

FCC PART 2.201 EMISSION, MODULATION, AND TRANSMISSION CHARACTERISTICS- EMISSION DESIGNATOR

The first symbol indicates the type of modulation on the transmitter carrier. The second symbol indicates the type of signal modulating the transmitter carrier. The third symbol indicates the type of transmitted information.

Designator for the WeatherScene RF Modem Link : F1D

FCC PART 2.202 (A): NECESSARY BANDWIDTH

Description of emission	Necessary bandwidth		Designation of emission
	Formula	Calculation	
Manchester encoded Digital data FSK Data transmission	$B_n = 2M + 2D$	8.4 kHz*	8K40

with D peak frequency deviation (i.e. half the difference between the maximum and minimum value of the instantaneous frequency - the instantaneous frequency in Hz is the time rate of change in phase in radians divided by 2), M maximum modulation frequency in Hz, and Bn Necessary bandwidth in Hz.

*Calculations and data test results:

$$D = (2 \times \Delta f_p) / 2 = (2 \times 3) / 2 = 3 \text{ kHz} \quad \text{and} \quad f_m = 1.2 \text{ kHz} = M$$