OCCUPIED BANDWIDTH

Modulation Type: Sub-carriers modulated with 6400 bps random 4 level FSK data (symbol deviations: +/-2400 Hz for outer, +/- 800 Hz for inner).
Modulation Designator: 38K0F2D, 18K0F2D, 8K00F1D
Channelization: 50 KHz

SPECIFICATION REQUIREMENT:

The power of any emission shall be attenuated below the transmitter power (P), {as measured in terms of the maximum power, averaged over a 100ms interval, when measured with instrumentation calibrated in terms of an rms-equivalent voltage with a resolution bandwidth equal to or greater than the authorized bandwidth}, in accordance with the following schedule:

On any frequency outside the authorized bandwidth and removed from the edge of the authorized bandwidth by a displacement frequency (fd in KHz) of:

a) up to and including 40 KHz: 116LOG10((fd+10)/6.1) dB or [50 + 10LOG10(P)] dB or 70 dB, whichever is the lesser attenuation.

Note the following calculations:
50+10LOG10(125)=70.97 dB
@ fd=0 Hz 116LOG10((10)/6.1)=24.9 dB
@ fd=14.5 KHz 116LOG10((24.5/6.1)=70.0 dB
@ fd=40 KHz 116LOG10((50/6.1)=106.0 dB

Therefore the OBW Mask will follow the following format:

fd=0 Hz to fd=14.5 KHz	116LOG10((fd+10)/6.1) dBc
fd=14.5 KHz to fd=40 KHz	70 dBc

b) more than 40 KHz: 43+10LOG10(P) dB or 80 dB, whichever is the lesser attenuation.

Note the following calculation:
43+10LOG10(125)=64 dB

Therefore the OBW Mask will follow the following format:

fd=40 KHz or greater	70 dBc

CALIBRATION STEPS:

The zero dB reference point for the Mask was set by integrating the total power in the 50 Khz bandwidth using the following steps
a. The Resolution Bandwidth of the Spectrum Analyzer was set to 100 Khz
b. The Sweep rate was set to 10 Sec
c. Measure the peak of the waveform.
d. Set the Reference value of the Spectrum Analyzer to the peak value measured in step c above.

** Reference Plot 10F-7 and 10F-12