

SUBMITTED MEASURED DATA INDEX

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RF POWER OUTPUT DATA

The input supply to the transmitter was set at 4.4 Volts. The RF power output was measured with the indicated voltage and current applied into the final RF amplifying device(s).

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: 22.6dBm (0.181W)

Measured DC voltage: 4.4 V

Measured DC current: 570 mA

Effective Radiated Power

Since the unit is intended for use with a provided ON Glass antenna manufactured by “Antenna Specialist”, (known as Motorola part number TAF6151) we need to calculate the ERP, based upon measured antenna gain plots.

Remarks:

- Antenna measurements performed at open site with 3rd party lab.
- Antenna Gain results includes 5M RG-58 coax cable connected to the antenna.

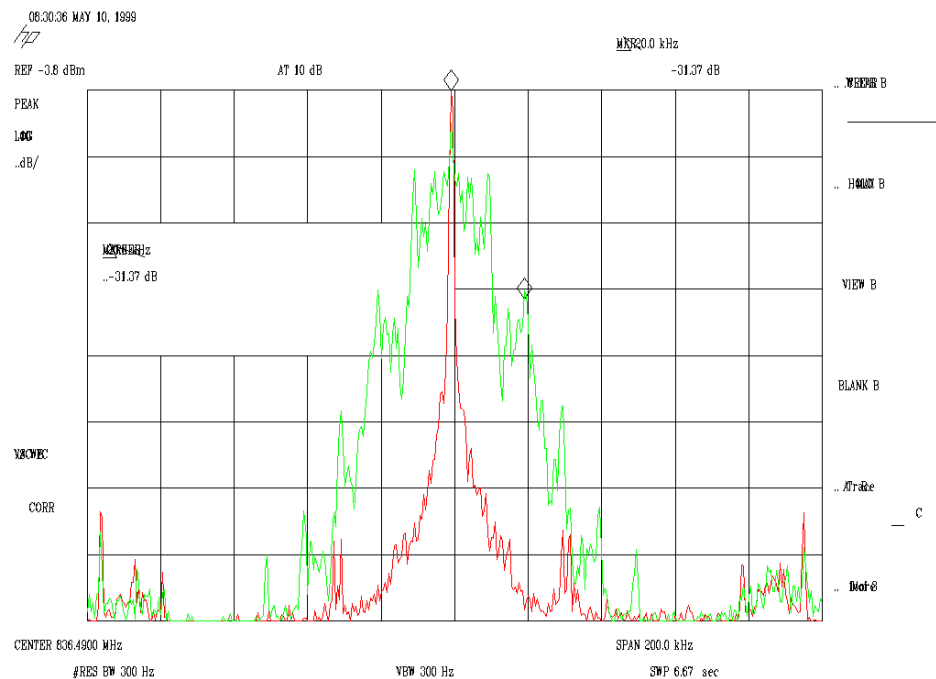
The maximum antenna gain measured is 1 dBi.

The Effective Isotropic Radiated Power than is : $22.6 + 1 = 23.6$ EIRP.

The Effective Radiated Power is 21.5 dBm ERP (0.15 W)

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 = 0.54 W****MEASURED DATA:**

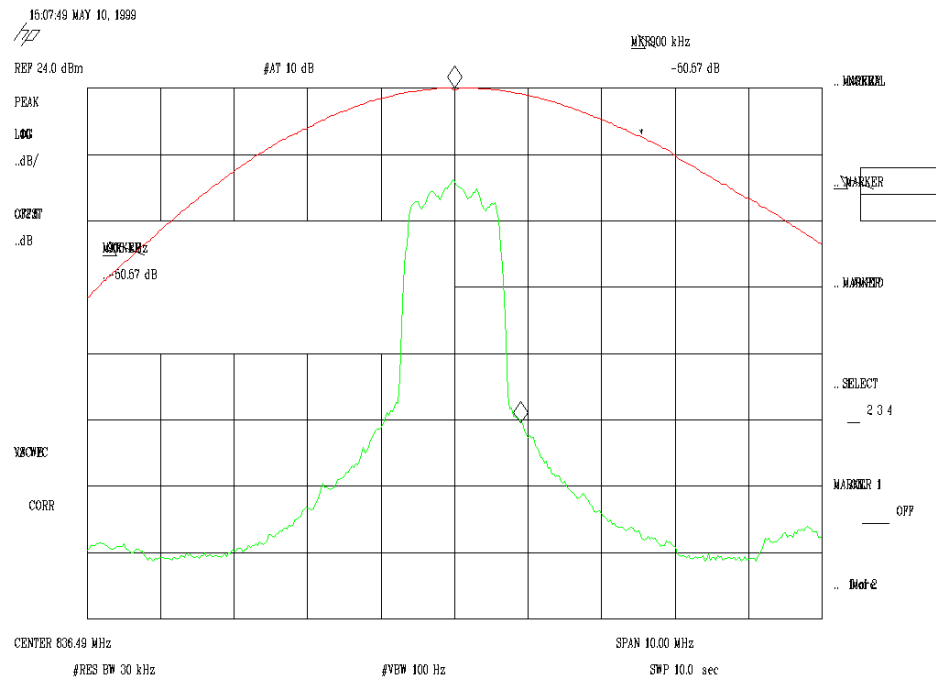
1. **Instantaneous Deviation Control set for a maximum of +/- 12 kHz.**
2. **Tune and adjust to obtain unmodulated carrier on the spectrum analyzer. Save trace of the unmodulated carrier.**
3. **Modulate the transmitter with wide band data with +/- 8 kHz. Photograph the sideband display while it is superimposed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

**SPEC LIMITS:**

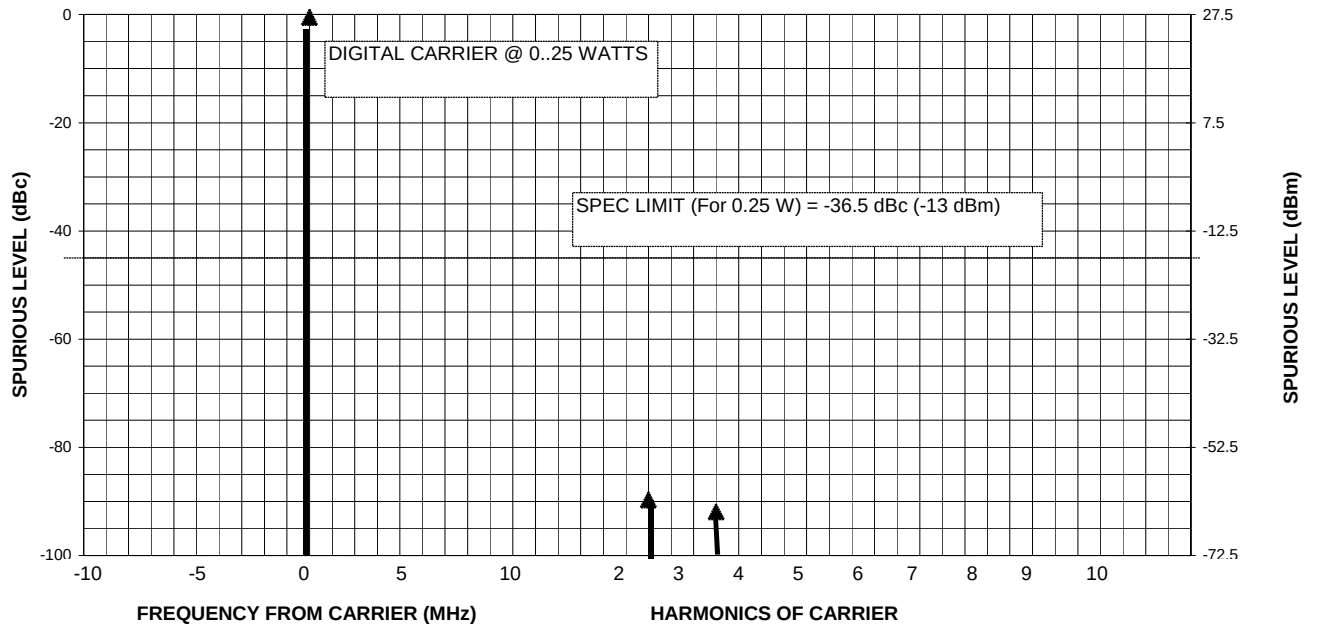
- a. **On any frequency removed from the assigned carrier frequency by more than 20 kHz, up to and including 45 kHz, the sideband is at least 26 dB below the carrier.**
- b. **On any frequency removed from the assigned carrier frequency by more than 45 kHz, up to and including 90 kHz, the sideband is 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 $63 + 10\log_{10}(\text{mean output power in Watts})$ 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:**

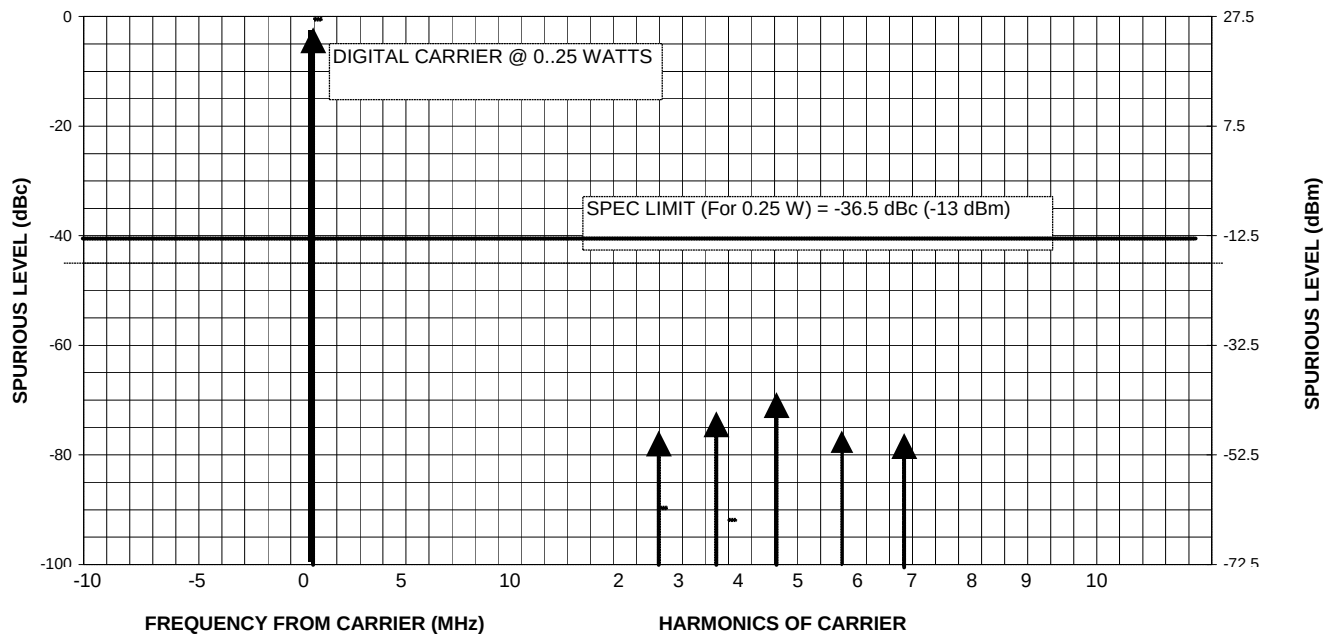
Modulation products in a bandwidth of 30 kHz centered ± 900 kHz from the channel center frequency shall be at least 42 dB below the mean output power level.

Conducted Spurious and Harmonic Emissions-Graph**Transmitter Conducted Spurious Emissions**

Carrier Power: 0.250 W to 0.00001 mW (Digital)

Carrier Frequency: 824.04 to 848.97 MHz in 30 kHz steps

- * Each reported emission reflects the highest absolute level found at maximum power level and digital operating mode.
- * All emissions not reported are more than 20 dB below the FCC specification
- * No signals greater than -80 dBm were found in the 869 to 894 MHz band
- * Spectrum was searched from 30 kHz to the 10th Harmonic of the transmitter

Radiated Spurious and Harmonic Emissions-Graph**Transmitter Conducted Spurious Emissions**

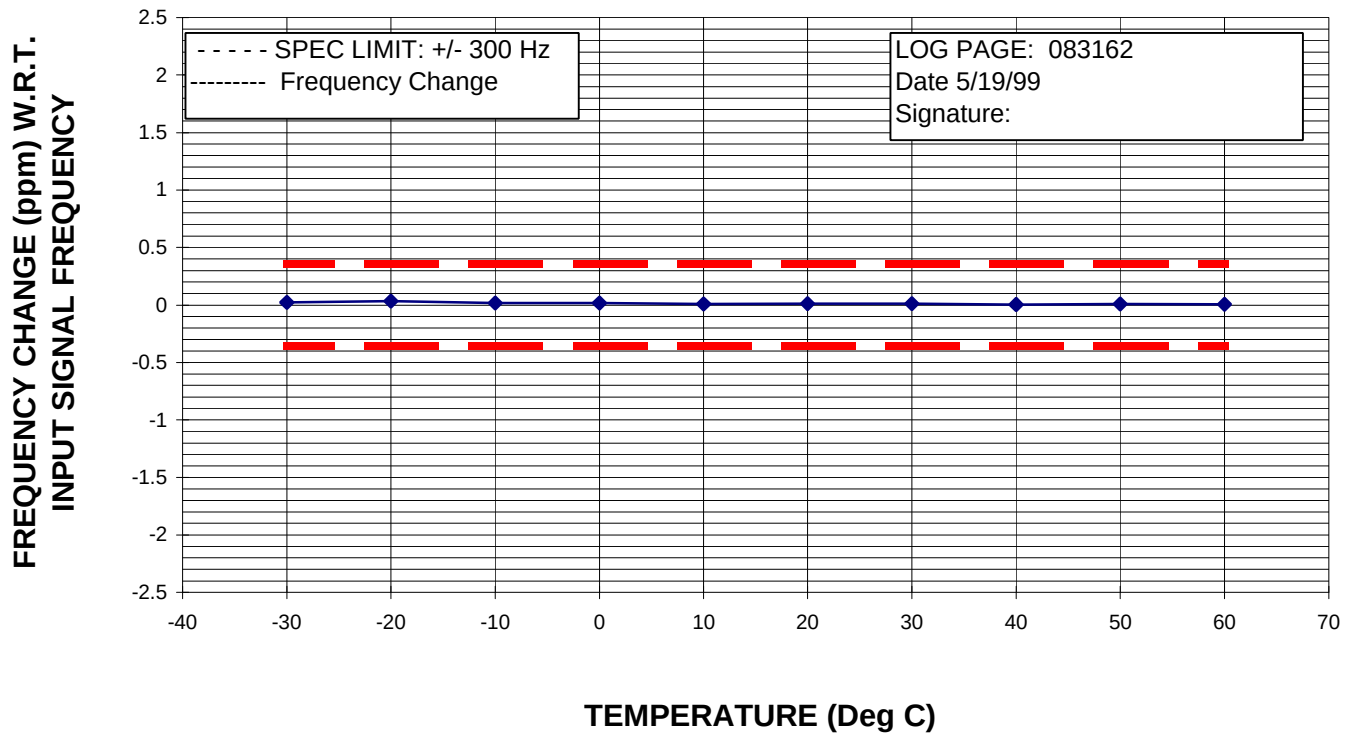
Carrier Power: 0.250 W to 0.00001 mW (Digital)

Carrier Frequency: 824.04 to 848.97 MHz in 30 kHz steps

- * Each reported emission reflects the highest absolute level found at maximum power level and digital operating modes
- * All emissions not reported are more than 20 dB below the FCC specification
- * No signals greater than -80 dBm were found in the 869 to 894 MHz band
- * Spectrum was searched from 30 kHz to the 10th Harmonic of the transmitter

Frequency Change vs. Temperature (Digital Mode)-Graph

REFERENCE OSCILLATOR FREQUENCY STABILITY VS TEMPERATURE - DIGITAL MODE



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

