

Derivation of Emission Designator 900HA1D

TRAC PAC V TRANSMITTER - FCC ID: NBI-MTAG216C

SAMPLE CALCULATION OF NECESSARY BANDWIDTH FOR:

50% AM Digital Modulation

B = 180 Baud

K = 5

BW = 900 Hz

From Table II-1.0 of 47 CFR Ch. I para. 2.202

II. AMPLITUDE MODULATION

1. Signal With Quantized or Digital Information

Continuous wave telegraphy.	$B_n=BK$, K=5 for fading circuits, K=3 for non-fading circuits	25 words per minute; B=20, I 100 Hz
Telex by on-off keying of a tone modulated carrier.	$B_n=BK+2M$, K=5 for fading circuits, K=3 for non-fading circuits	25 words per minute; B=20, Bandwidth: 2100 Hz=2.1 kHz
Selective calling signal, single-sideband full carrier.	$B_n=M$	Maximum code frequency M=2110, Bandwidth: 2110 Hz
Direct-printing telex using a frequency shifted modulating sub-carrier single-sideband suppressed carrier.	$B_n=2M+2DK$, M=B+2	B=50, D=35 Hz (70 Hz shift width: 134 Hz)
Telex, single sideband reduced carrier.	$B_n=central frequency+M+DK$, M=B+2	15 channels; highest central 2805 Hz, B=100, D=42.5 Hz K=0.7 Bandwidth: 2.885 Hz

$B_n=BK$

100 X 5 = 900

Designation of Emission: 900 of 900HA1D

From 47 CFR Para 2.201 (C) (2)

(c) First Symbol—types of modulation of the main carrier:

(1) Emission of an unmodulated carrier N

carrier	N
(2) Emission in which the main carrier is amplitude-modulated (including cases where sub-carriers are angle-modulated):	
—Double-sideband	A
—Single-sideband, full carrier	H
—Single-sideband, reduced or variable level carrier	R
—Single-sideband, suppressed carrier	J
—Independent sidebands	B
—Vestigial sideband	C

Signal is 50% AM Digitally Modulated

Designation of Emission: A of 900HA1D

From 47 CFR Para 2.201 (d)

(d) Second Symbol—nature of signal(s) modulating the main carrier:	
(1) No modulating signal	0
(2) A single channel containing quantized or digital information without the use of a modulating sub-carrier, excluding time-division multiplex	1

Designation of Emission: 1 of 900HA1D

From 47 CFR Para 2.201 (e)

(e) Third Symbol—type of information to be transmitted: ²	
(1) No information transmitted ...	N
(2) Telegraphy—for aural reception	A
(3) Telegraphy—for automatic reception	B
(4) Facsimile	C
(5) Data transmission, telemetry, telecommand	D
(6) Telephony (including sound broadcasting)	E

- (6) Telephony (including sound broadcasting) E
- (7) Television (video) F
- (8) Combination of the above W
- (9) Cases not otherwise covered ... X

Designation of Emission: D of 900HA1D

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te; B=20, K=5, Bandwidth:	100HA1A
ute; B=20, M=1000, K=5, Hz=2.1 kHz	2K10A2A
requency is: 2110 Hz, lth: 2110 Hz=2.11 kHz	2K11H2B
0 Hz shift), K=1.2, Band-	134HJ2B
est central frequency is: D=42.5 Hz (85 Hz shift), 2.885 Hz=2.885 kHz	2K89R7B