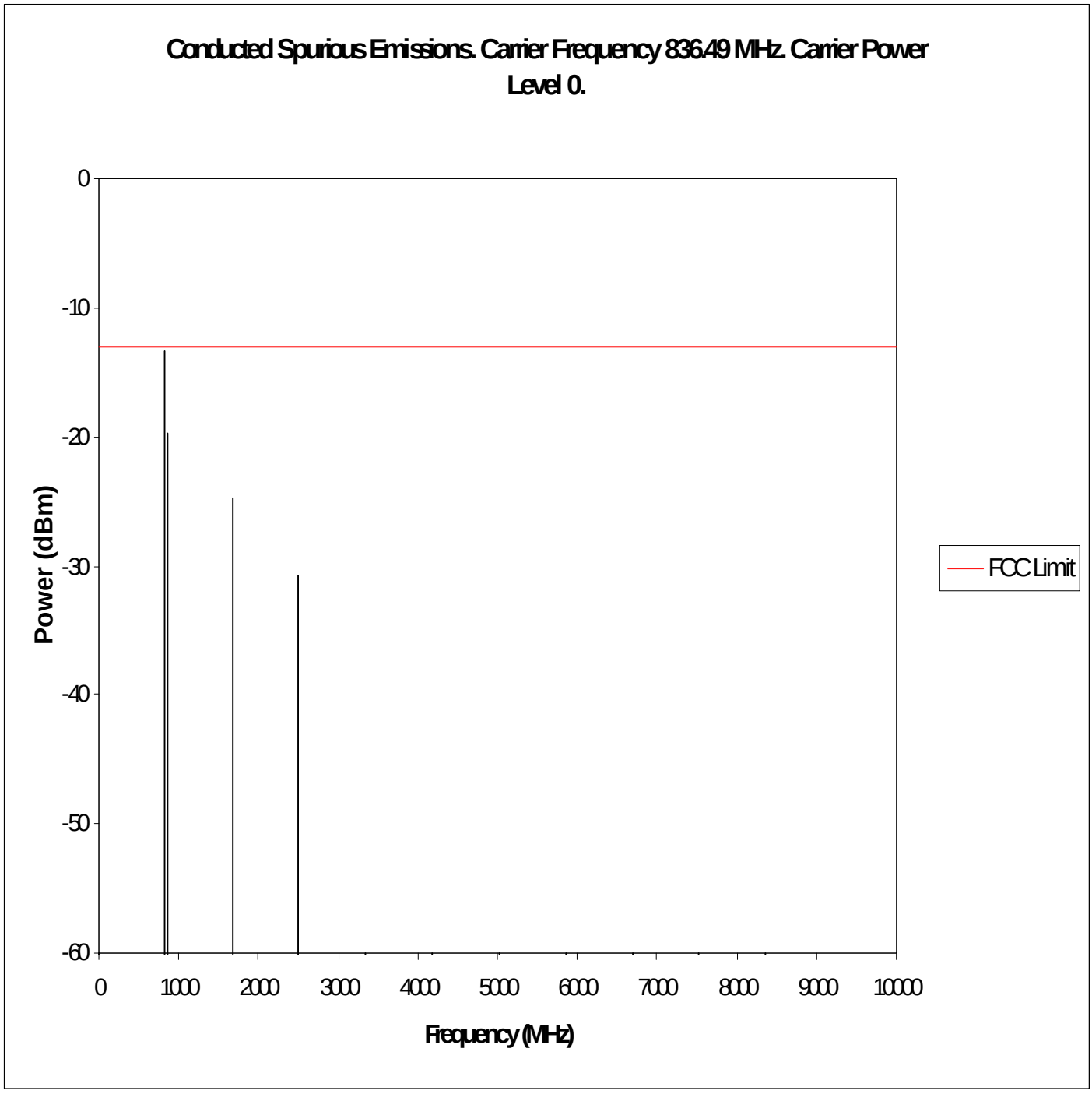
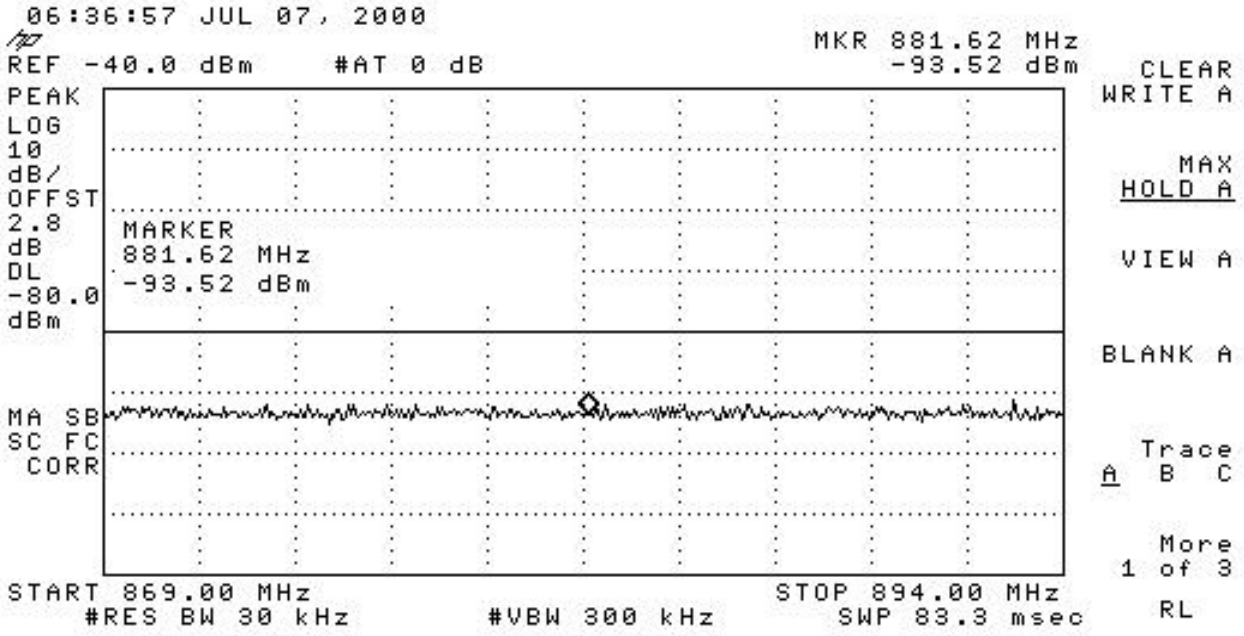


Exhibit 6J4



Mobile emissions in the base band frequency range 22.917f

EXHIBIT 6K1

800 MHz DAMPS SPURIOUS EMISSIONS. RADIATED

Para: 2.1053 and Part 22.917e

Field strength of spurious radiation was measured at Underwriters Laboratories Inc. Research Triangle Park, NC site. The measurement procedure is per EIA IS-137 conducted on a 3 meter test site. Results are shown on the following Exhibits.

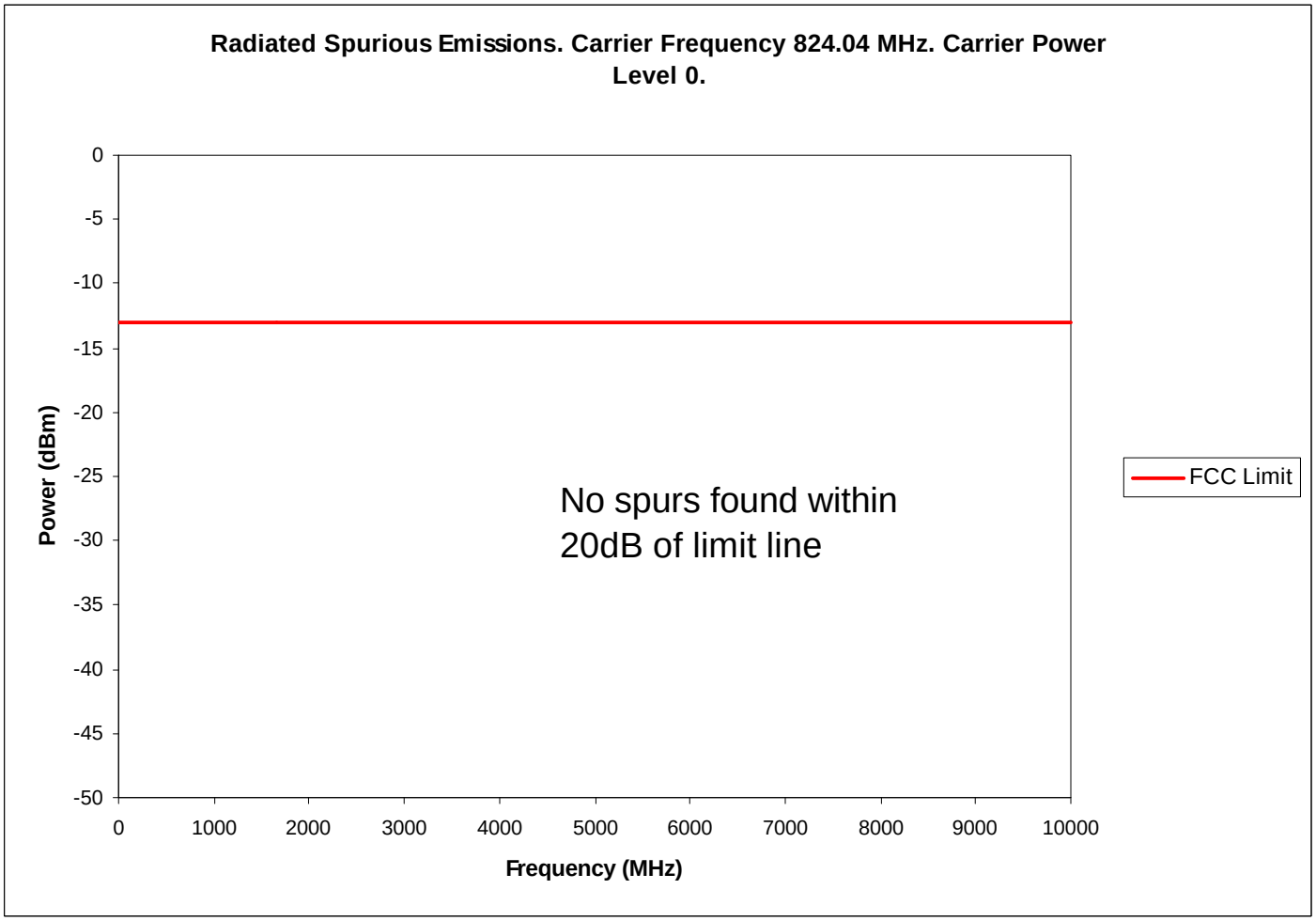
Note: The spectrum was examined through the 10th harmonic of the carrier. Measurements recorded are maximized measurements.

Exhibit	Frequency (MHz)	Output Power Level
6K2	824.04	0

The measurements were made using the following equipment:

- HP85650A Quasi-Peak Adapter
- HP Opt 462 6 dB Resolution Bandwidth Spectrum Analyzer Display
- HP8566B Spectrum Analyzer 100Hz 25GHz / 2 – 22GHz
- HP11713A Attenuator / Switch Driver
- HP8449B Opt H02 Pre-Amplifier 1-26.5GHz
- HP85685 RF Pre-selector 20Hz – 2GHz
- HP83752 Signal Generator (S/N: 361DA01426) .01 – 20GHz
- Antenna 800 MHz. EMCO 3121C-DB4 Adjustable Element Dipole or similar
- Antenna 1900 MHz. EMCO 3115 Double Ridge Horn Antenna or similar

Exhibit 6K2



800 MHz DAMPS FREQUENCY STABILITY

Per 2.1055 (a)(1),(b),(d)(1)

The 800 MHz AMPS and DAMPS modes employ the same frequency stability components to ensure stability. The data and plots shown in exhibit 6F also represent 800MHz DAMPS.