EXHIBIT 6c2: MEASURED DATA – Pursuant 47 CFR 2.1041

6.1 900 MHz ISM Band Modulation Characteristics and Necessary Bandwidth

In the 900 MHz ISM band, the subject radio makes use of Frequency Shift Keying. The modulation can vary from 2FSK, 4FSK, 6FSK or 8FSK. 2FSK will operate at 800 symbols per second while all others will operate at 3200 symbols per second. The symbol spacing at RF will be a minimum of 3200 Hz resulting in a 99% bandwidth of 25.6 kHz.

The data symbols are up-sampled to a rate Ns times the symbol rate, and pulse shaped by a filter having impulse response p_n. The pulse shape filter is the cascade of a square pulse, of duration equal to one symbol interval, convolved with a Gaussian filter with 3 dB bandwidth equal to 8000 Hz or BT = 2.5. The pulse-shaped signal is integrated using a backward-summation, and then mapped to in-phase (I) and quadrature (Q) channels using the cosine and sine functions, respectively. A scaling factor of π/Ns is required to convert the integrator output to modulated phase. This modulation is shown in Figure X.

The pre-modulation filter has the continuous-time impulse response

$$p(t) = Q\left[\frac{2\pi B}{\sqrt{\ln 2}}\left(t-\frac{T}{2}\right)\right] - Q\left[\frac{2\pi B}{\sqrt{\ln 2}}\left(t+\frac{T}{2}\right)\right]$$

where t is time in seconds, T = 1/3200 is the symbol interval in seconds, B is the 8000 Hz 3-dB bandwidth, and Q(x) is the complimentary distribution function for a Gaussian random variable with zero mean and unit variance, given by

$$Q(x) = \int_x^\infty \frac{1}{\sqrt{2\pi}} e^{-x^2/2} dx$$

The discrete-time impulse response is generated by sampling the continuous-time function. In theory, p(t) has infinite time span, but, for all practical purposes, it is time-limited to the interval

$$-3T/4 < t < 3T/4$$

Given this, the discrete-time version is generated as

$$p_n = p\left(t_0 + \frac{nT}{N_s}\right) \qquad n = 0, 1, \ldots, N_p - 1$$

where t_0 is the time of the first sample, N_s is the number of samples per second, and N_p is the filter length.

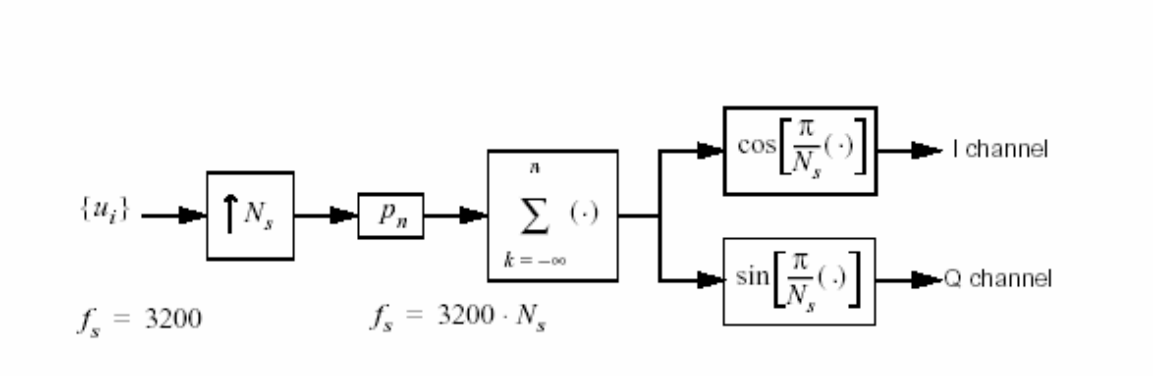

Figure 6-23. FSK Modulator

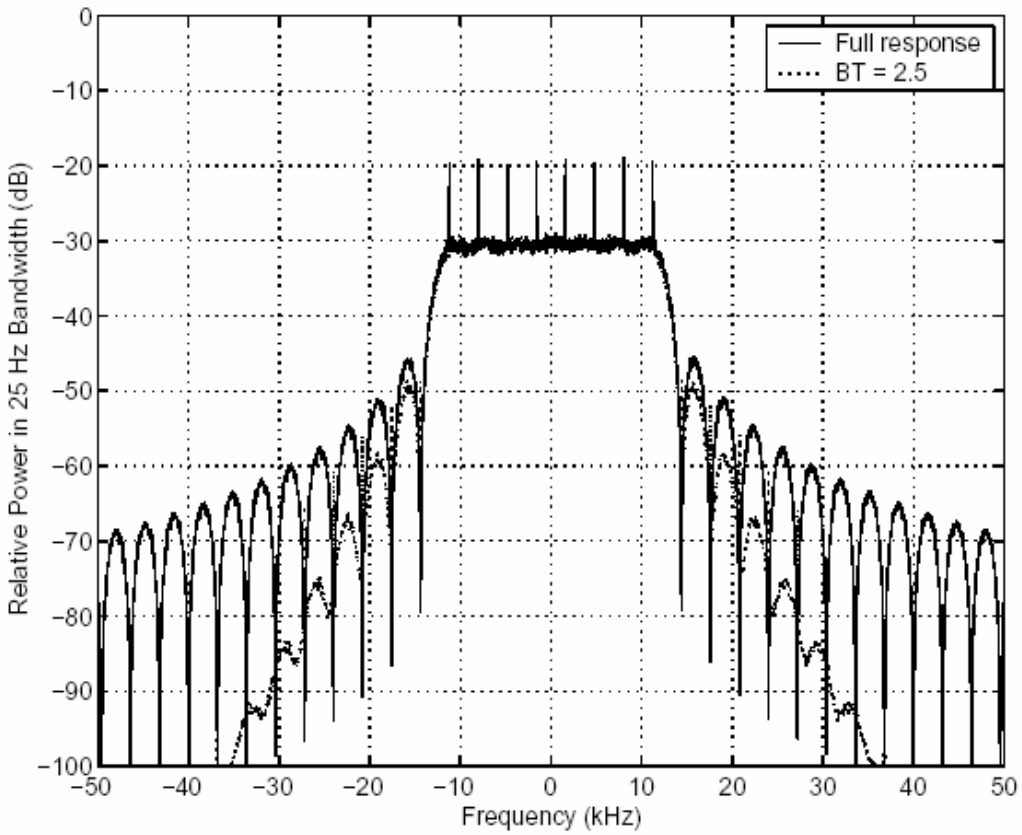

Figure 6-24. Compares the full response of the 8FSK Spectrum vs. the filtered version.

The symbols can have different frequency deviation depending on the particular slot being transmitted. The worst case deviation is 11.2 kHz from the carrier frequency. The following tables represent the possible combinations for a given transmitted slot.

Symbol Value	Symbol Value Deviation (Hz)
-7	-11200
-5	-8000
-3	-4800
-1	-1600
+1	+1600
+3	+4800
+5	+8000
+7	+11200

Table 6-2. Symbols operating at 3200 symbols per second.

Symbol Value	Symbol Value Deviation (Hz)
+2.00, -2.00	+/- 3200
+2.25, -2.25	+/- 3600
+2.50, -2.50	+/- 4000
+2.75, -2.75	+/- 4400
+3.00, -3.00	+/- 4800
+3.25, -3.25	+/- 5200
+3.50, -3.50	+/- 5600
+3.75, -3.75	+/- 6000
+4.00, -4.00	+/- 6400
+4.25, -4.25	+/- 6800
+4.50, -4.50	+/- 7200
+4.75, -4.75	+/- 7600
+5.00, -5.00	+/- 8000

Table 6-3. Symbols operating at 800 symbols per second.

Symbol Value	Symbol Value Deviation (Hz)
-6	-9600
-4	-6400
-2	-3200
+2	+3200
+4	+6400
+6	+9600

Table 6-4. Symbols operating at 3200 symbols per second.

The emission requirements specified for operation in the 902-928 MHz ISM Band include a requirement that there is no emission greater than –20 dBc detectable in a 100 KHz bandwidth at all frequencies outside the ISM band. Table 6-5 shows on the left the emission levels measured in a 100 KHz bandwidth centered 50 KHz removed from the lower ISM band edge. For this measurement the transmitter is tuned to maximum output power at the lowest operating frequency. A similar measurement was made at the upper ISM band edge with the transmitter operating at the maximum ISM band operating frequency.

Lower ISM Band Edge			**Upper ISM Band Edge**		
Band Edge	**F op**	**Power Level**	**F op**	**Band Edge**	**Power Level**
901.95 MHz	902.525 MHz	Delta (dB)	927.475 MHz	928.05 MHz	Delta (dB)
19.36 dBm	-44.05 dBm	63.41	19.32 dBm	-48.22 dBm	67.5

Table 6-5. 900 MHz ISM Necessary Bandwidth

Note: Power levels shown are not absolute power levels of the device under test. There was a 10 dB RF attenuator and associated cabling between the device and the measuring spectrum analyzer. Test procedure is included in section 7.4.