

SUBMITTED MEASURED DATA INDEX

EXHIBIT	MEASUREMENT
9A	RF Power Output-Measured Data
9B-1	Audio Response Wide Mode - Graph
9B-2	Audio Response Narrow Mode - Graph
9C	Post Limiter Low Pass Filter Response - Graph
9D-1	Signaling Channel Audio Roll-Off Filter Response-Graph
9D-2	DSAT Audio Roll-Off Filter Response - Graph
9E-1	Modulation Limiting (Compander In Wide Mode) - Graph
9E-2	Modulation Limiting (Compander Out Wide Mode) - Graph
9E-3	Modulation Limiting (Compander In Narrow Mode) - Graph
9E-4	Modulation Limiting (Compander Out Narrow Mode) - Graph
9F-1	Occupied Bandwidth, Audio (Wide Mode) - Plot
9F-2	Occupied Bandwidth, Audio and SAT - Plot
9F-3	Occupied Bandwidth, Signaling Tone and SAT - Plot
9F-4	Occupied Bandwidth, Wide band Data - Plot
9F-5	Occupied Bandwidth, Audio (Narrow Mode) - Plot
9F-6	Occupied Bandwidth, Audio and DSAT- Plot
9F-7	Occupied Bandwidth, Audio and Data (Digital Mode) - Plot
9G	Conducted Spurious and Harmonic Emissions - Graph
9H	Radiated Spurious and Harmonic Emissions - Graph
9J-1	Frequency Change vs. Temperature (Wide Mode) - Graph
9J-2	Frequency Change vs. Temperature (Narrow Mode) - Graph
9J-3	Frequency Change vs. Temperature (Digital Mode) - Graph
9K-1	Frequency Change vs. Supply Voltage (Wide Mode) - Graph
9K-2	Frequency Change vs. Supply Voltage (Narrow Mode) - Graph
9K-3	Frequency Change vs. Supply Voltage (Digital Mode) - Graph

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: 0.562 W

Measured DC voltage: 3.58 V

Measured DC current: 790 mA

Measured RF input: 7.2 mW

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: 0.240 W

Measured DC voltage: 3.68 V

Measured DC current: 460 mA

Measured RF input: 0.69 mW

Effective Radiated Power

Since the unit is intended for use with a provided antenna (and “non-standard” RF connector), the maximum ERP is determined by measuring the maximum antenna gain in any direction relative to an ideal dipole antenna and adding this gain to the rated conducted output power applied to the antenna. The maximum ERP was found to occur in Analog mode with the antenna in the extended position.

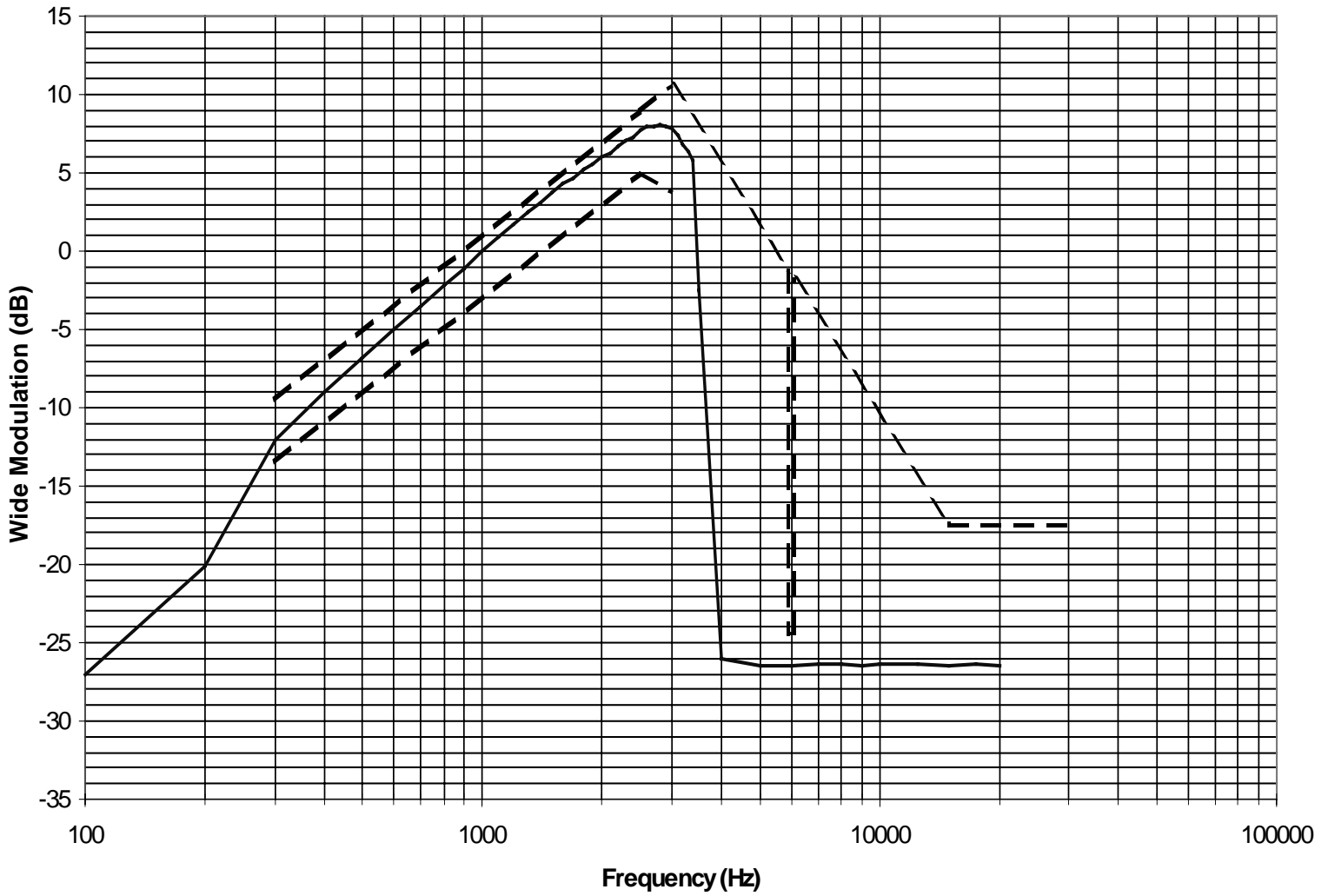
Maximum Effective Radiated Power: 27.85 dBm (0.610 W)

Audio Response Wide Mode -Graph

Signature:

Date:

Tx Audio Response – Wide Mode



Logbook Pg.# 272356

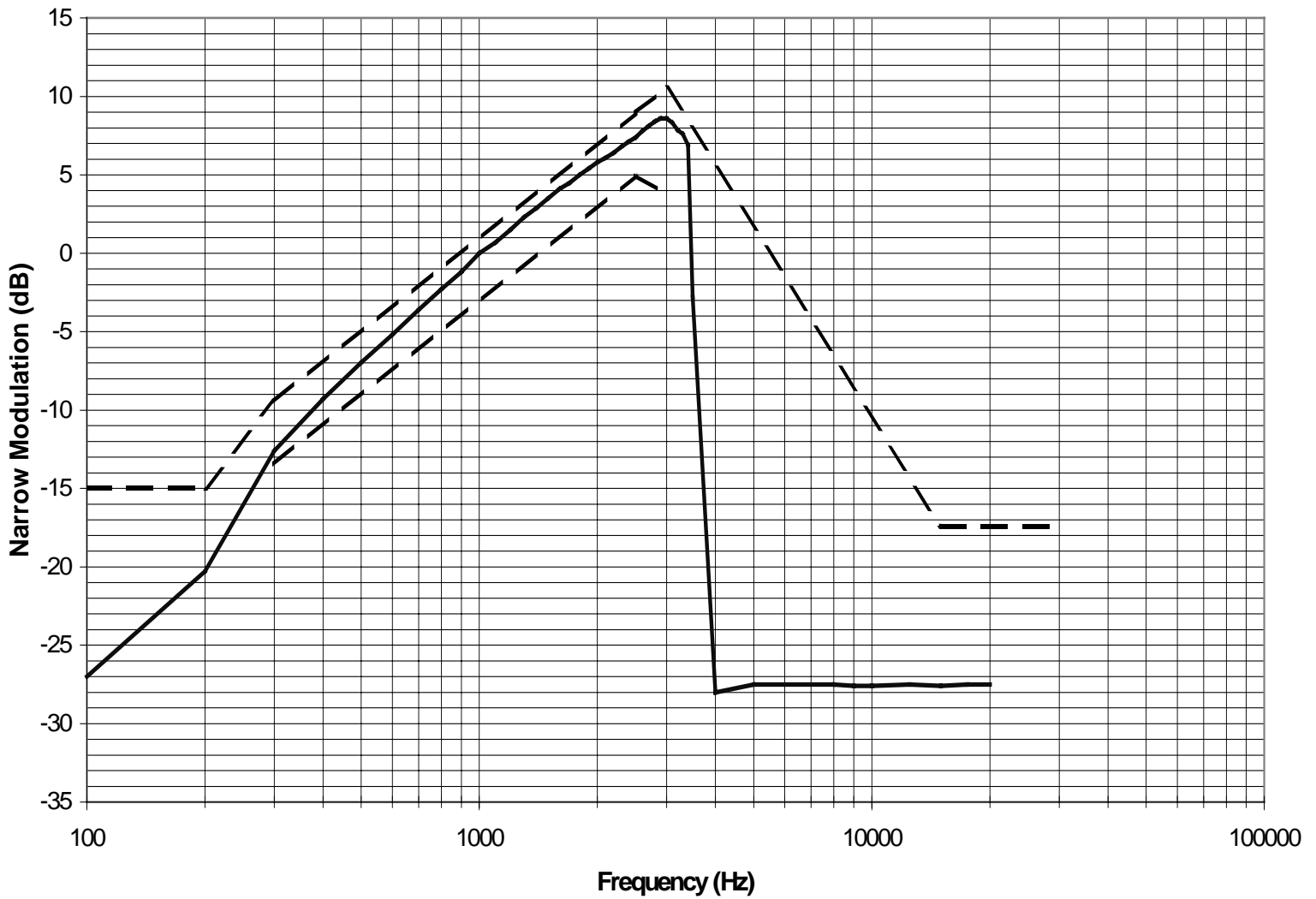
— Wide Modulation (dB) - - LSL - - USL

Audio Response Narrow Mode-Graph

Signature:

Date:

TX Audio Response – Narrow Mode



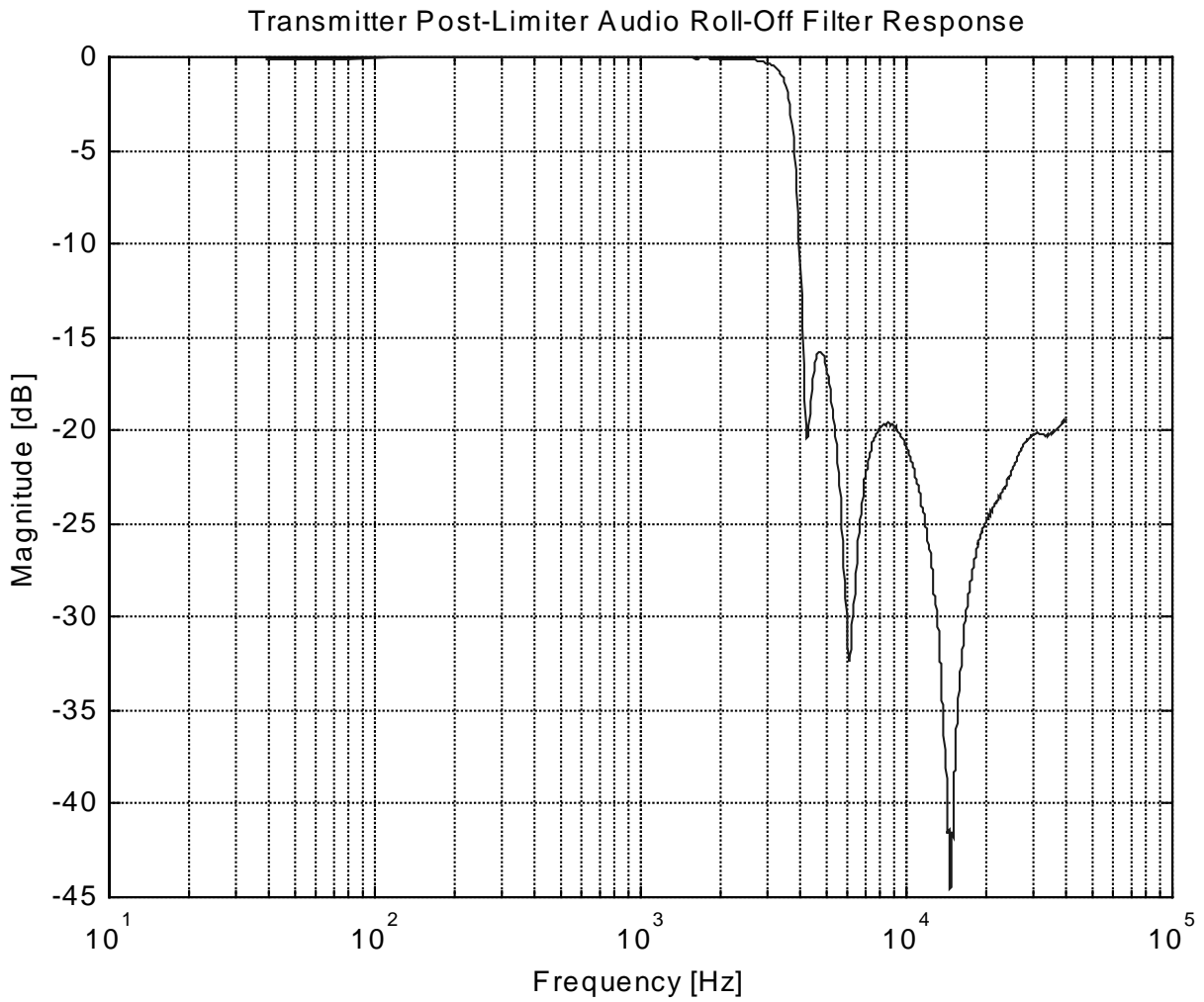
Logbook Pg.# 272356

— Narrow Modulation (dB) - - LSL - . - USL

Post Limiter Low Pass Filter Response-Graph

Signature:

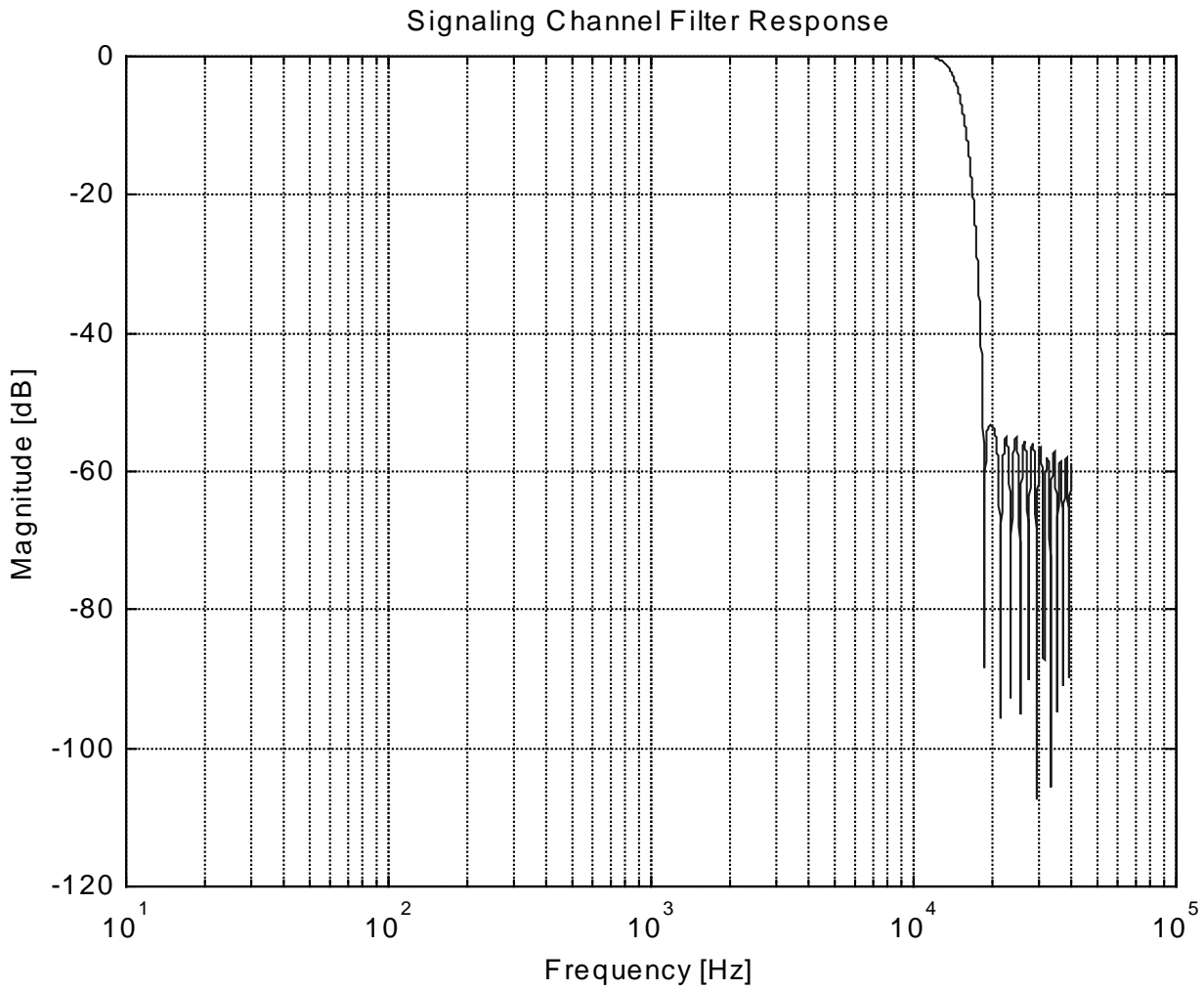
Date:



Signaling Channel Audio Roll-Off Filter Response-Graph

Signature:

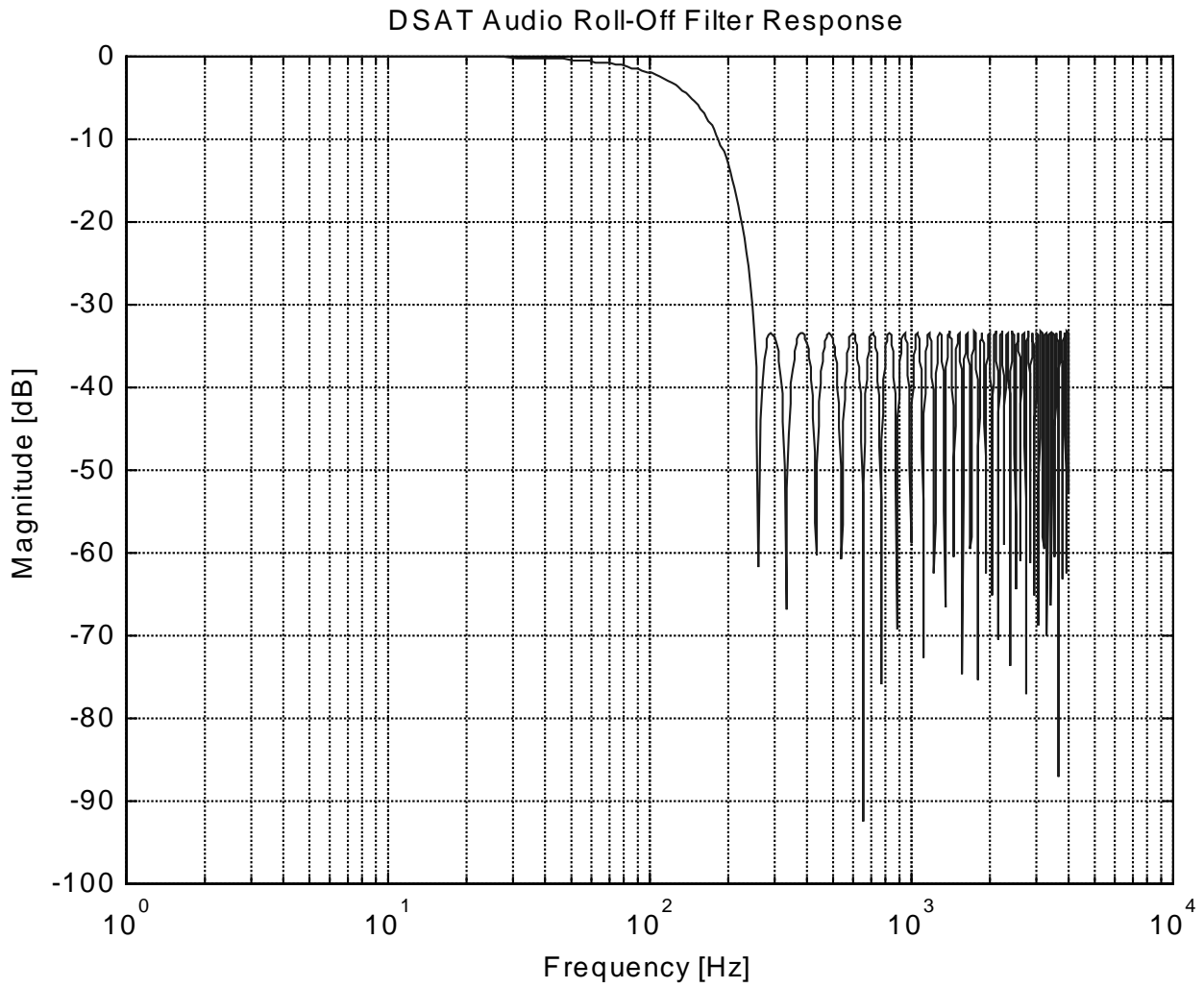
Date:



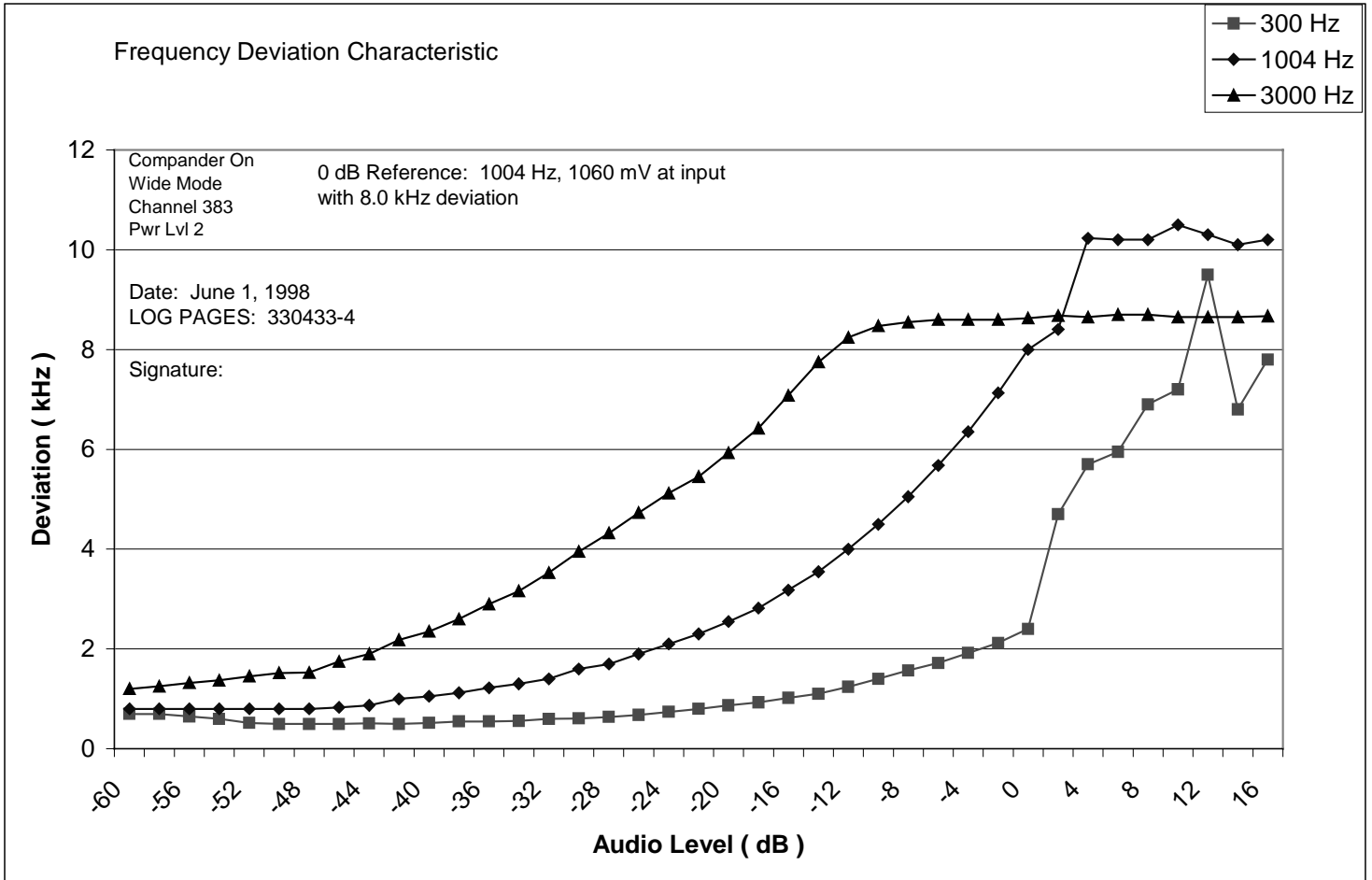
DSAT Audio Roll-Off Filter Response-Graph

Signature:

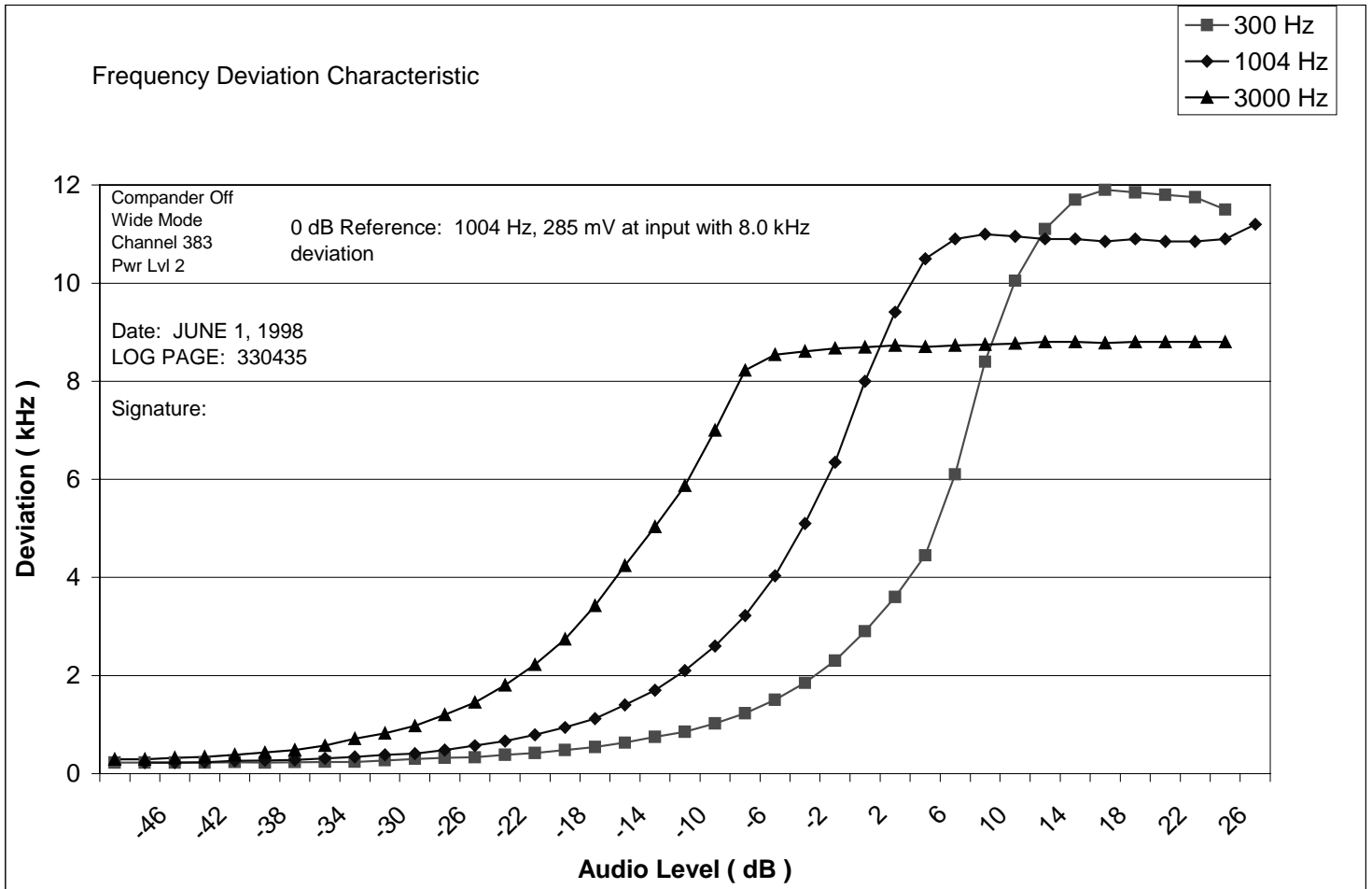
Date:



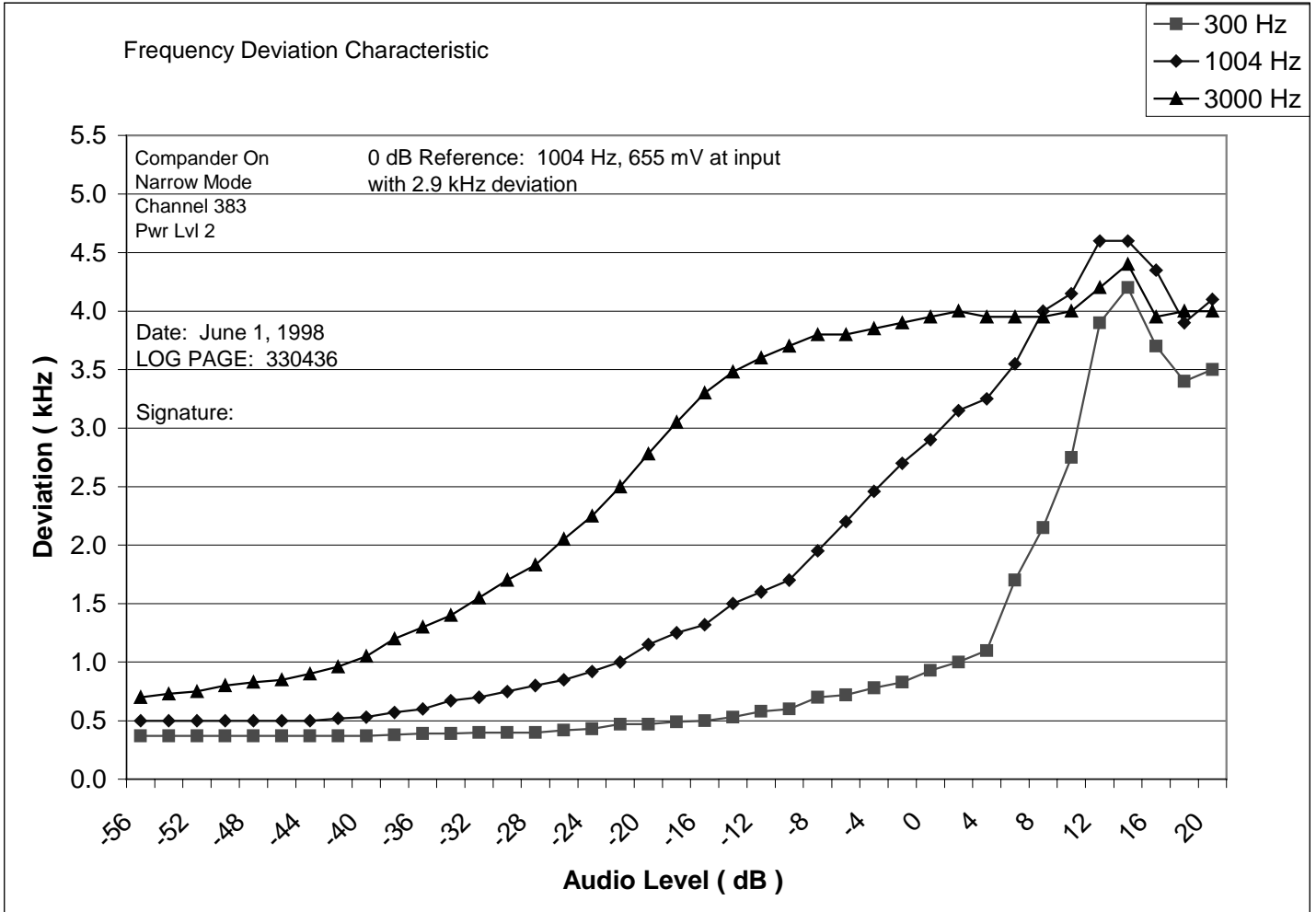
Modulation Limiting (Componder In Wide Mode)-Graph



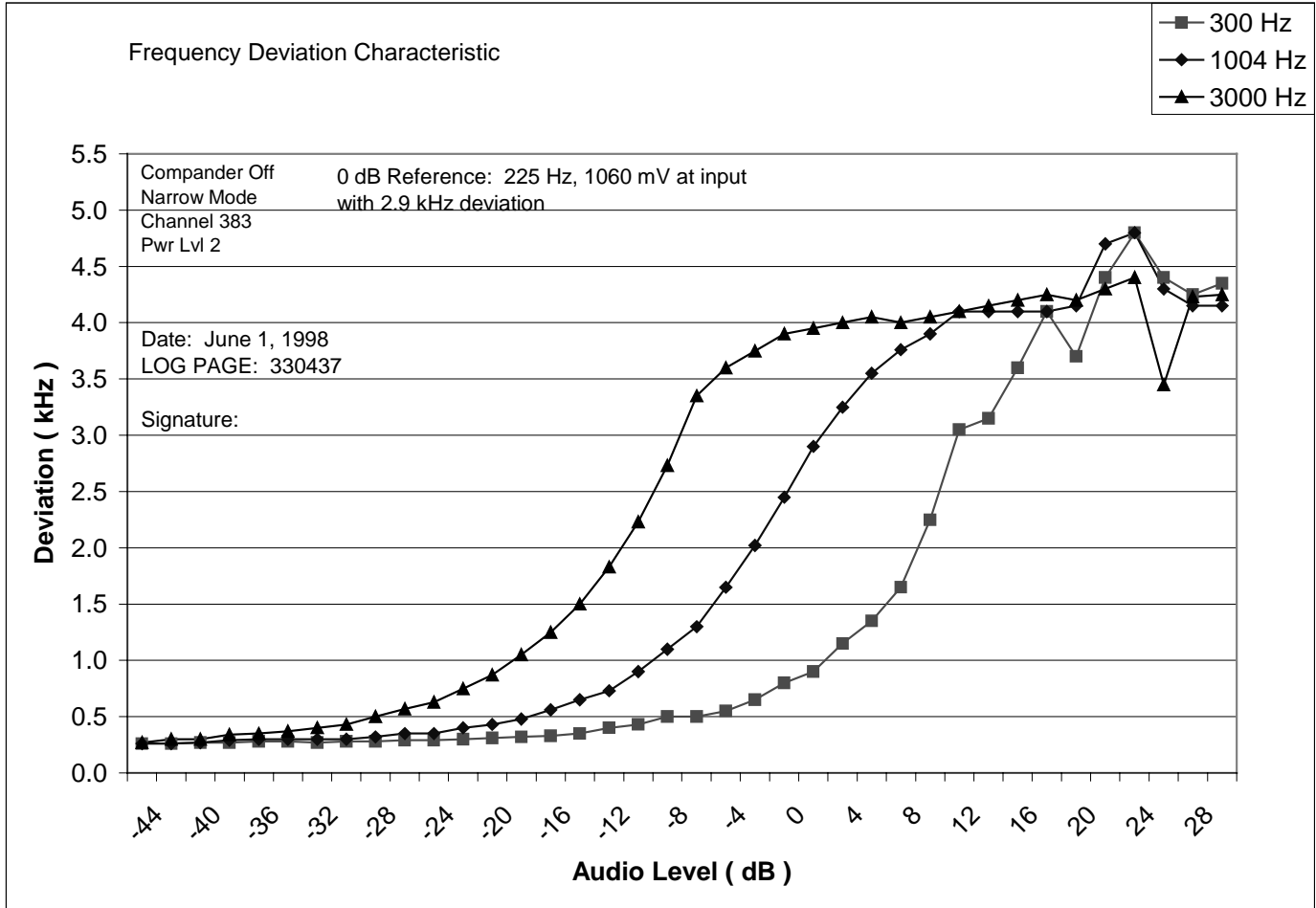
Modulation Limiting (Compander Out Wide Mode)-Graph



Modulation Limiting (Componder In Narrow Mode)-Graph



Modulation Limiting (Componder Out Narrow Mode)-Graph



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

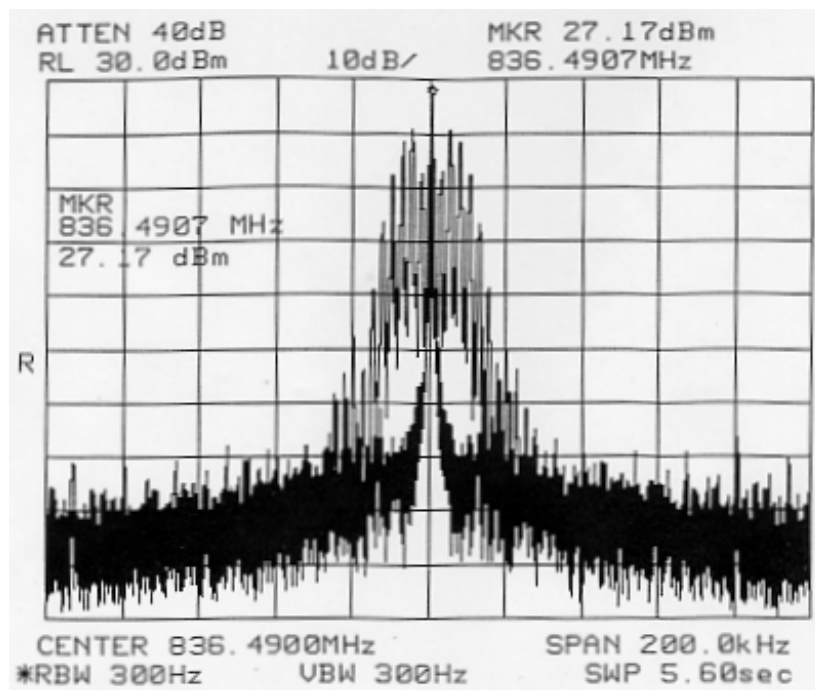
VIDEO BANDWIDTH = 300 Hz

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

POWER LEVEL = 0.54 W

MEASURED DATA:

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 the 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.



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 $63 + 10\log_{10}$ (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

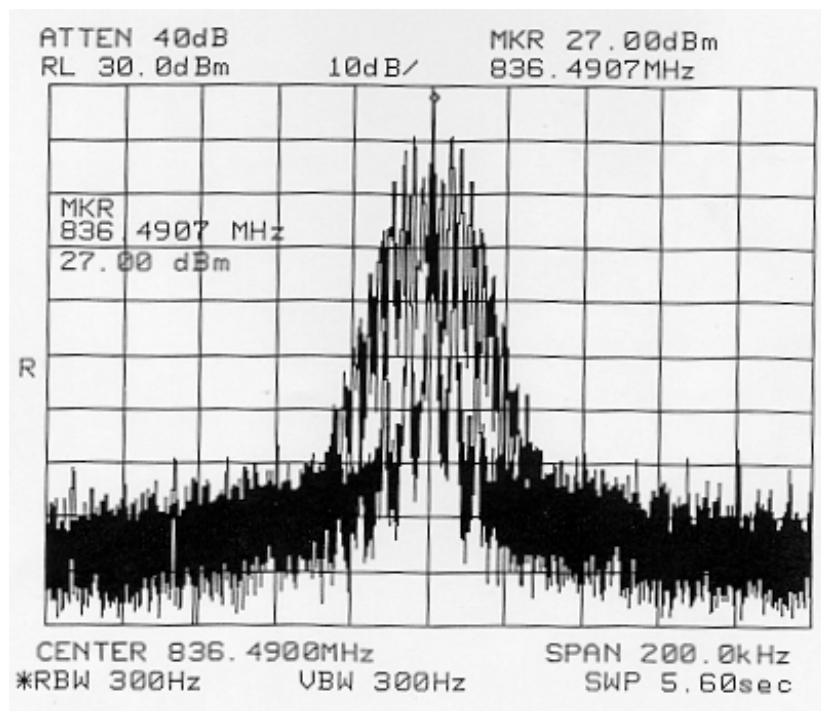
VIDEO BANDWIDTH = 300 Hz

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

POWER LEVEL = 0.54 W

MEASURED DATA:

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 the 2500 Hz tone, 16 dB greater than that required to produce +/- 6 kHz modulation add SAT with +/- 2kHz of 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 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 $63 + 10\log_{10}$ (mean output power in Watts) dB, whichever is the smaller attenuation.

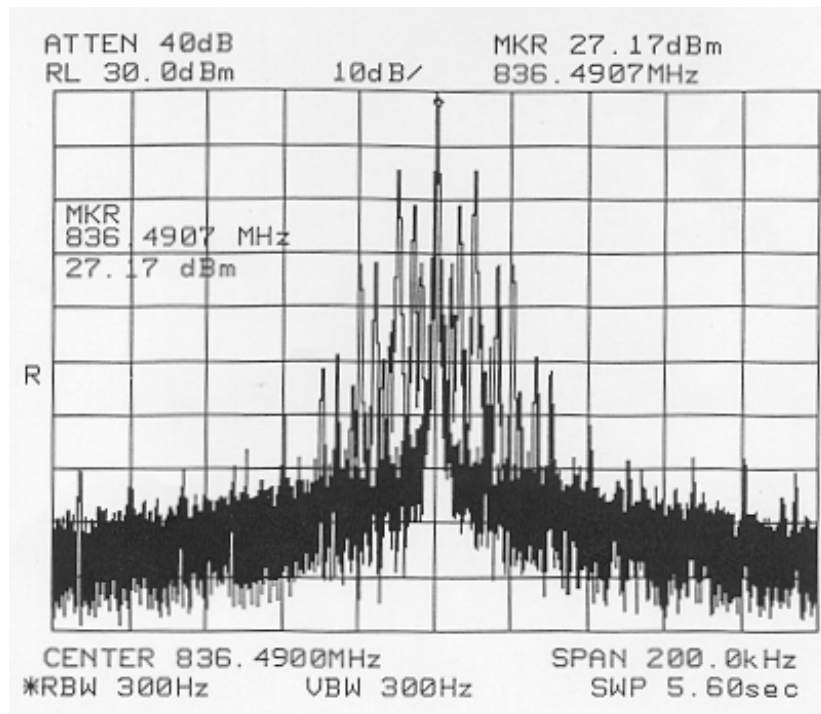
BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F1D

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 = 0.54 W

MEASURED DATA:

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 +/- 2kHz of 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 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 $63 + 10\log_{10}$ (mean output power in Watts) dB, whichever is the smaller attenuation.

BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F9W

DEVIATION OF THE CARRIER WITH 2500 Hz AUDIO MODULATION (NARROW MODE)

HORIZONTAL SCALE = 10 kHz / DIVISION

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

RESOLUTION BANDWIDTH = 300 Hz

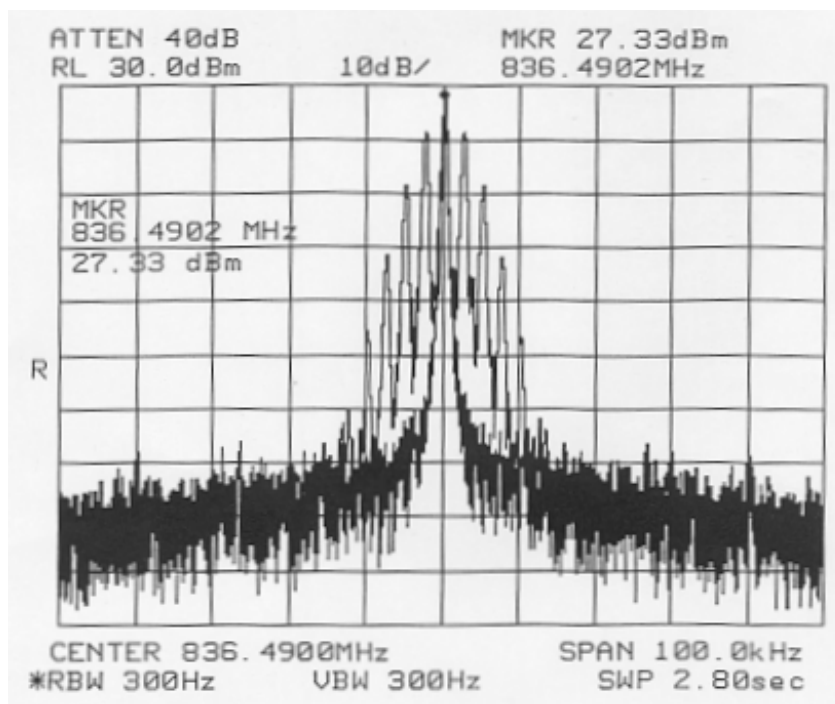
VIDEO BANDWIDTH = 300 Hz

AUDIO LEVEL = 16 dB GREATER THAN LEVEL REQUIRED TO PRODUCE +/- 2.5 kHz

POWER LEVEL = 0.54 W

MEASURED DATA:

1. Instantaneous Deviation Control set for a maximum of +/- 5 kHz.
2. Tune and adjust to obtain unmodulated carrier on the spectrum analyzer. Save trace of the unmodulated carrier.
3. Modulate the transmitter with the 2500 Hz tone, 16 dB greater than that required to produce +/- 2.5 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 9 kHz, up to and including 45 kHz, the sideband is at least 24 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 $43 + 10\log_{10}(\text{mean output power in Watts})$ dB, whichever is the smaller attenuation.

BANDWIDTH MEASUREMENT DATA FOR TRANSMITTER TYPES F9W

DEVIATION OF THE CARRIER WITH 2500 Hz AUDIO MODULATION AND DSAT (NARROW MODE)

HORIZONTAL SCALE = 10 kHz / DIVISION

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

RESOLUTION BANDWIDTH = 300 Hz

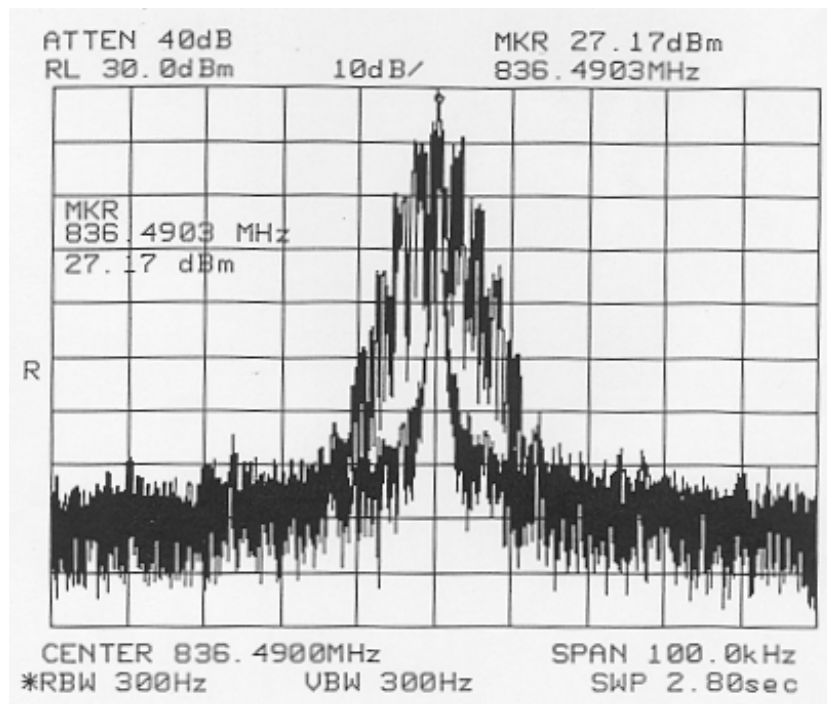
VIDEO BANDWIDTH = 300 Hz

AUDIO LEVEL = 16 dB GREATER THAN LEVEL REQUIRED TO PRODUCE +/- 2.5 kHz

POWER LEVEL = 0.54 W

MEASURED DATA:

1. Instantaneous Deviation Control set for a maximum of +/- 5 kHz.
2. Tune and adjust to obtain unmodulated carrier on the spectrum analyzer. Save trace of the unmodulated carrier.
3. Modulate the transmitter with the 2500 Hz tone, 16 dB greater than that required to produce +/- 2.5 kHz modulation and add DSAT with +/- 700 Hz 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 15 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 $43 + 10\log_{10}$ (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 = 1 MHz / DIVISION

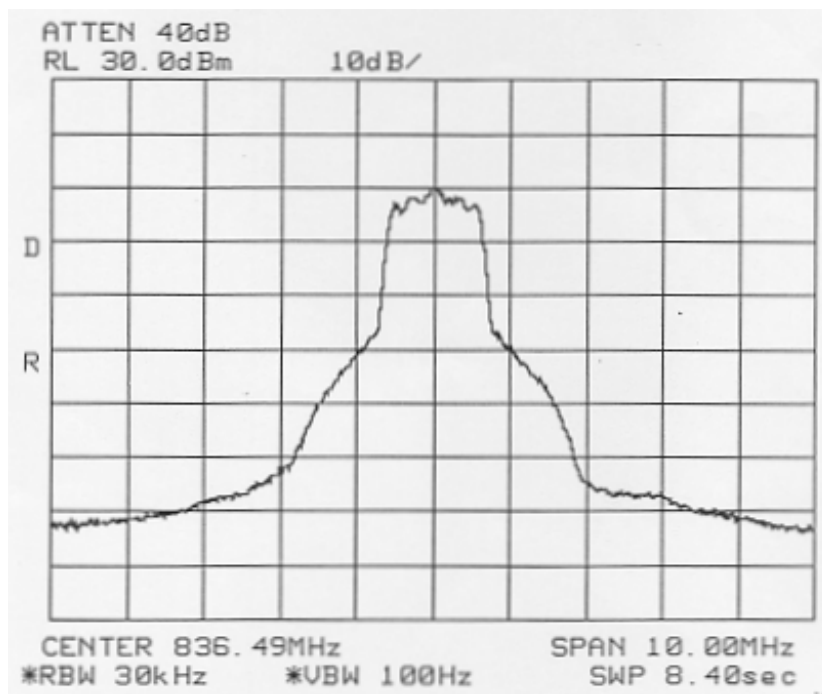
VERTICAL SCALE = 10 dB / DIVISION (ATTENUATION)

RESOLUTION BANDWIDTH = 30 KHz

POWER LEVEL = 0.250 W (Average Power in transmitter)

MEASURED DATA:

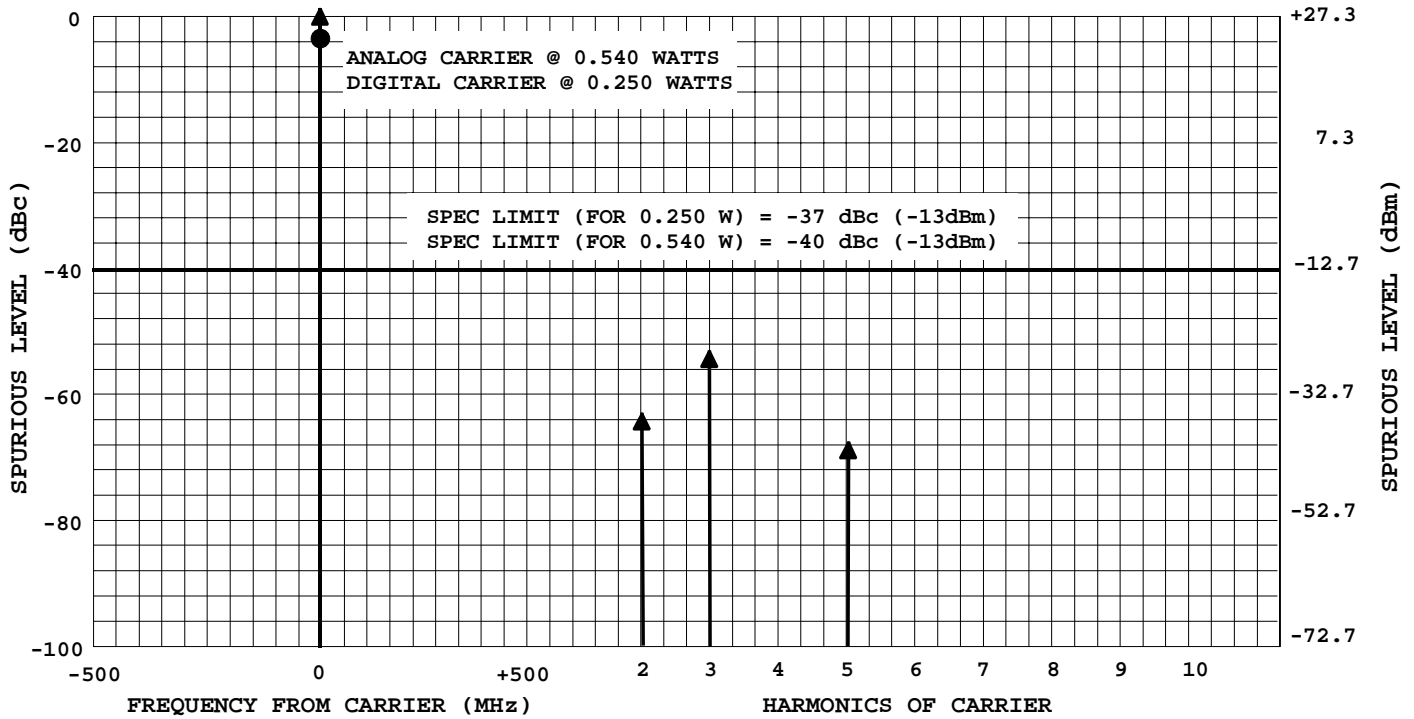
1. **Modulate the transmitter with OQPSK modulation, using pseudo random data. Obtain image on spectrum analyzer.**



COMMENTS:

Modulation products in a bandwidth of 30 kHz centered ± 900 kHz from the channel center frequency should be at least 45 dB and shall be at least 42 dB below the mean output power level.

Conducted Spurious and Harmonic Emissions-Graph



TRANSMITTER CONDUCTED SPURIOUS EMISSIONS

Carrier Power: .540 W to 4.8 mW in 4 dB steps (Analog)
 .250 W to .00001 mW (Digital)

Carrier Frequency: 824.04 MHz to 848.97 MHz in 30 kHz steps

*Each spur reflects its level at worst channel, polarization, operating mode (Analog or Digital), and radio orientation

*The "●" denotes the digital mode carrier and "▲" is the analog carrier level

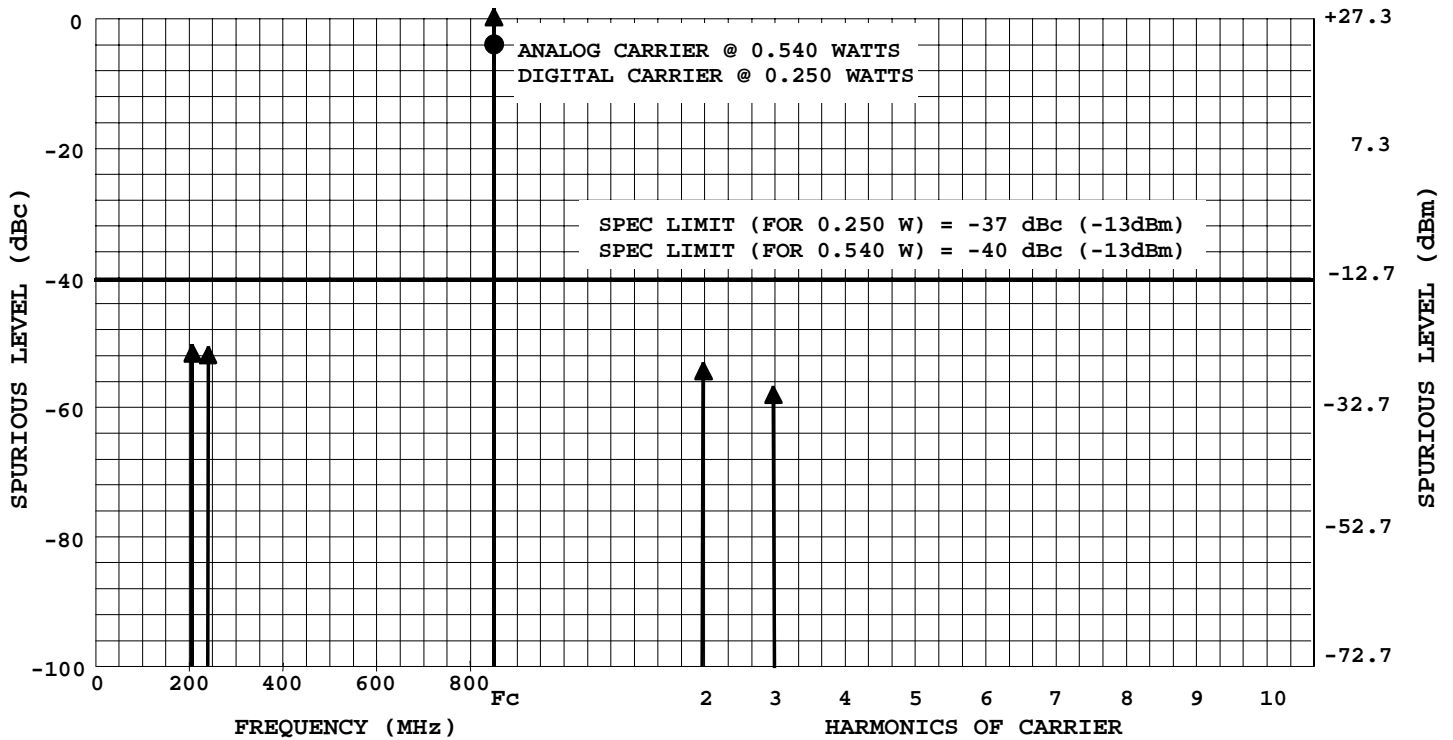
*All emissions not reported are more than 20 dB below the FCC Specification

*Spectrum was searched from 30 kHz to the 10th Harmonic of the Transmitter

*No signals greater than -80 dBm were found in the 869 to 894 MHz band

*Graphical representation of tabulated data on file

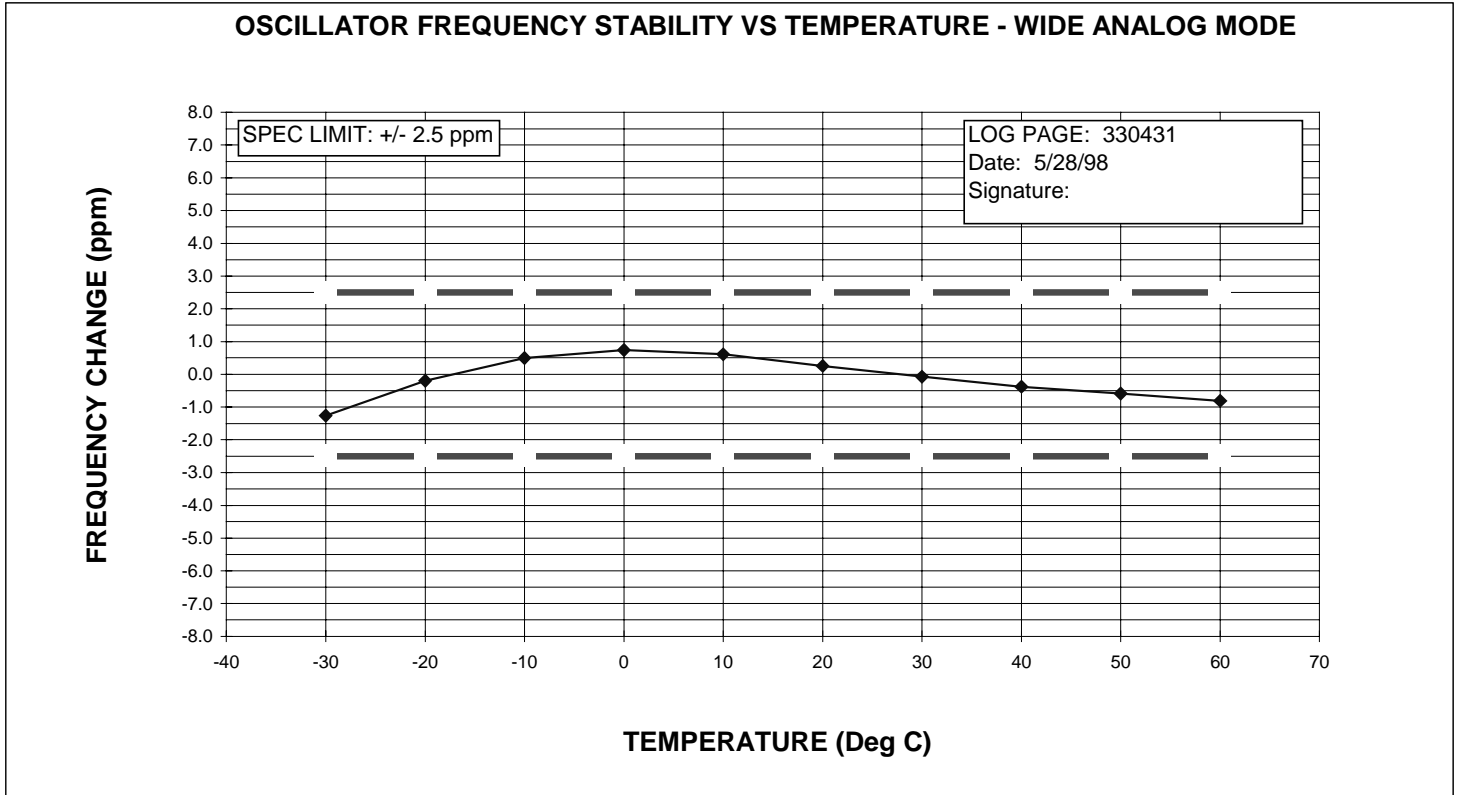
Radiated Spurious and Harmonic Emissions-Graph



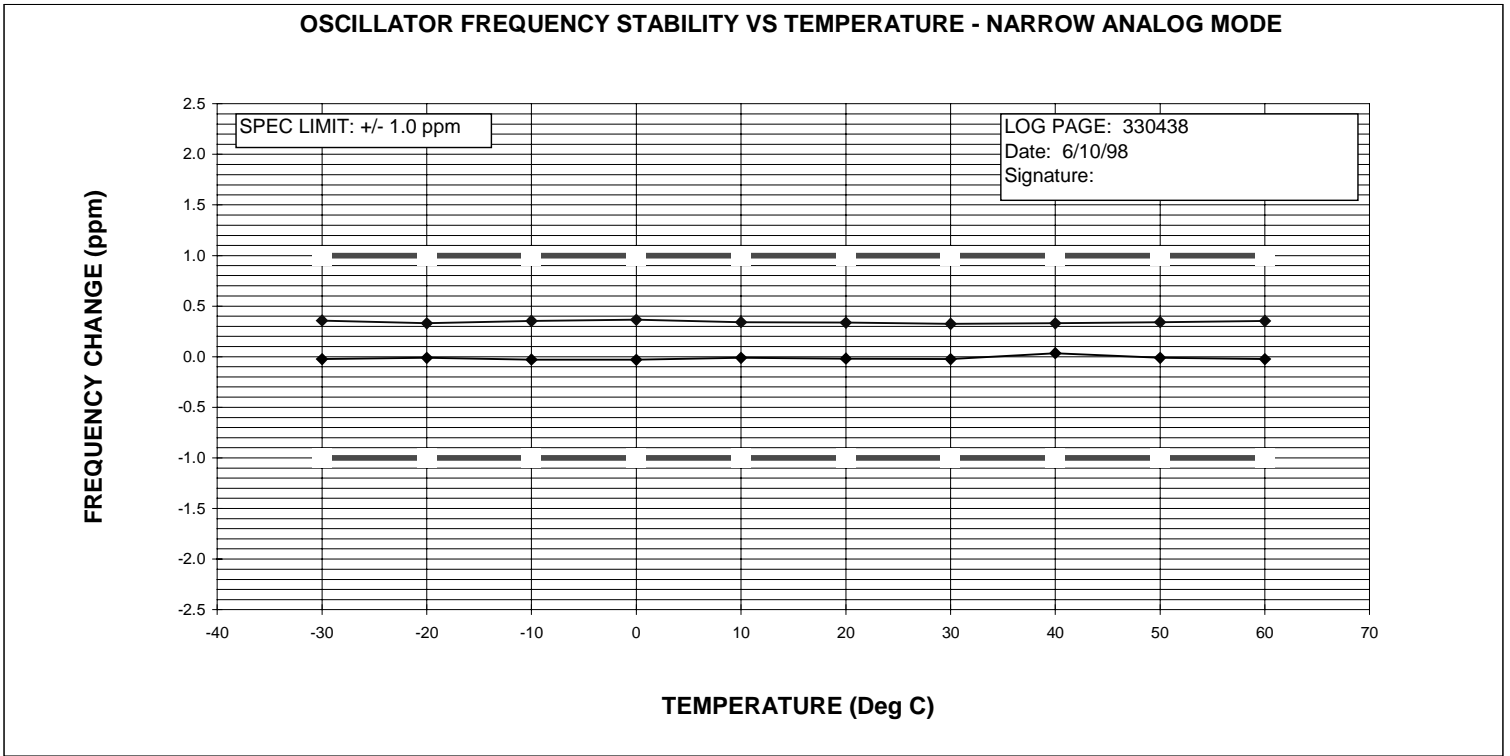
TRANSMITTER RADIATED SPURIOUS EMISSIONS

- Carrier Power: .540 W to 4.8 mW in 4 dB steps (Analog)
- .250 W to .00001 mW (Digital)
- Carrier Frequency: 824.04 MHz to 848.97 MHz in 30 kHz steps
- *Each spur reflects its level at worst channel, polarization, operating mode (Analog or Digital), and radio orientation
- *The "●" denotes the digital carrier and "▲" is the analog carrier level
- *The two spurious emissions below Fc are fixed at 201 and 235 MHz and are reportable only when the transmitter is operated in the digital mode
- *All emissions not reported are more than 20 dB below the FCC Specification
- *Spectrum was searched from 25 MHz to the 10th Harmonic of the Transmitter
- *Graphical representation of tabulated data on file

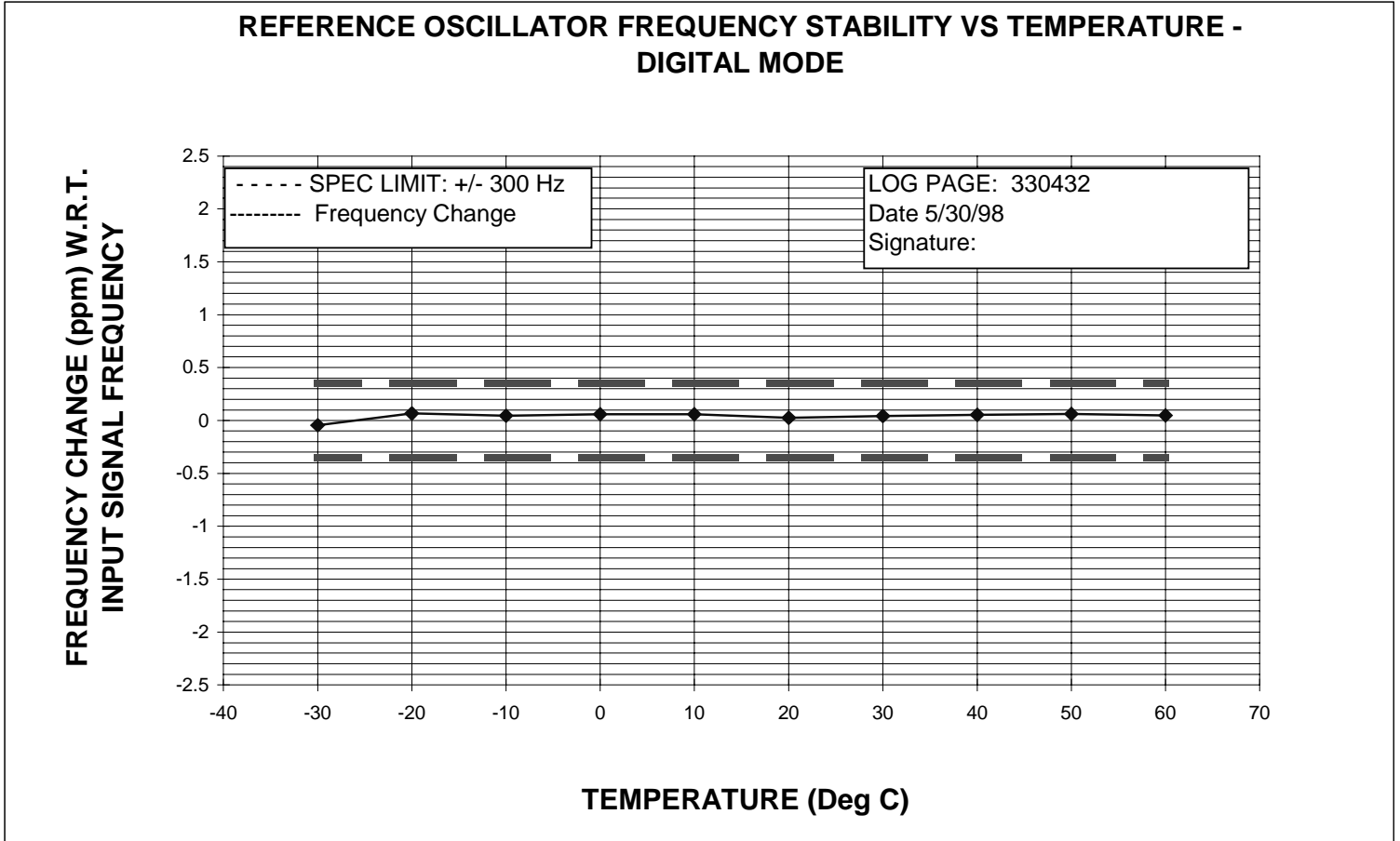
Frequency Change vs. Temperature (Wide Mode)-Graph



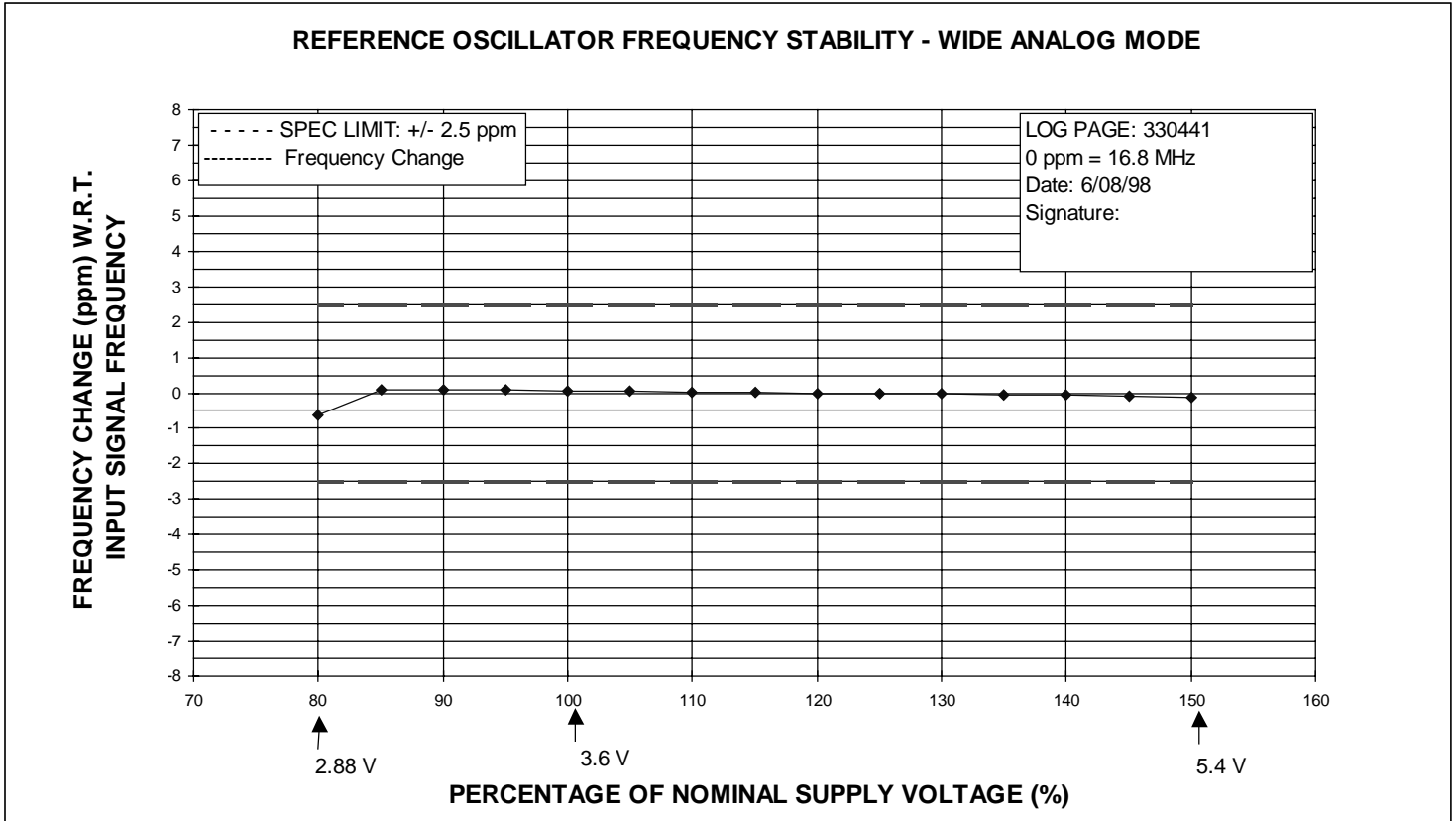
Frequency Change vs. Temperature (Narrow Mode)-Graph



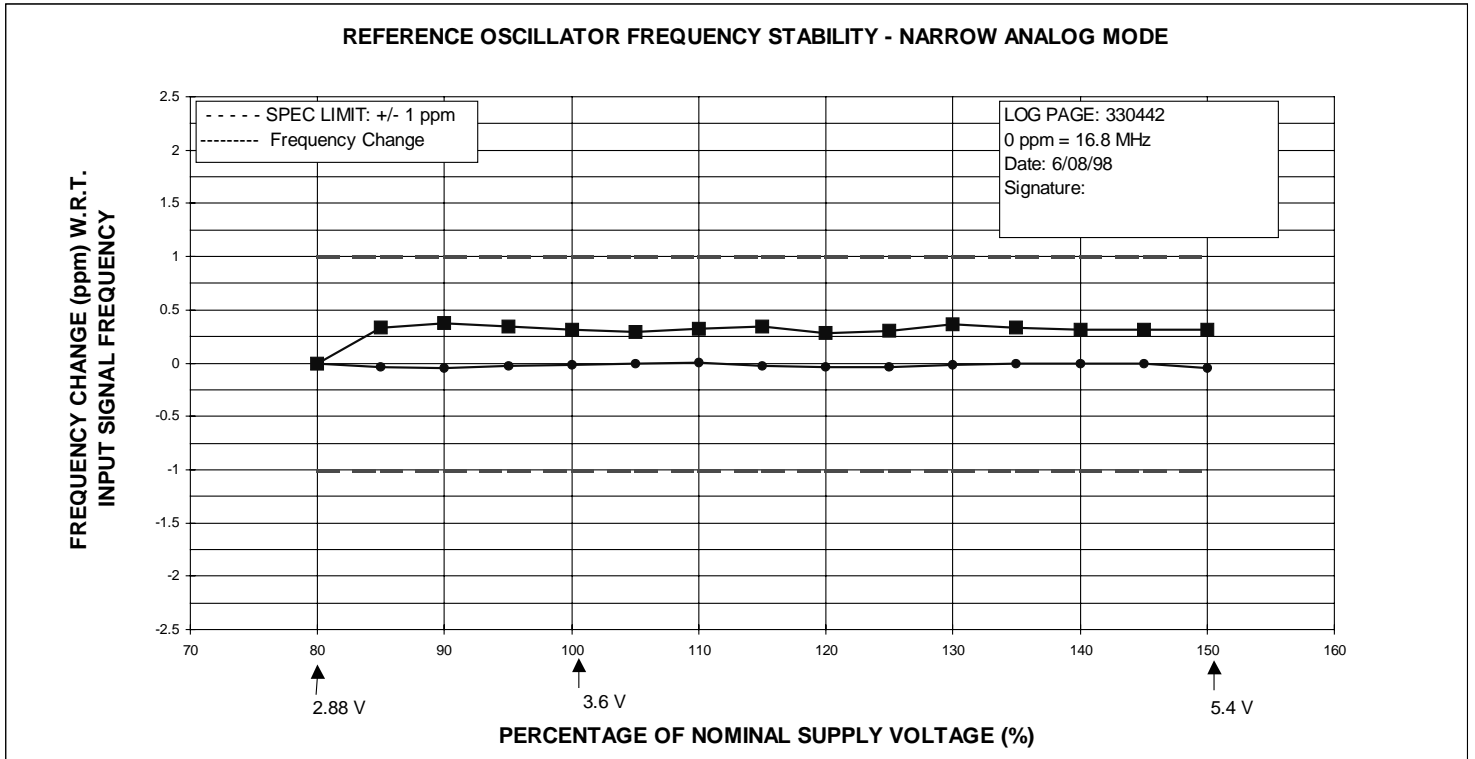
Frequency Change vs. Temperature (Digital Mode)-Graph



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



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



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

