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RF POWER OUTPUT DATA

The input supply to the transmitter was set at 3.6 Volts. The voltage at the final amplifying device voltage was 3.6V. The RF power output was measured with the indicated voltage and current applied into the final RF amplifying device(s).

ANALOG MODE:

Measured RF Output: 0.320 Watts
Measured DC Voltage: 3.6 Volts
Measured DC Current: 488 mA
Measured RF Input: 0.9 mW

800MHz DIGITAL MODE:

In Digital Mode the values measured for RF Output, DC Current and RF Input Power are all average values which reflect the 1/3 duty cycle of TDMA operation.

Measured RF Output: 0.501 Watts
Measured DC Voltage: 3.6 Volts
Measured DC Current: 272 mA
Measured RF Input: 1 mW

1900MHz DIGITAL MODE:

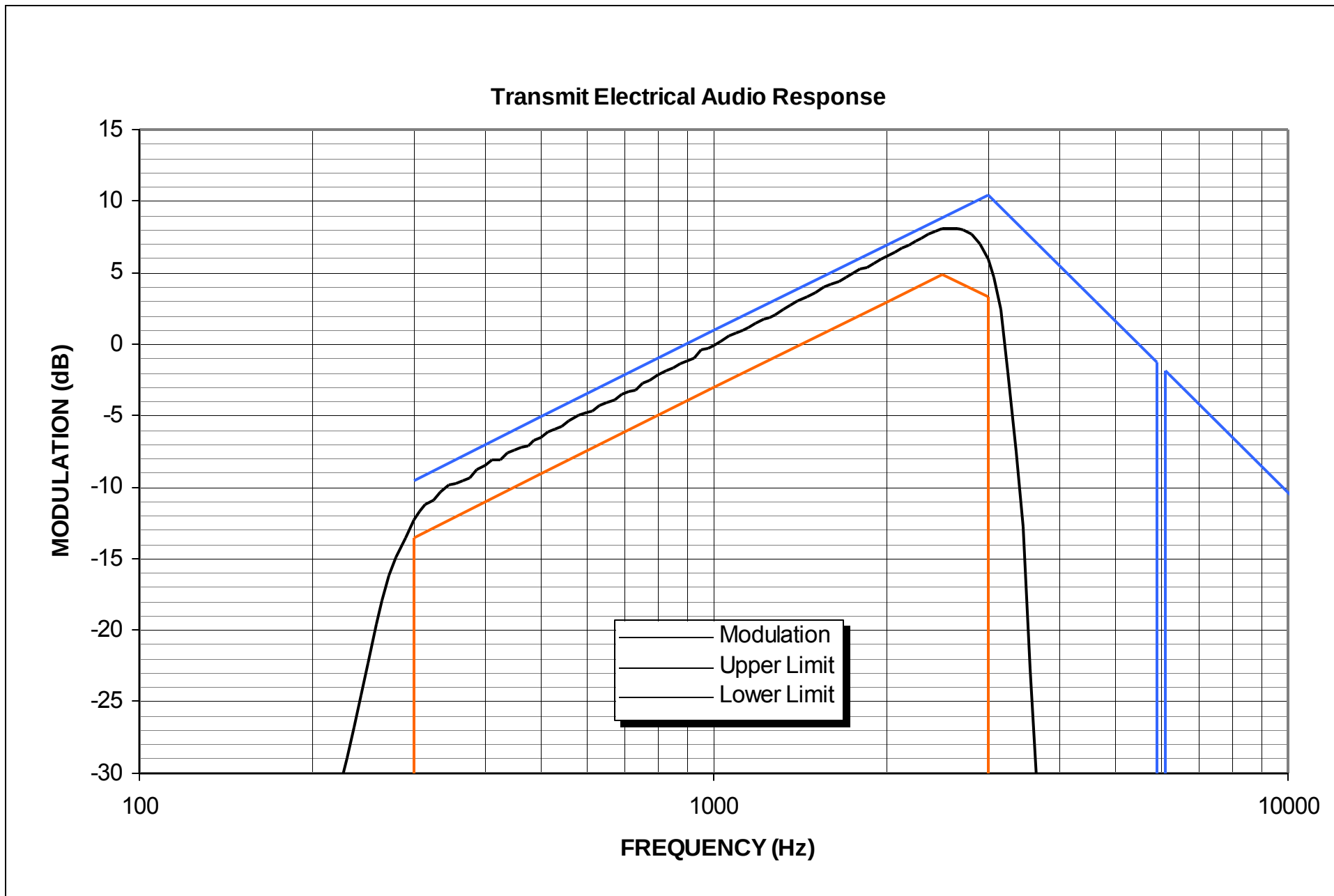
In Digital Mode the values measured for RF Output, DC Current and RF Input Power are all average values which reflect the 1/3 duty cycle of TDMA operation.

Measured RF Output: 0.501 Watts
Measured DC Voltage: 3.6 Volts
Measured DC Current: 313 mA
Measured RF Input: 1.6 mW

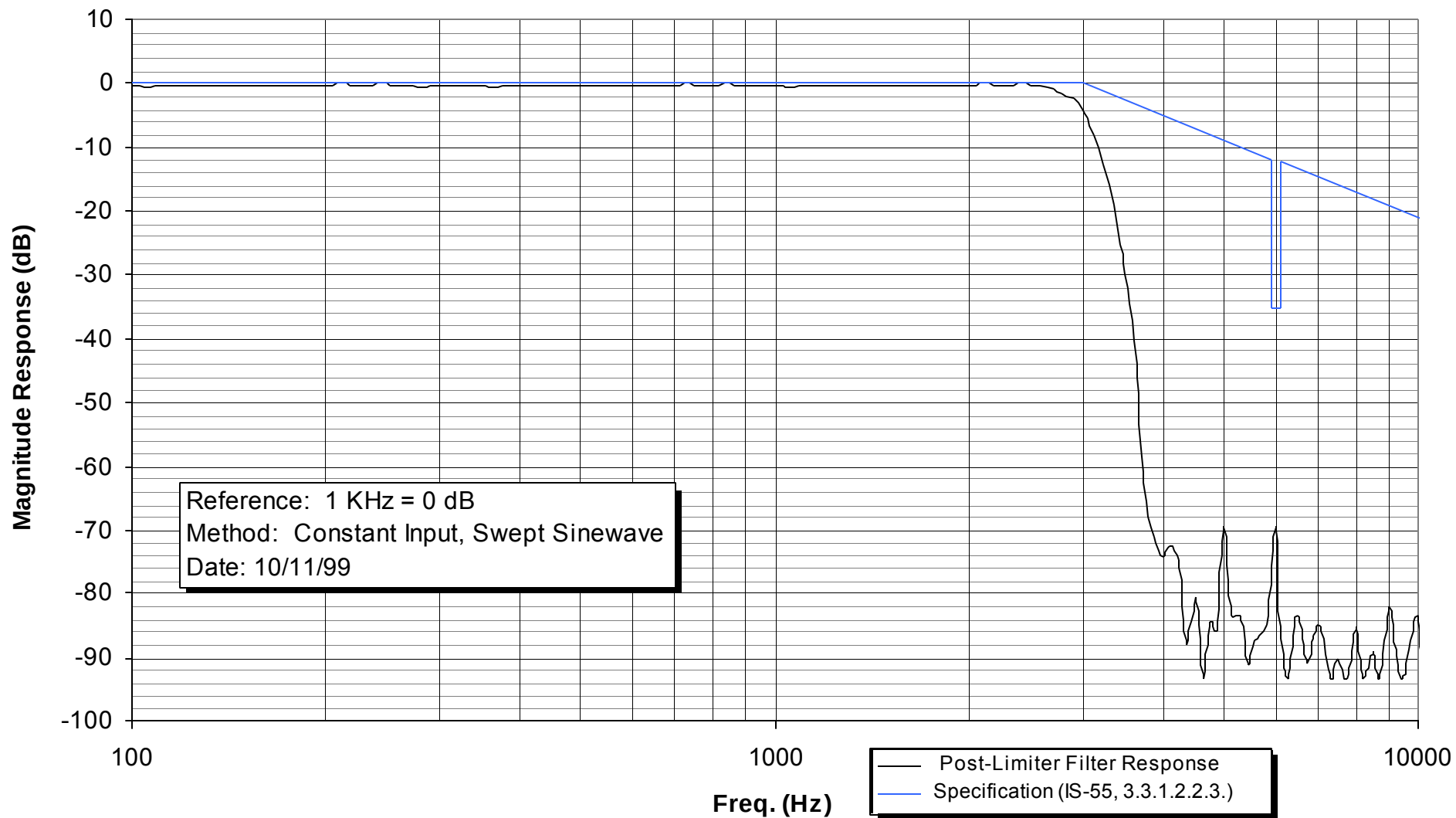
ERP:

The input supply to the transmitter was set at 3.6 Volts. Measurements were made relative to a dipole with a known gain of 2.14dB relative to an isotropic source.

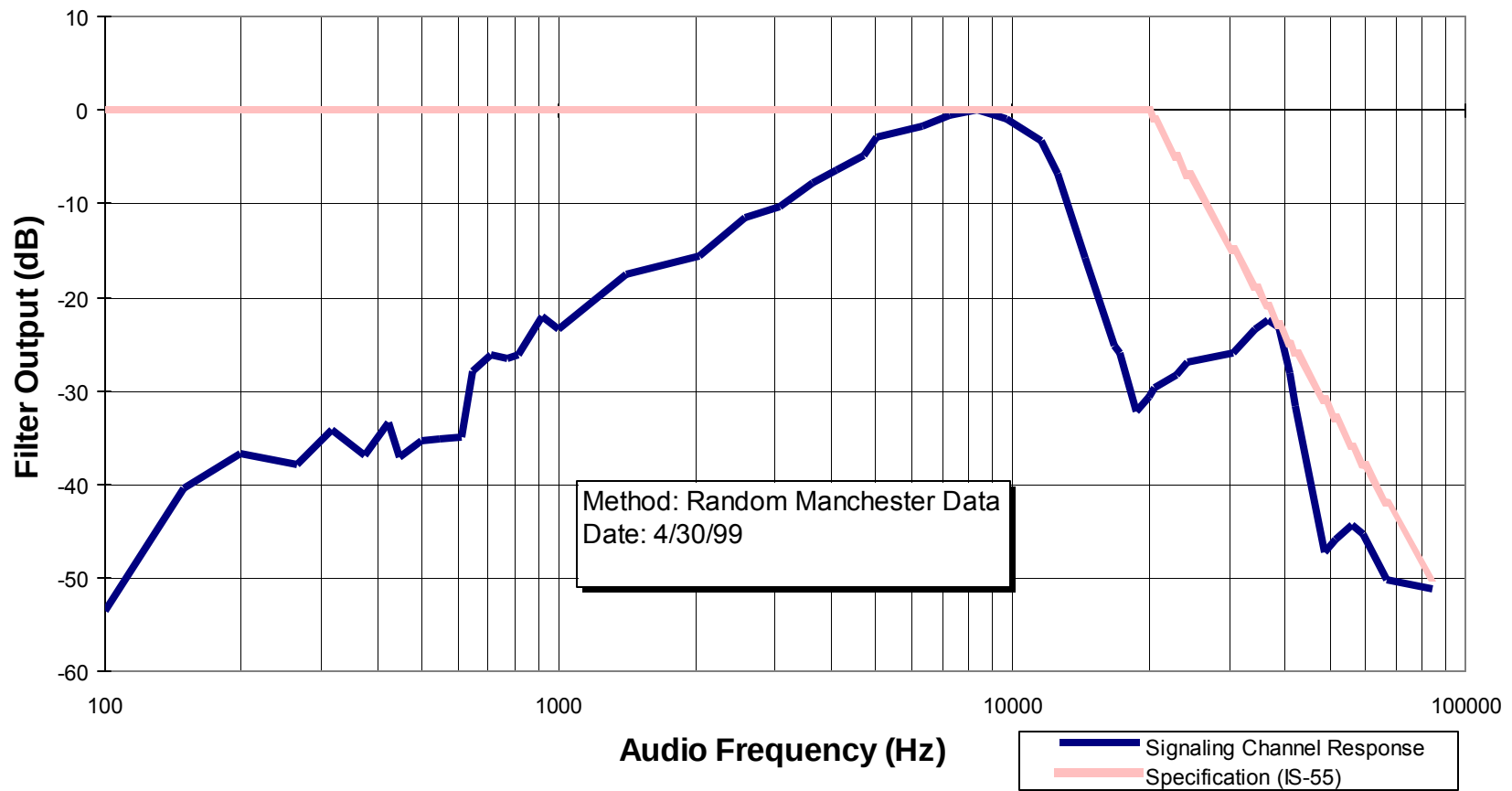
ANALOG MODE:	Measured ERP (Relative to Half-Wavelength Dipole):	0.165 Watts
800MHz DIGITAL MODE:	Measured ERP (Relative to a Half-Wavelength Dipole):	0.206 Watts
1900MHz DIGITAL MODE:	Measured EIRP (Relative to an Isotropic Source):	0.488 Watts

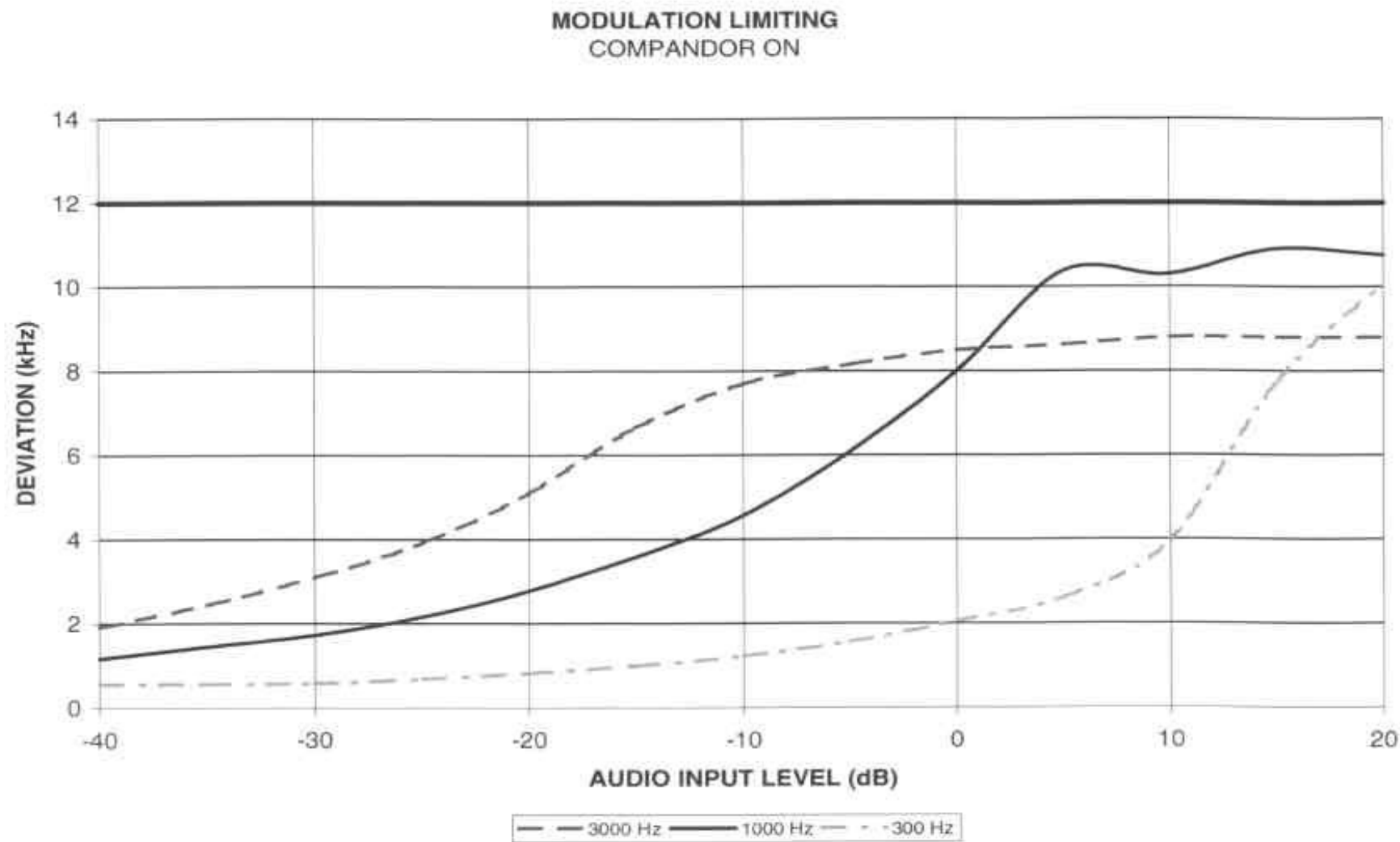


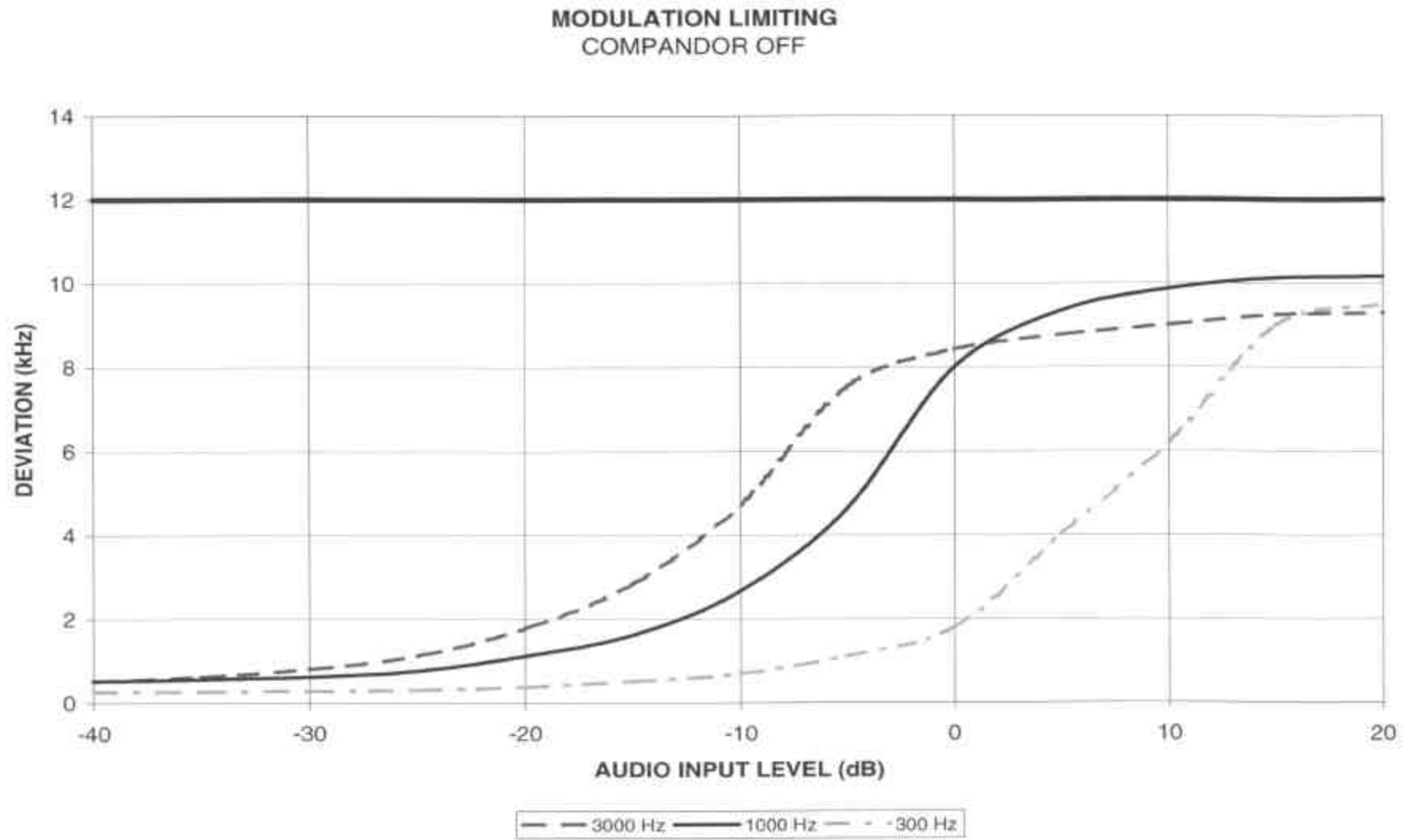
Tx Post-Limiter Lowpass Filter Response



Tx Signaling Channel Audio Roll-Off Filter Response







BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F8W

DEVIATION OF THE CARRIER WITH 2500 Hz AUDIO MODULATION

HORIZONTAL SCALE = 20 kHz/ DIVISION

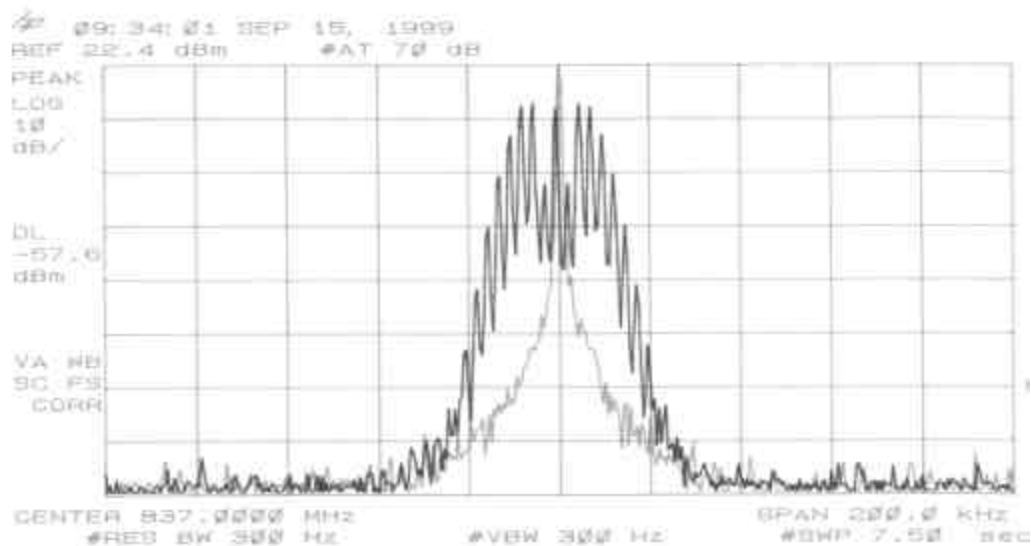
VERTICAL SCALE = 10 dB/ DIVISION (ATTENUATION)

RESOLUTION BANDWIDTH = 300 Hz

AUDIO LEVEL = 16 dB GREATER THAN LEVEL REQUIRED TO
PRODUCE +/- 6 kHz

POWER LEVEL = 0.6 W

MEASURED DATA:



1. Instantaneous Deviation Control set for a maximum of +/- 12 kHz.
2. Tune and adjust to obtain unmodulated carrier on the analyzer scope. Save trace of unmodulated carrier.
3. Modulate the Transmitter with the 2.5 kHz tone, 16 dB greater than that required to produce +/- 6 kHz modulation. Photograph the sideband display while it is superimposed upon the unmodulated carrier.

SPEC LIMITS:

- a. On any frequency removed from the assigned carrier frequency by more than 20 kHz, up to and including 45 kHz, the sideband is at least 26 dB below the carrier.

b. On a any frequency removed from the assigned carrier frequency by more than 45 kHz, up to the first multiple of the carrier frequency, the sideband is at least 60 dB below the carrier or $43 + \log_{10}(\text{mean power output in Watts})$ dB, whichever is smaller attenuation.

BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F8W

DEVIATION OF THE CARRIER WITH 2500 Hz AUDIO MODULATION AND SUPERVISORY AUDIO TONE

HORIZONTAL SCALE = 20 kHz/ DIVISION

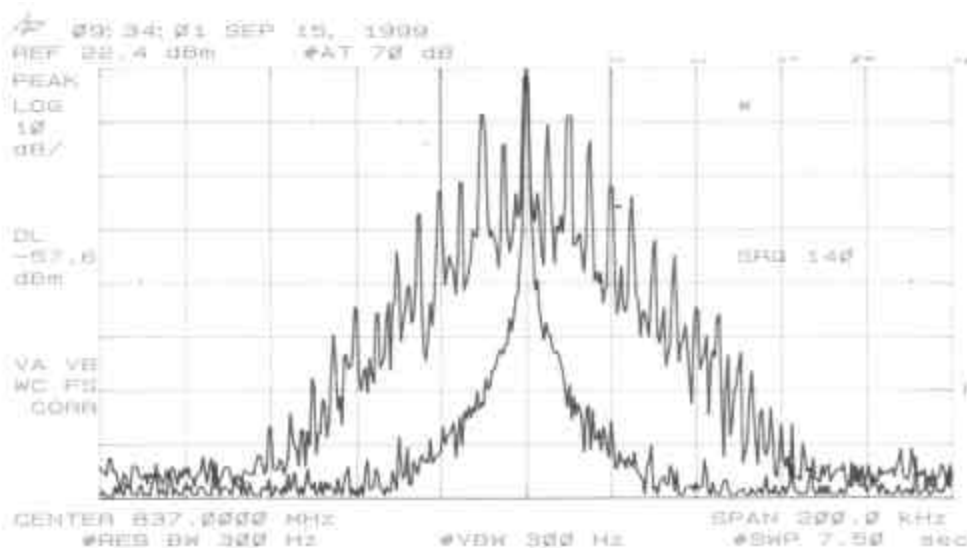
VERTICAL SCALE = 10 dB/ DIVISION (ATTENUATION)

RESOLUTION BANDWIDTH = 300 Hz

AUDIO LEVEL = 16 dB GREATER THAN LEVEL REQUIRED TO
PRODUCE +/- 6 kHz

POWER LEVEL = 0.6 W

MEASURED DATA:



1. Instantaneous Deviation Control set for a maximum of +/- 12 kHz.
2. Tune and adjust to obtain unmodulated carrier on the analyzer scope. Save trace of unmodulated carrier.
3. Modulate the Transmitter with the 2.5 kHz tone, 16 dB greater than that required to produce +/- 6 kHz modulation and add SAT with +/- 2 kHz deviation. Photograph the sideband display while it is superimposed upon the unmodulated carrier.

SPEC LIMITS:

- a. On any frequency removed from the assigned carrier frequency by more than 20 kHz, up to and including 45 kHz, the sideband is at least 26 dB below the carrier.
- b. On a any frequency removed from the assigned carrier frequency by more than 45 kHz, up to the first multiple of the carrier frequency, the sideband is at least 60

dB below the carrier or $43 + \log_{10}(\text{mean power output in Watts})$ dB, whichever is smaller attenuation.

BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F1D

DEVIATION OF THE CARRIER WITH 10 kBIT/ SECOND DATA

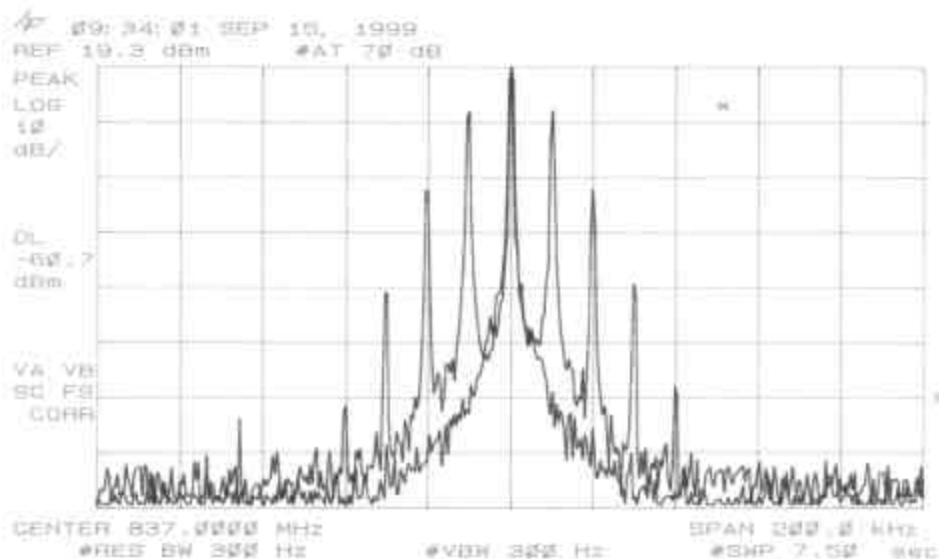
HORIZONTAL SCALE = 20 kHz/ DIVISION

VERTICAL SCALE = 10 dB/ DIVISION (ATTENUATION)

RESOLUTION BANDWIDTH = 300 Hz

POWER LEVEL = 0.6 W

MEASURED DATA



1. Instantaneous Deviation Control set for a maximum of +/- 12 kHz.
2. Tune and adjust to obtain unmodulated carrier on the analyzer scope. Save trace of unmodulated carrier.
3. Modulate the Transmitter with the wideband data with +/- 8 kHz deviation
Photograph the sideband display while it is superimposed upon the unmodulated carrier.

SPEC LIMITS:

- a. On any frequency removed from the assigned carrier frequency by more than 20 kHz, up to and including 45 kHz, the sideband is at least 26 dB below the carrier.
- b. On a any frequency removed from the assigned carrier frequency by more than 45 kHz, up to and including 90 kHz, the sideband is at least 45 dB below the carrier.
- c. On any frequency removed from the assigned carrier frequency by more than 90 kHz, up to the first multiple of the carrier frequency, the sideband is at least 60 dB

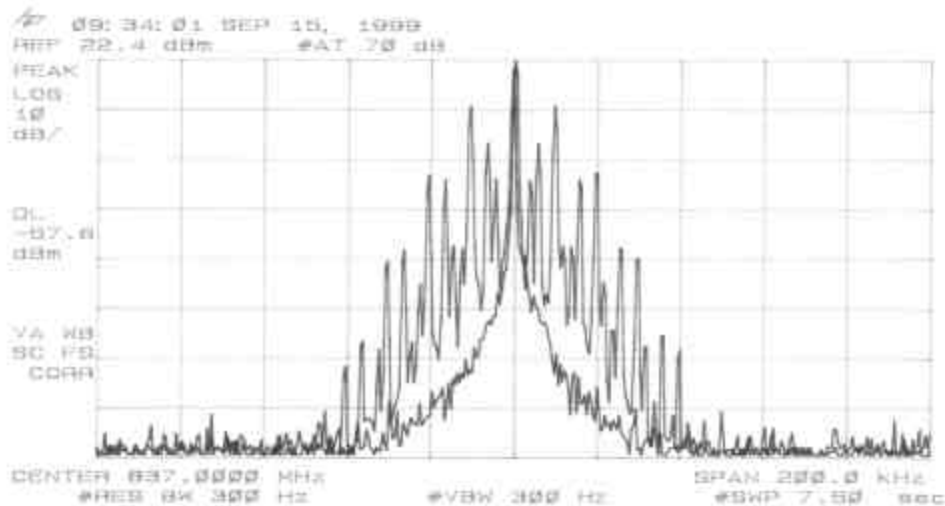
below the carrier or $43 + \log_{10}(\text{mean power output in Watts})$ dB, whichever is smaller attenuation.

BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F1D

DEVIATION OF THE CARRIER WITH 10 kHz SIGNALING
TONE AND SUPERVISORY AUDIO TONE

HORIZONTAL SCALE = 20 kHz/ DIVISION
VERTICAL SCALE = 10 dB/ DIVISION (ATTENUATION)
RESOLUTION BANDWIDTH = 300 Hz
POWER LEVEL = 0.6 W

MEASURED DATA:



1. Instantaneous Deviation Control set for a maximum of +/- 12 kHz.
2. Tune and adjust to obtain unmodulated carrier on the analyzer scope. Save trace of unmodulated carrier.
3. Modulate the Transmitter with the wideband data with +/- 8 kHz deviation and add SAT with +/- 2 kHz. Photograph the sideband display while it is superimposed upon the unmodulated carrier.

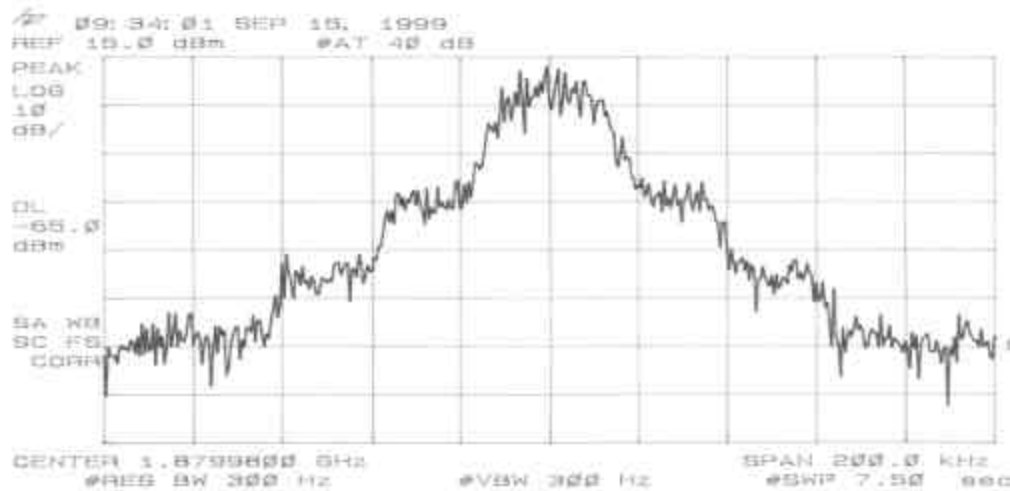
SPEC LIMITS:

- a. On any frequency removed from the assigned carrier frequency by more than 20 kHz, up to and including 45 kHz, the sideband is at least 26 dB below the carrier.
- b. On a any frequency removed from the assigned carrier frequency by more than 45 kHz, up to and including 90 kHz, the sideband is at least 45 dB below the carrier.
- c. On any frequency removed from the assigned carrier frequency by more than 90 kHz, up to the first multiple of the carrier frequency, the sideband is at least 60 dB below the carrier or $43 + \log_{10}(\text{mean power output in Watts})$ dB, whichever is smaller attenuation.

BANDWIDTH MEASUREMENT DATA
FOR TRANSMITTER TYPES DXWDEVIATION OF THE CARRIER WITH $\pi/4$ DQPSK
MODULATION

HORIZONTAL SCALE = 20 kHz/ DIVISION
VERTICAL SCALE = 10 dB/ DIVISION (ATTENUATION)
RESOLUTION BANDWIDTH = 300 Hz
POWER LEVEL = 0.6 W

MEASURED DATA:



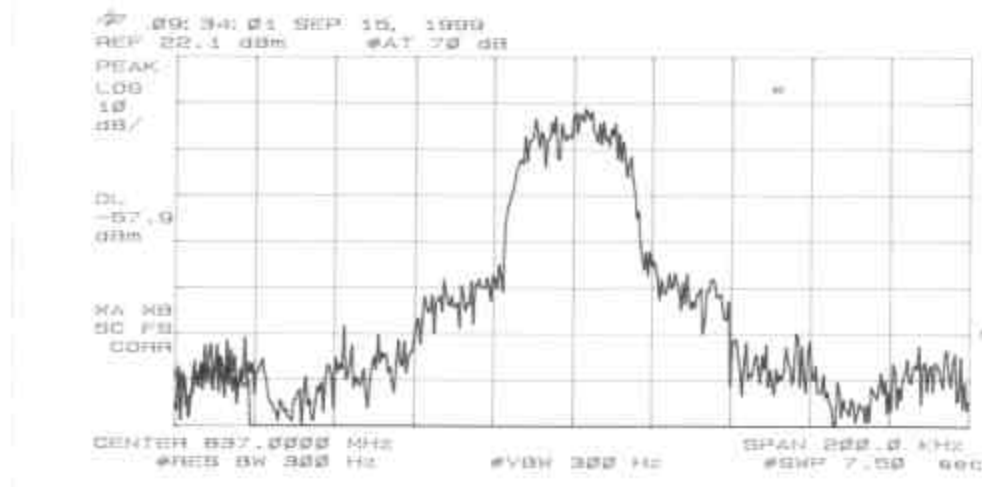
1. Modulate the transmitter with $\pi/4$ DQPSK modulation, using pseudo random data. Obtain image on spectrum analyzer.

SPEC LIMITS:

The emission power in either adjacent channel centered ± 30 kHz from the center frequency, shall not exceed a level of 26 dB below the mean power. The emission power in either alternate channel, centered ± 60 kHz from the center frequency, shall not exceed a level of 45 dB below the mean output power. The emission power in either channel centered ± 90 kHz from center frequency, shall not exceed a level of - 13 dBm.

**BANDWIDTH MEASUREMENT DATA
FOR TRANSMITTER TYPES DXW****DEVIATION OF THE CARRIER WITH $\pi/4$ DQPSK
MODULATION**

HORIZONTAL SCALE = 20 kHz/ DIVISION
VERTICAL SCALE = 10 dB/ DIVISION (ATTENUATION)
RESOLUTION BANDWIDTH = 300 Hz
POWER LEVEL = 0.6 W

MEASURED DATA:

1. Modulate the transmitter with $\pi/4$ DQPSK modulation, using pseudo random data. Obtain image on spectrum analyzer.

SPEC LIMITS:

The emission power in either adjacent channel centered ± 30 kHz from the center frequency, shall not exceed a level of 26 dB below the mean power. The emission power in either alternate channel, centered ± 60 kHz from the center frequency, shall not exceed a level of 45 dB below the mean output power. The emission power in either channel centered ± 90 kHz from center frequency, shall not exceed a level of - 13 dBm.