

Michael J. Murphy
DRS Codem Systems
7 Executive Park Dr.
Merrimack, New Hampshire 03054

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603-429-0111 X 451

mike.murphy@drs-cs.com

To: Leanne Nguyen

Federal Communications Commission
Office of Engineering and Technology
Experimental Licensing Branch, Mail Stop: 1300E1
Washington, DC 20554
Telephone (202) 418-2477 - Facsimile (202) 418-1918

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Emissions Designators and Necessary Bandwidth for Experimental Application

The short term test signals used for radio direction finder calibration and demonstration will include the use of Unmodulated Carrier, CW Telegraphy, SSB Suppressed Carrier, and Narrowband FM.

Description of Emission	Formula	Sample Calculation	Emission Designator
NO MODULATION			
Carrier and Continuous Wave (CW) emissions	$B_n = 0$	Unmodulated Carrier	0K0N0N

The emission bandwidth of a CW transmitter typically will not be zero due to noise and other considerations. However, designating zero as the necessary bandwidth is a valid method for identifying such equipment.

Continuous wave telegraphy, Morse Code	$B_n = BK$ $K = 5$ for fading circuits $K = 3$ for non-fading circuits	25 words per minute $B = 20, K = 5$ $B_n = 100 \text{ Hz}$	100H0A1AAN
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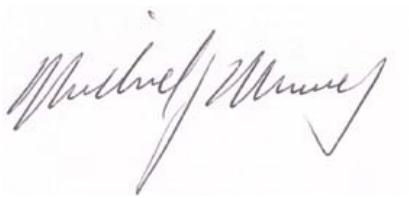
AMPLITUDE MODULATION

Telephony, single-sideband, suppressed carrier (single channel)	$B_n = M$ (lowest modulation frequency)	$M = 3000$ lowest modulation frequency = 300 Hz $B_n = 2700 \text{ Hz} = 2.7 \text{ kHz}$	2K70J3EJN
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ANGLE MODULATION

Commercial Narrowband FM telephony	$B_n = 2M + 2DK$ $K = 1$ (typically, but under certain conditions a higher value of K may be necessary)	For an average case of commercial telephony, $D = 5000 \text{ Hz}$ $M = 3000$ $B_n = 16000 \text{ Hz} = 16 \text{ kHz}$	16K0F3EJN And 11K0F3EJN
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Best Regards,



Michael J. Murphy
RF Systems Engineer (COGENG)