

EXHIBIT # 4,5&6

FCC Requirements CRF 47 Part 2.1033,c (4)&(5)&(6)

Operating Parameters

JXBLMDSXP4-8T

EXHIBIT 2.1033,c(4)&(5)&(6)

Type of Emission, Necessary Bandwidth and Modulation Characteristics for 4XT1 and the 8XT1 Radio:

The DMC XP4 T-Carrier radio is employed to process digital information of various types. Voice, data, television, and many other information types can be encoded and transmitted across this radio system. The emission designators, 5M00F7W, and 10M0F7W were developed by the following process:

The necessary bandwidth was developed from the following equation: CFR 47 part 2.202, (b)

For 4XT1 Data rate (including overhead):

$$B_n = 2 DK + B$$

$$B = R / \log(\text{base } 2) \text{ of } S$$

$$B = (7.249 \text{ Mbits/sec.}) / 2 = 3.6245 \text{ M Symbols/sec.}$$

Where: B_n = Necessary bandwidth in MHz
 R = Aggregate bit rate in bits/sec = 7.249 Mbits/sec.
 S = number of transmitter levels = 4
 D = deviation in MHz = .687 MHz
 K = 1 for this modulation type

$$\text{Therefore } B_n = (2) (.687 \text{E}+6) (1) + 3.624 \text{E}+6 = 5.00 \text{ MHz}$$

The F7W portion of the designator is derived as follows

F = Frequency Modulation [CFR47 part 2.201 (c)]

7 = is the nature of the modulation signal [CFR47 part 2.201 (d)]

W = is the type of information transmitted [CFR47 part 2.201 (e)]

The resultant complete emission designator for the 4XT1 can be stated as 5M00F7W

For 8XT Data rate (including overhead):

$$B_n = 2 DK + B$$

$$B = R / \log(\text{base } 2) \text{ of } S$$

$$B = (14.48 \text{ Mbits/sec.}) / 2 = 7.249 \text{ M Symbols/sec.}$$

Where: B_n = Necessary bandwidth in MHz
 R = Aggregate bit rate in bits/sec = 14.48 Mbits/sec.
 S = number of transmitter levels = 4
 D = deviation in MHz = 1.375 MHz
 K = 1 for this modulation type

Therefore $B_n = (2) (1.375 + 6) (1) + 7.249 \text{E}+6 = 10.00 \text{ MHz}$

The F7W portion of the designator is derived as follows

F = Frequency Modulation [CFR47 part 2.201 (c)]

7 = is the nature of the modulation signal [CFR47 part 2.201 (d)]

W = is the type of information transmitted [CFR47 part 2.201 (e)]

The resultant complete emission designator for the 8XT1 can be stated as 10MOF7W

Frequency Range: Three Bands	1.	27,500 to 28,350 MHz
	2.	29,100 to 29,250 MHz
	3.	31,000 to 31,300 MHz

Range of operating power: 30 db Refer to Exhibit 2.1033,c(4)&(5)&(6) and Exhibit 2.1033 ,c(9) for technical description of power control and operation.