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RF POWER OUTPUT DATA

The input supply to the transmitter was set at 3.6 Volts. 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: 0.470W

Measured DC voltage: 3.6V

Measured DC current: 654mA.

Measured RF input: 4.48mW

DIGITAL MODE

In Digital Mode the values measured for RF Output, DC Current and RF Input Power are all average values which reflect a 100% transmit duty cycle in CDMA operation.

Measured RF output: 0.270W

Measured DC voltage: 3.6V

Measured DC current: 455mA.

Measured RF input: 2.32mW

EFFECTIVE RADIATED POWER

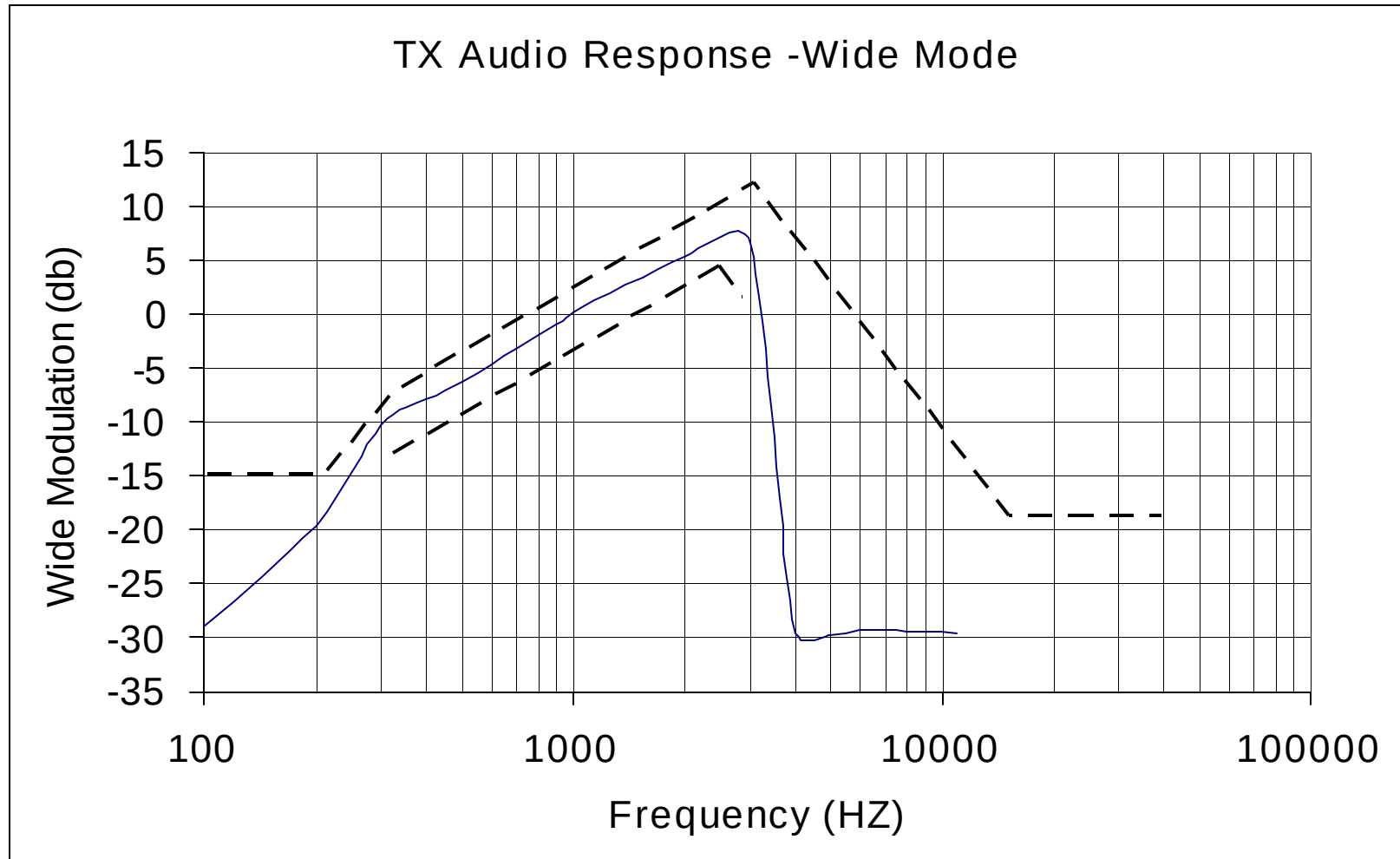
Since the unit is intended for use with a provided antenna (and “non standard” RF connector), ERP is measured. The dipole antenna substitution method was used. The result indicated is the maximum ERP found over the channels and radio orientations tested.

Maximum Effective Radiated Power: Analog Mode : 26.1dBm

AUDIO RESPONSE -GRAPH

Signature:

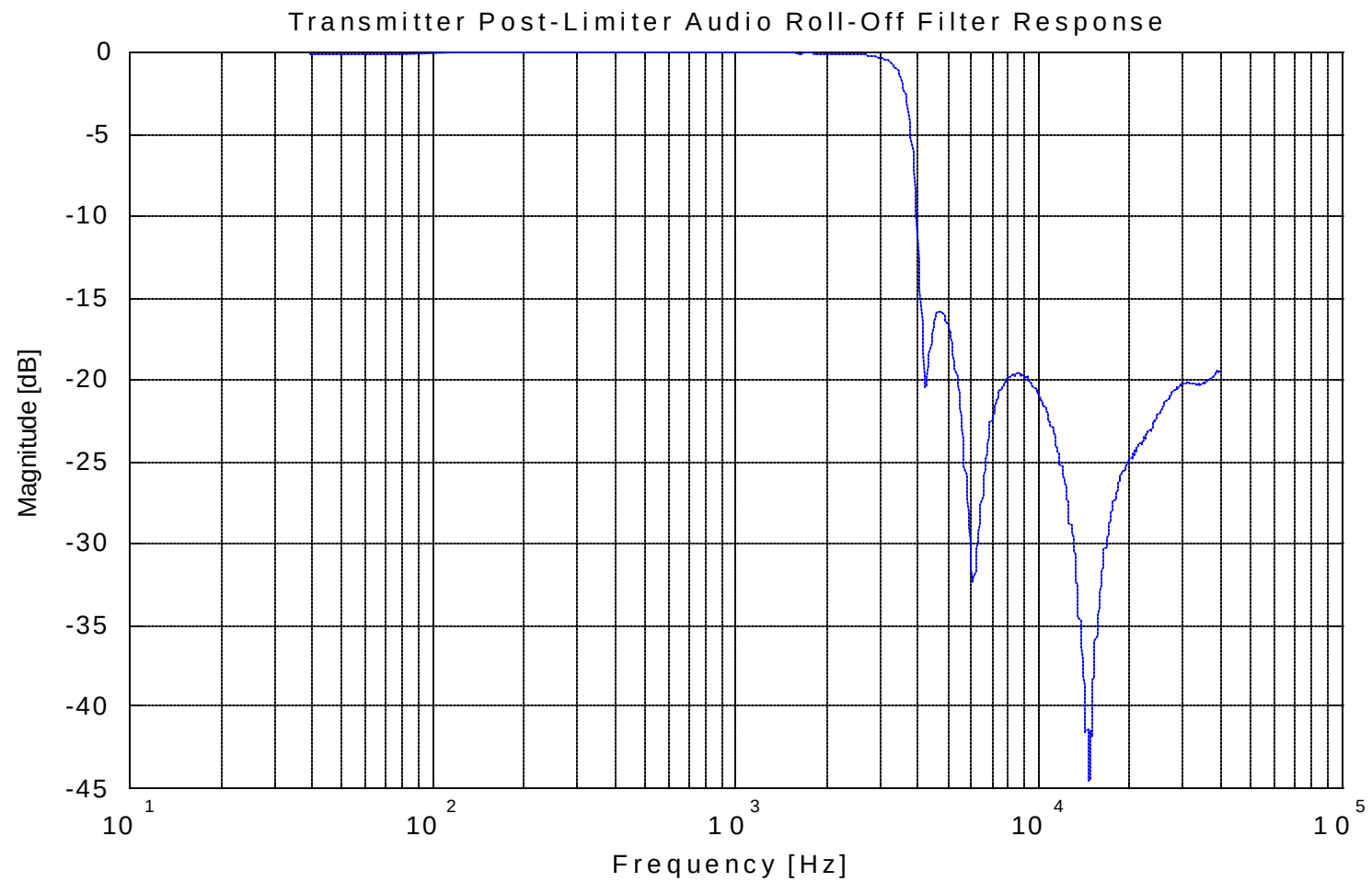
Date: 9/28/99



POST LIMITER LOW PASS FILTER RESPONSE -GRAPH

Signature:

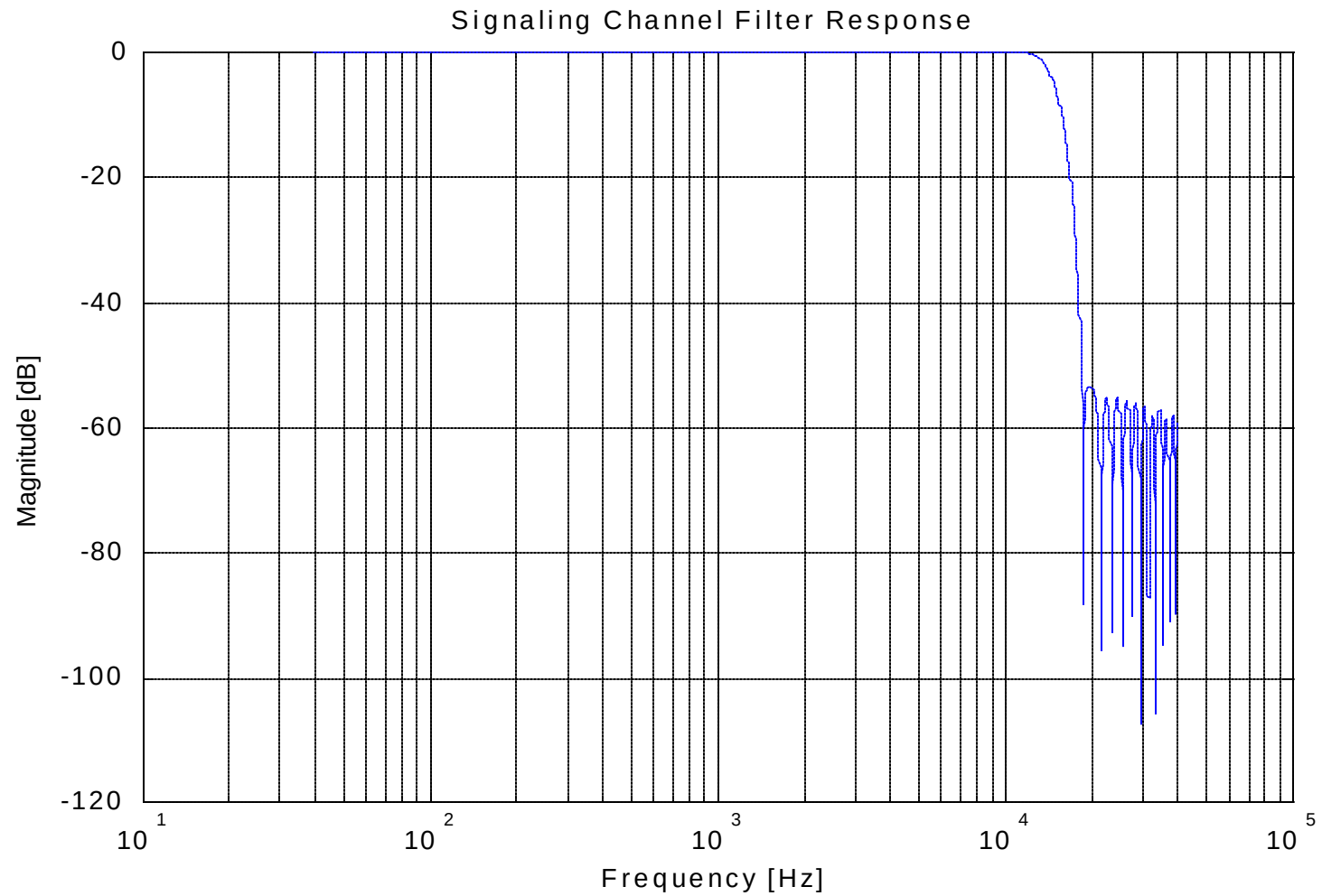
Date: 9/28/99



SIGNALING CHANNEL AUDIO ROLL-OFF FILTER RESPONSE - GRAPH

Signature:

Date: 9/28/99



MODULATION LIMITING (COMPANDOR IN) -GRAPH

Compander On

Wide Mode

0 dB Reference: 1004 Hz, 860 mV with 8.0 kHz deviation

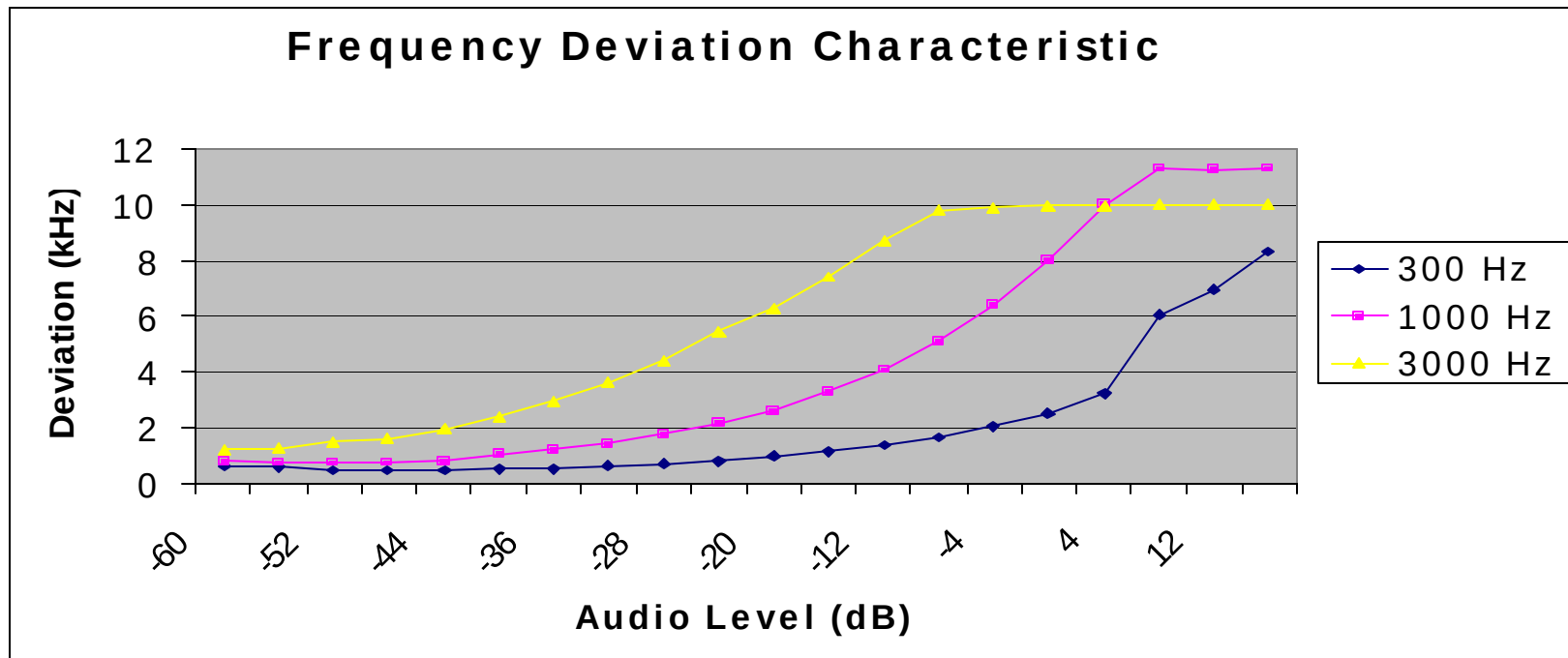
Channel 322

Pwr Lvl 2

Date: September 22, 1999

Log Pages: 111784-85

Signature:



MODULATION LIMITING (COMPANDOR OUT) -GRAPH

Compander Off

Wide Mode

0 dB Reference: 1004 Hz, 300 mV with 8.0 kHz deviation

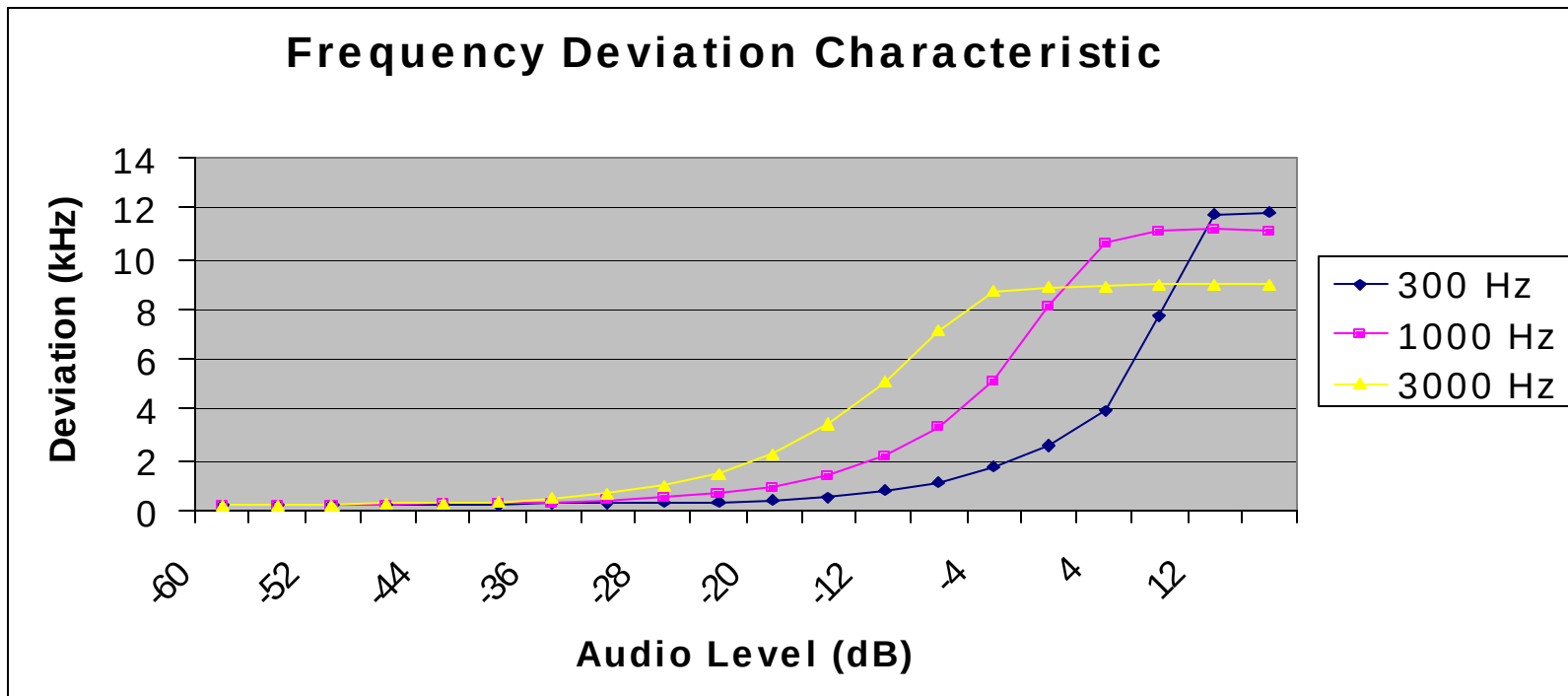
Channel 322

Pwr Lvl 2

Date: October 7, 1999

Log Pages: 111784-85

Signature:



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 (REFERENCE LEVEL = 30 dBm)

RESOLUTION BANDWIDTH = 300 Hz

VIDEO BANDWIDTH = 300 Hz

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

POWER LEVEL = .501 W

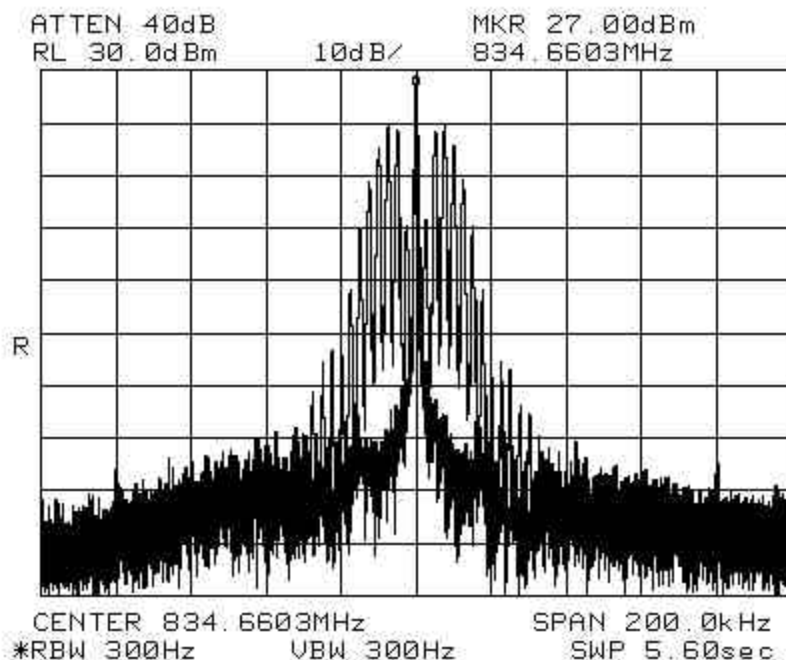
MEASURED DATA:

Date: September 22, 1999

Log Pages: 111784-86

Signature:

1. Instantaneous Deviation Control set for a maximum of +/- 12 kHz.
2. Tune and adjust to obtain unmodulated carrier on the spectrum analyzer. Save trace of the unmodulated carrier.
3. Modulate the transmitter with 2500 Hz tone, 16 dB greater than that required to produce +/- 6 kHz modulation. Photograph the sideband display while it is superimposed upon the unmodulated carrier.



Occupied Bandwidth,
Audio (Wide Mode)
Ch. 322

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 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 $63 + 10\log$ (mean output power in Watts) dB, whichever is the 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 (REFERENCE LEVEL = 30 dBm)
RESOLUTION BANDWIDTH = 300 Hz
VIDEO BANDWIDTH = 300 Hz
AUDIO LEVEL = 16 dB GREATER THAN LEVEL REQUIRED TO PRODUCE +/- 6 kHz
POWER LEVEL = .501 W

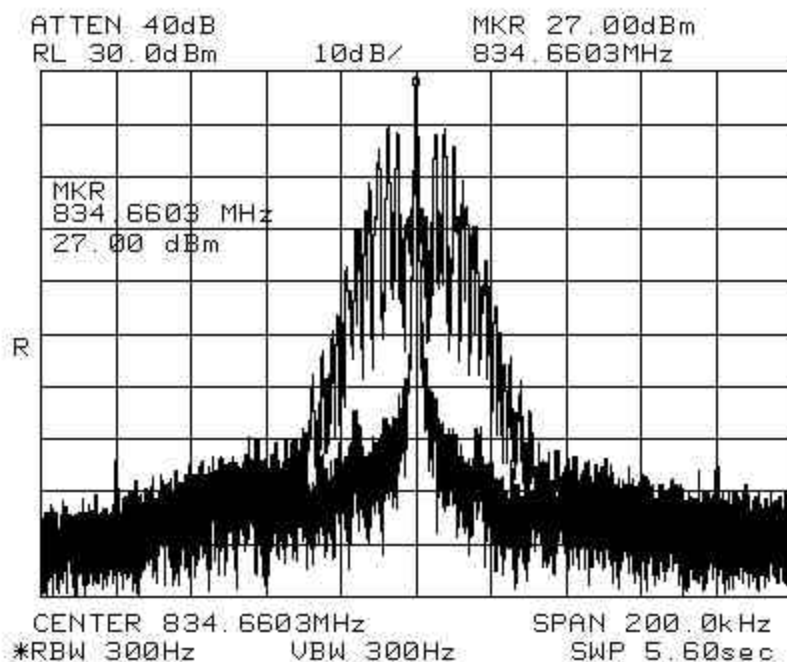
MEASURED DATA:

Date: September 22, 1999

Log Pages: 111784-86

Signature:

1. Instantaneous Deviation Control set for a maximum of +/- 12 kHz.
2. Tune and adjust to obtain unmodulated carrier on the spectrum analyzer. Save trace of the unmodulated carrier.
3. Modulate the transmitter with 2500 Hz tone, 16 dB greater than that required to produce +/- 6 kHz modulation and add SAT with +/- 2 kHz of deviation. Photograph the sideband display while it is superimposed upon the unmodulated carrier.



**Occupied Bandwidth,
Audio and SAT
Ch.322**

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 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 $63 + 10\log$ (mean output power in Watts) dB, whichever is the 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 (REFERENCE LEVEL = 30 dBm)
RESOLUTION BANDWIDTH = 300 Hz
VIDEO BANDWIDTH = 300 Hz
POWER LEVEL = .501 W

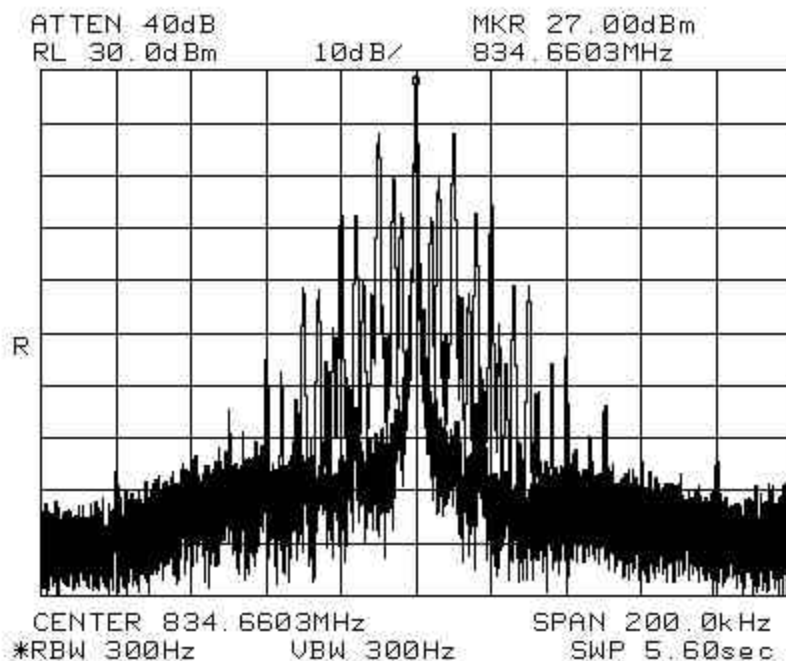
MEASURED DATA:

Date: September 22, 1999

Log Pages: 111784-86

Signature:

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



**Occupied Bandwidth,
Signaling Tone and SAT
Ch. 322**

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 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 $63 + 10\log$ (mean output power in Watts) dB, whichever is the smaller attenuation.

BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F1D

DEVIATION OF THE CARRIER WITH WIDE BAND DATA

HORIZONTAL SCALE = 20 kHz / DIVISION

VERTICAL SCALE = 10 dB / DIVISION (REFERENCE LEVEL = 30 dBm)

RESOLUTION BANDWIDTH = 300 Hz

VIDEO BANDWIDTH = 300 Hz

POWER LEVEL = .501 W

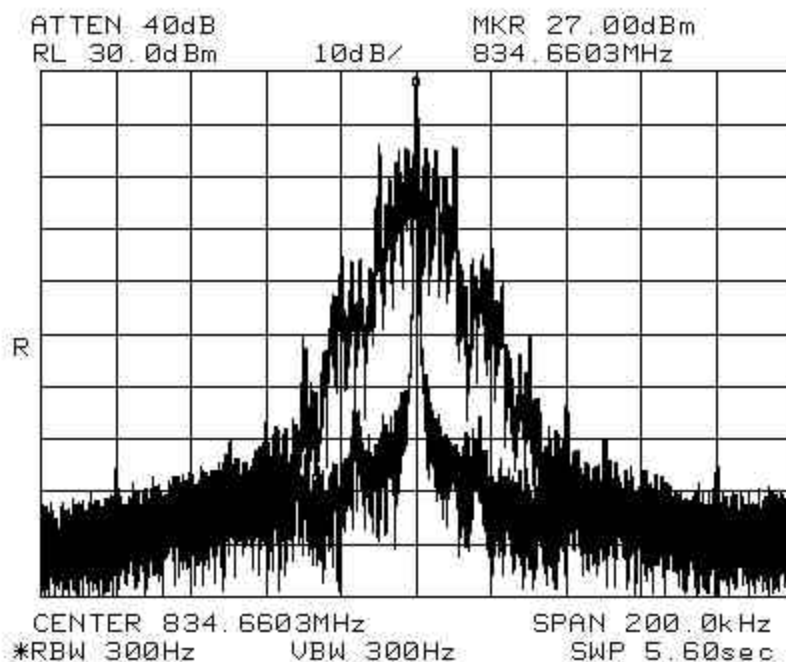
MEASURED DATA:

Date: September 22, 1999

Log Pages: 111784-86

Signature:

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



Occupied Bandwidth,
Wideband Data
Ch. 322

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 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 $63 + 10\log$ (mean output power in Watts) dB, whichever is the smaller attenuation

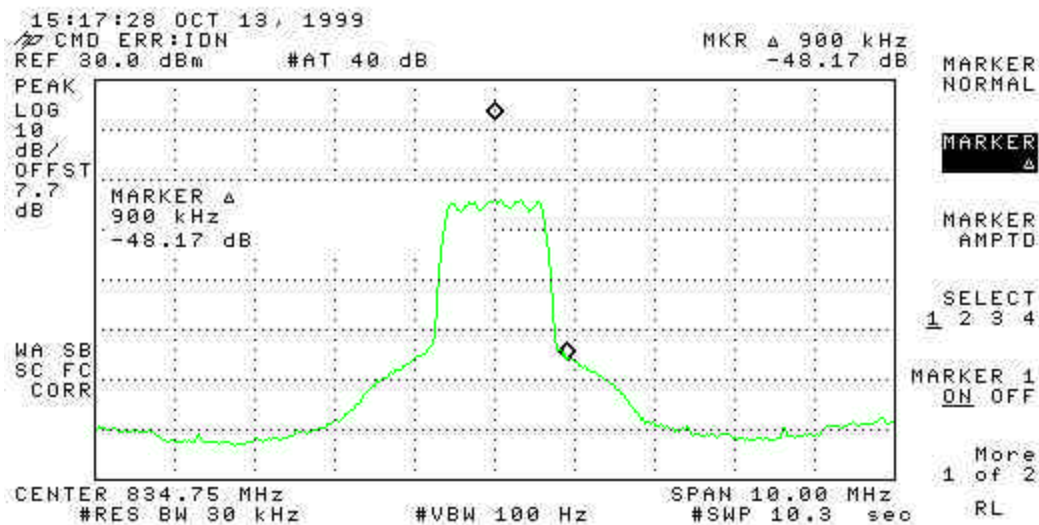
BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F9W

DEVIATION OF THE CARRIER WITH OQPSK MODULATION

HORIZONTAL SCALE = 1MHz / DIVISION
VERTICAL SCALE = 10 dB / DIVISION (ATTENUATION)
RESOLUTION BANDWIDTH = 30 kHz
VIDEO BANDWIDTH = 100 Hz
POWER LEVEL = 0.316W (Average Power in transmitter)

MEASURED DATA: Date: October 13, 1999
 Log Book Page: 018827
 Signature:

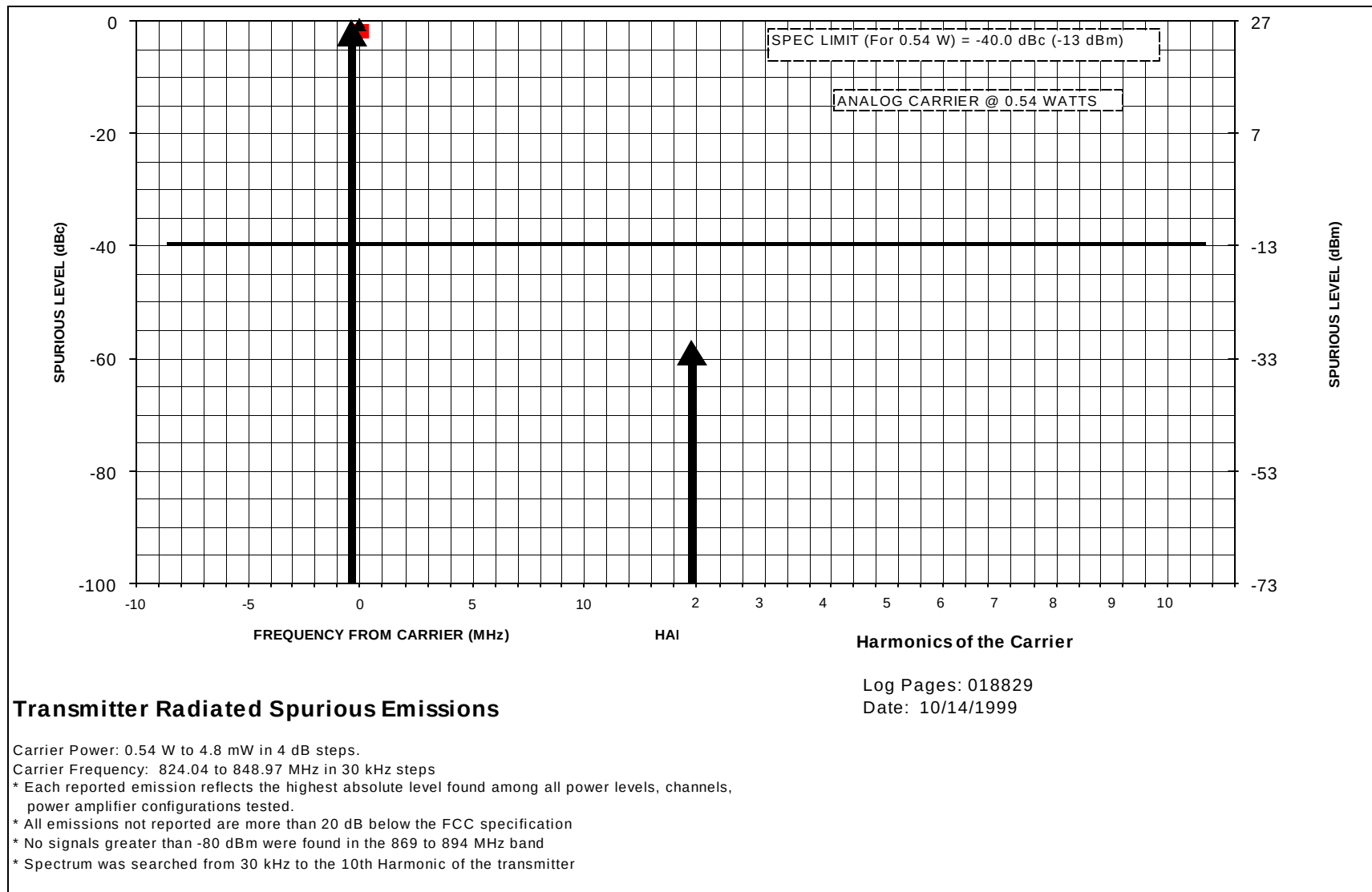
1. Modulate the transmitter with OQPSK modulation, using pseudo random data. Obtain image on spectrum analyzer.



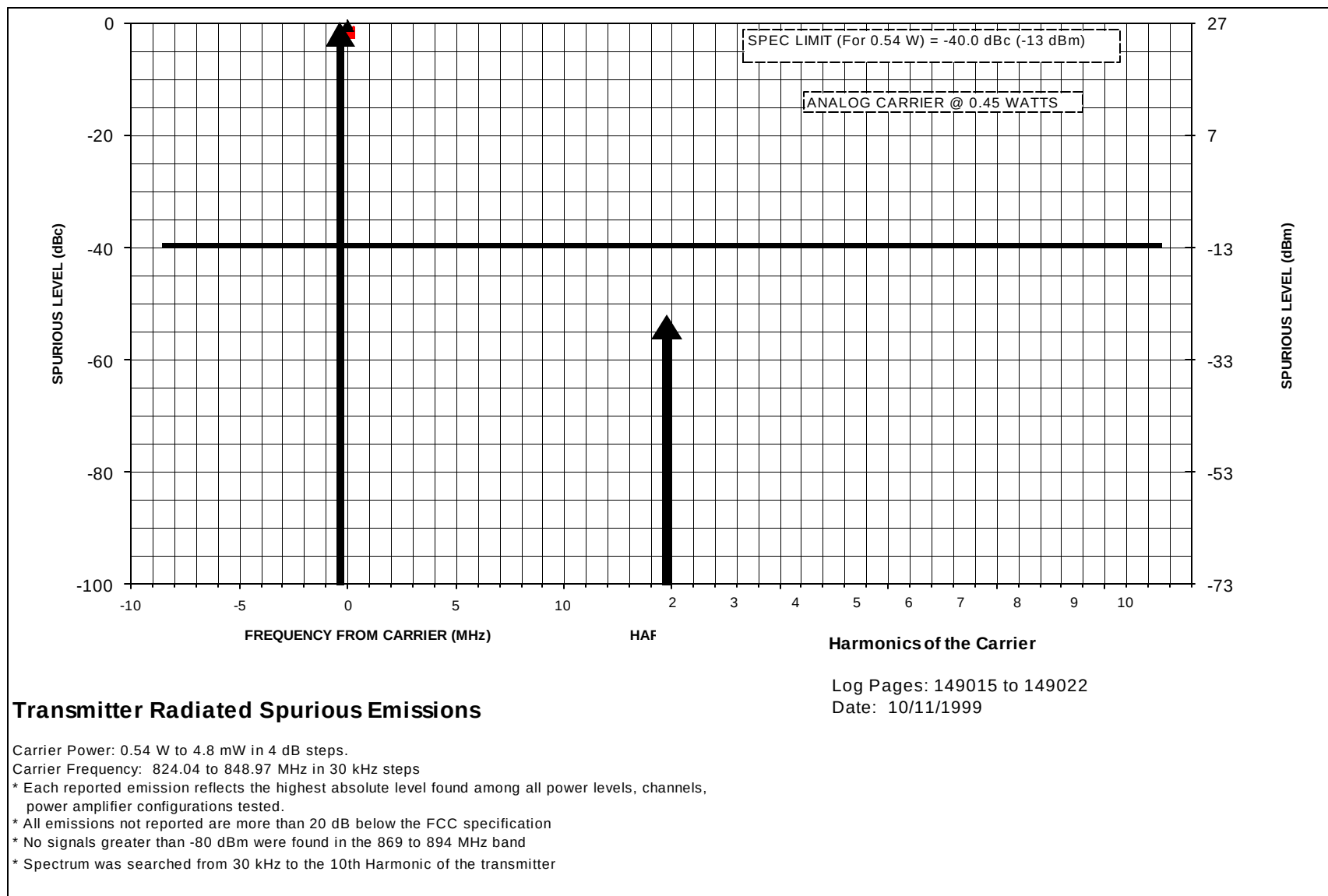
COMMENTS:

Modulation products in a bandwidth of 30 kHz ,centered +/- 1.25 MHz from the channel center frequency should be at least 45 dB and should be at least 42 dB below the mean output power level.

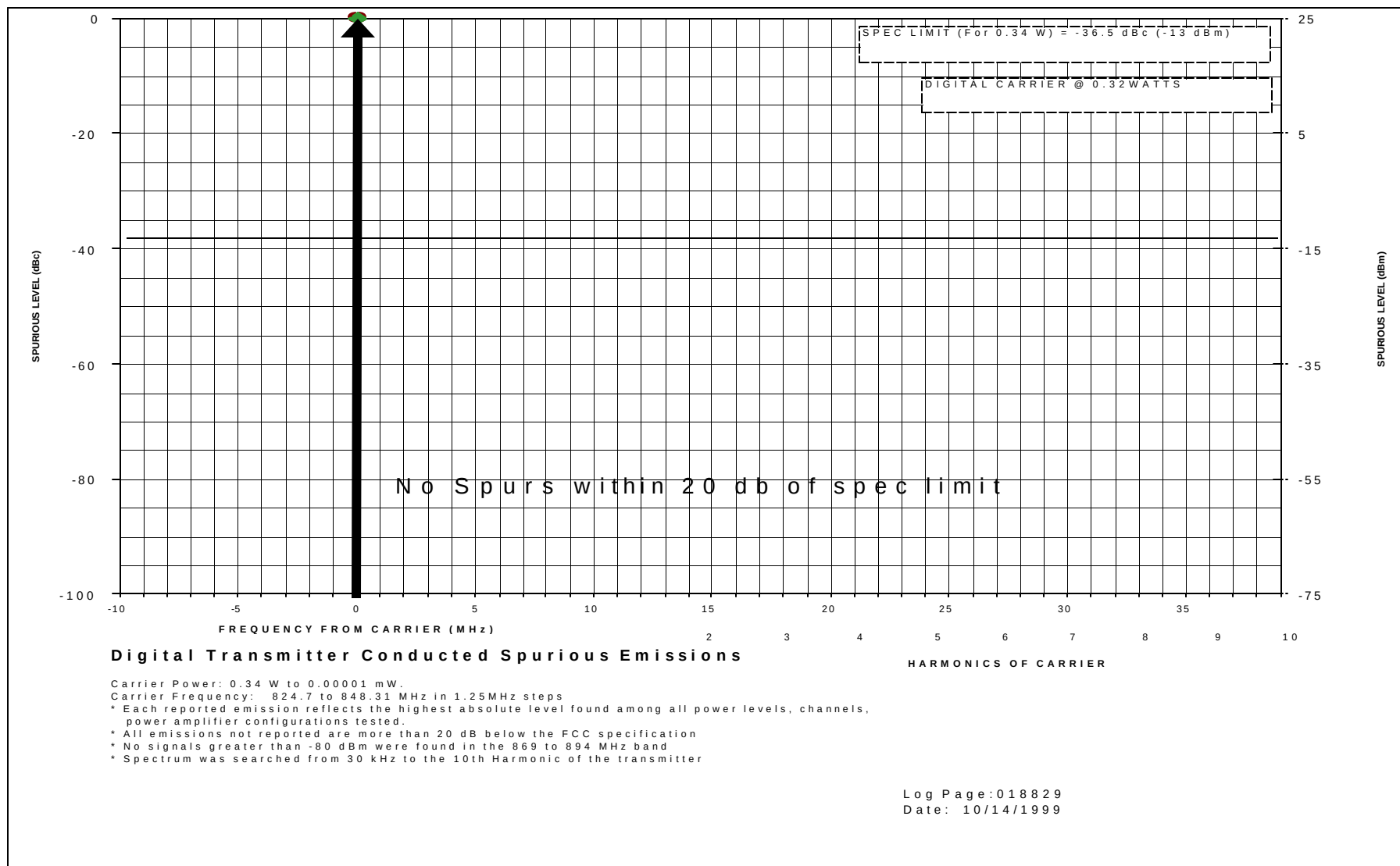
ANALOG CONDUCTED SPURIOUS AND HARMONIC EMISSIONS – GRAPH



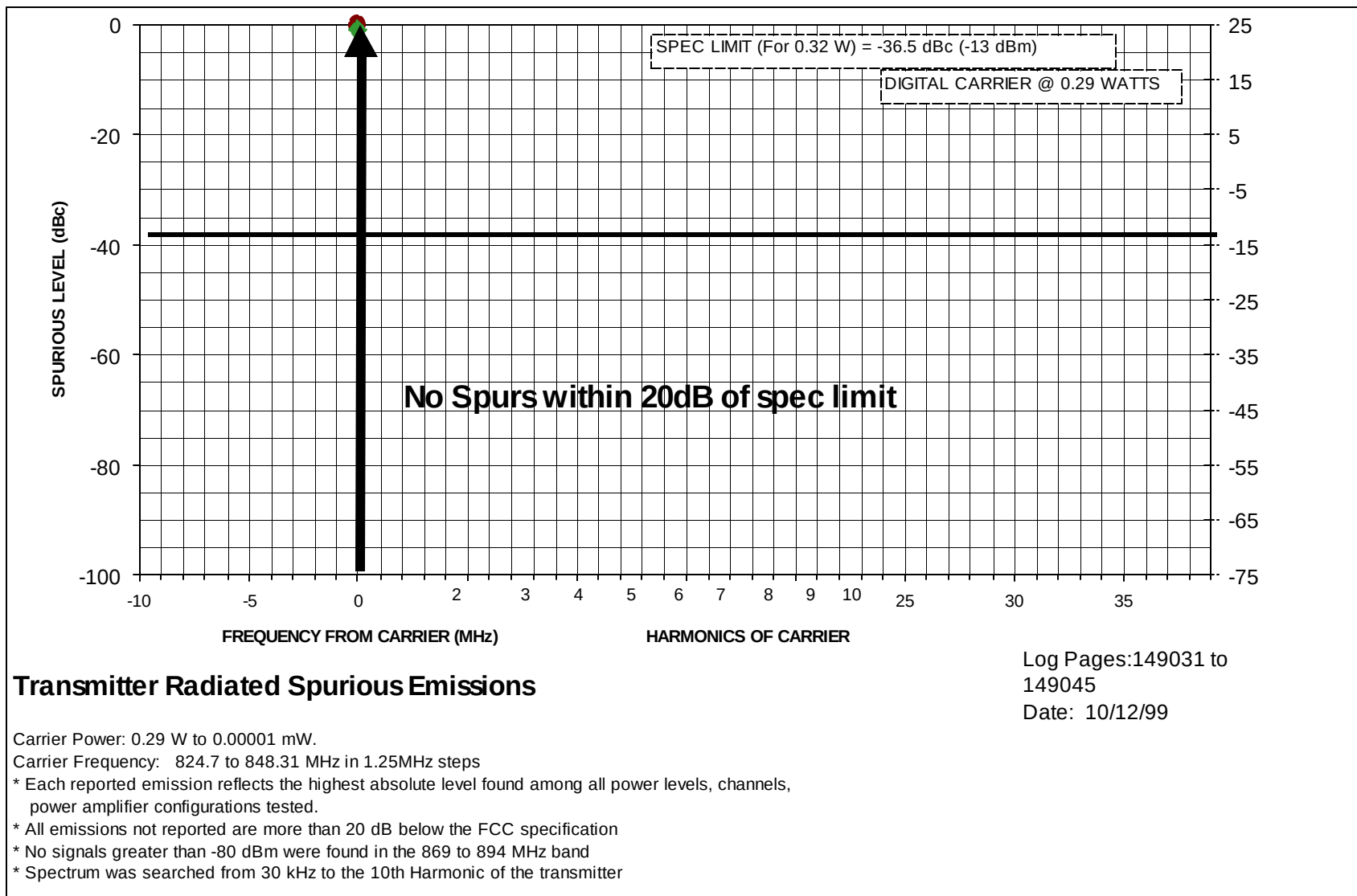
DIGITAL CONDUCTED SPURIOUS AND HARMONIC EMISSIONS – GRAPH



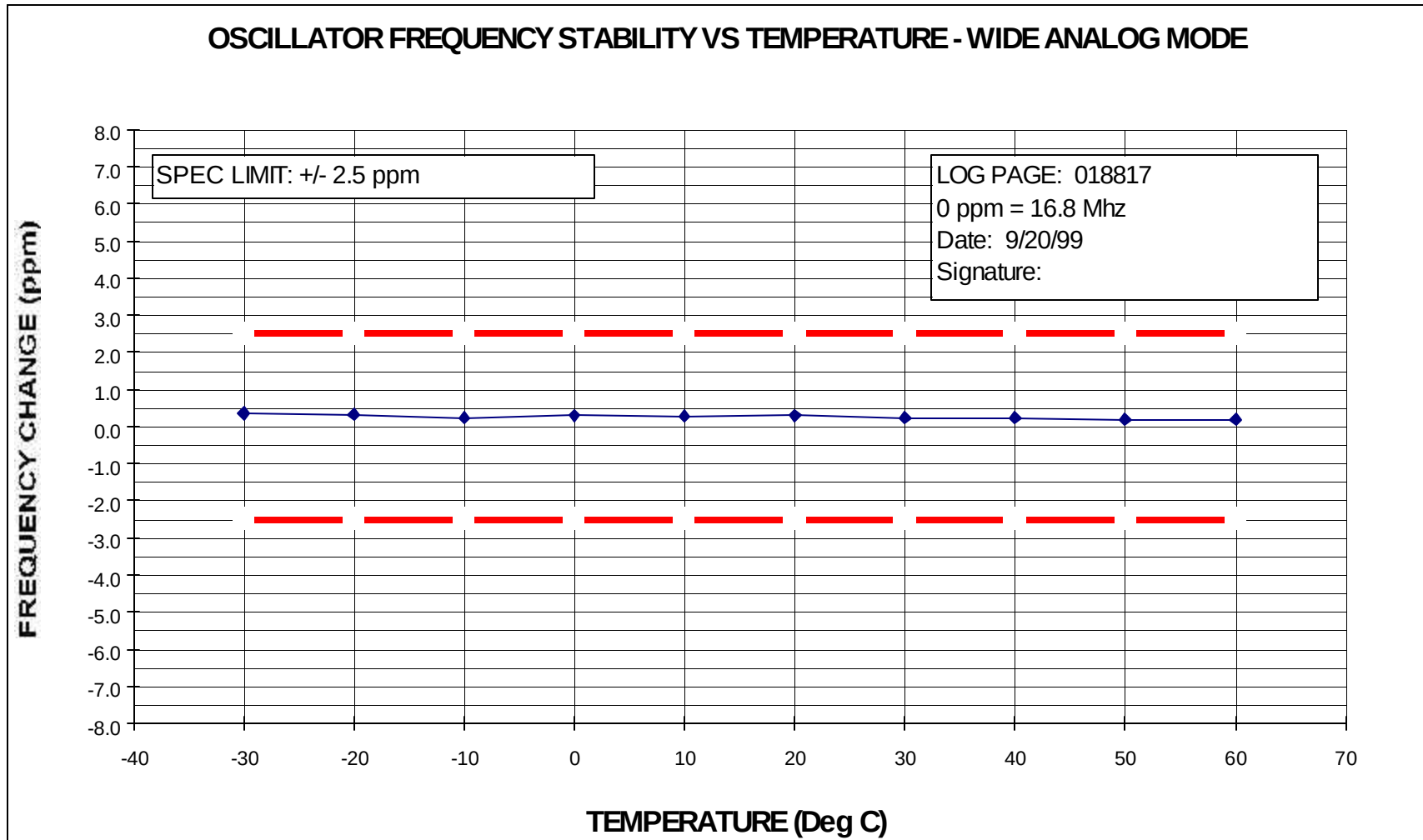
ANALOG RADIATED SPURIOUS AND HARMONIC EMISSIONS - GRAPH



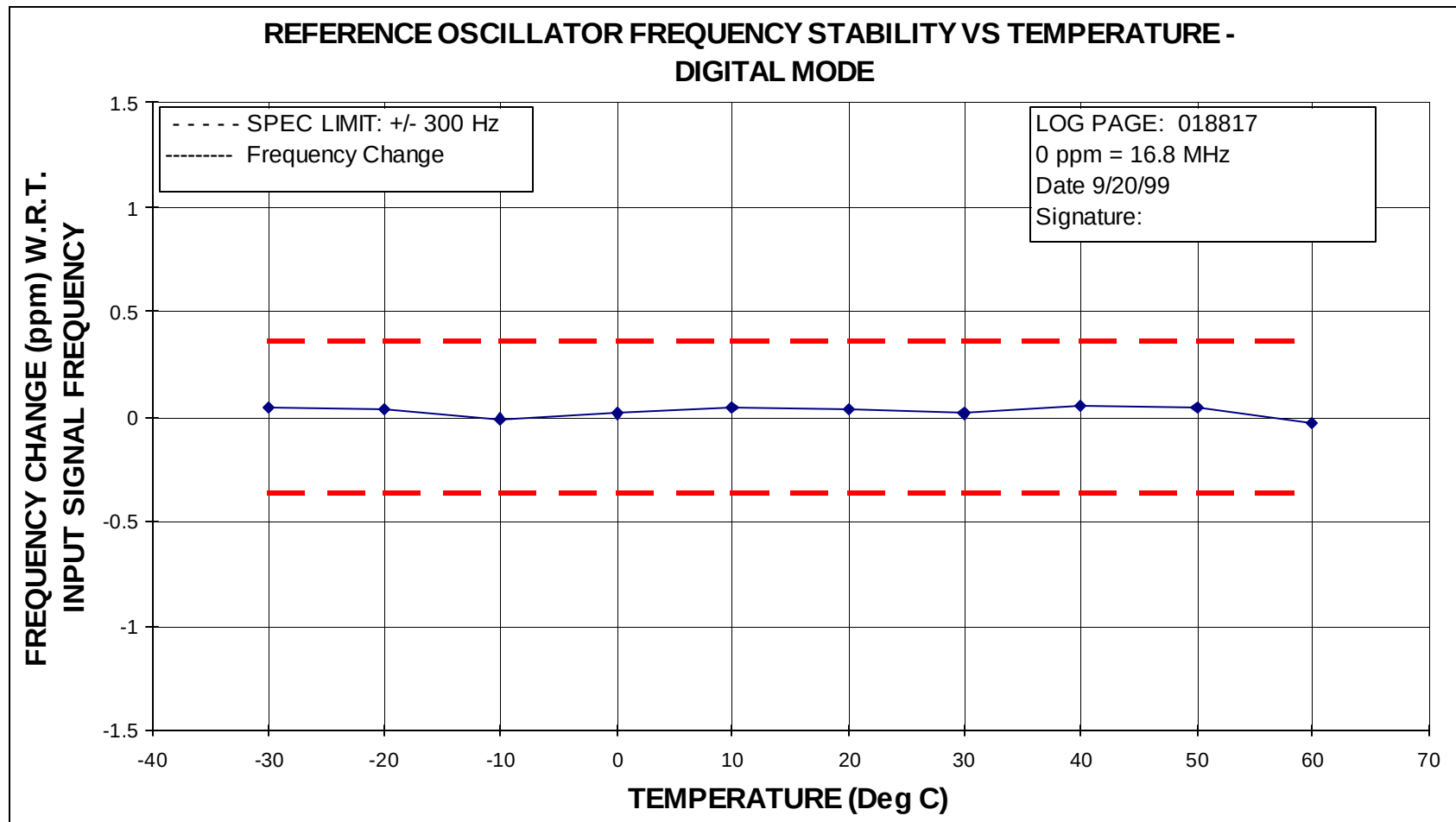
DIGITAL RADIATED SPURIOUS AND HARMONIC EMISSIONS –GRAPH



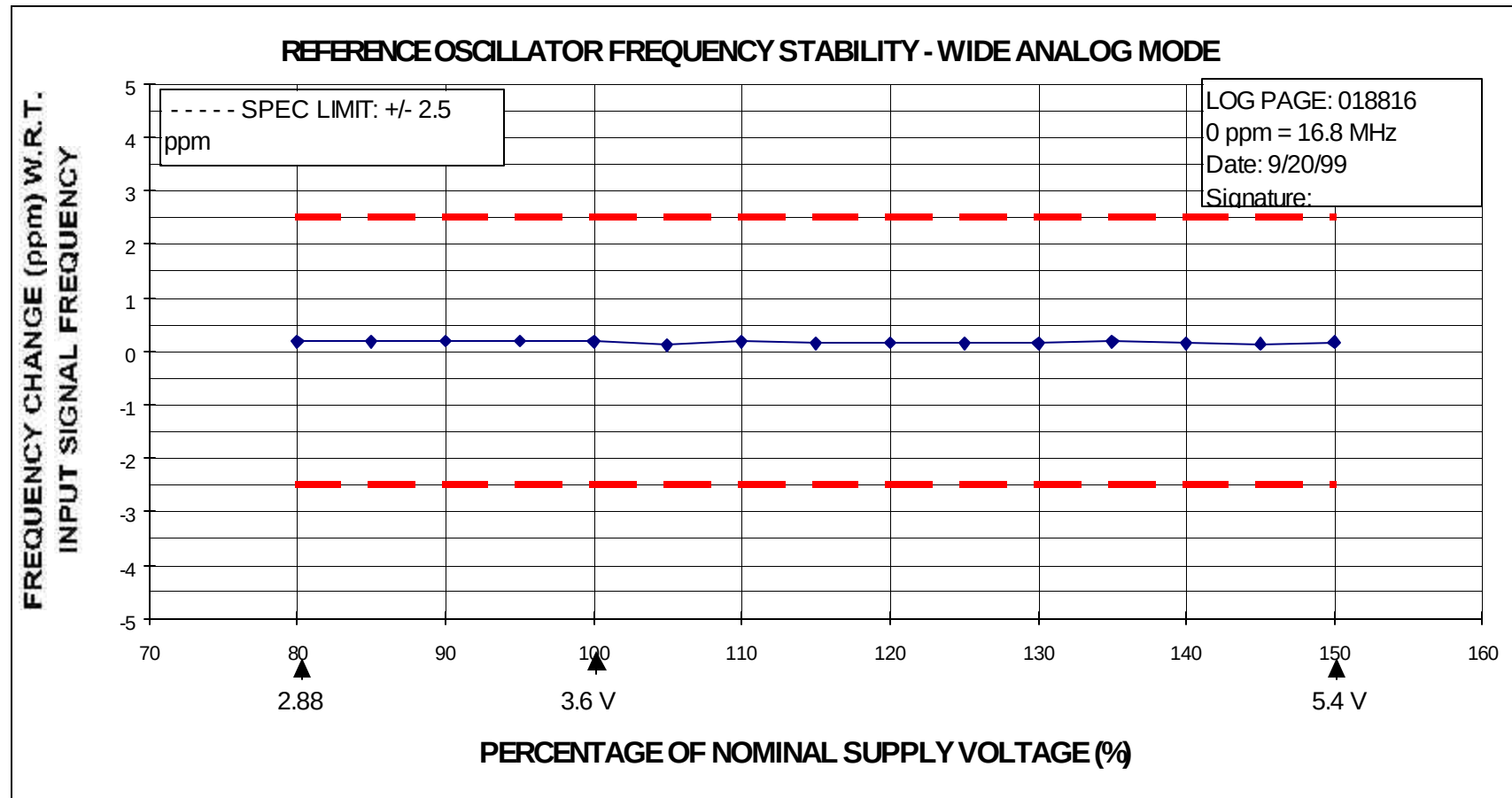
Frequency Change vs. Temperature (Wide Mode)-Graph



Frequency Change vs. Temperature (Digital Mode)-Graph



Frequency Change vs. Supply Voltage (Wide Mode)-Graph



Frequency Change vs. Supply Voltage (Digital Mode)-Graph

