EXHIBIT 3-1   CFS8DL5828

Message protocol, timing, and duty cycle calculation.

The data output is phase-encoded Manchester that has inherent 50% duty cycle and consists of 64 bits per word

The 5828 is not supervised, and only sends user initiated messages.

Each user initiated message, is just like the 5827BD (FCC ID: CFS8DL5828BD) has a nominal data rate of 3.7 kb/s (3.2kb/s min to 4.2kb/s max).
Therefore the duty cycle is calculation is as follows:
    The word format consists of 64 bits,
    The duration of each bit is 312.5 uSec max.
    The duty cycle over a 100 mSec measuring period is calculated as follows:
    Duty cycle = Actual RF transmission ON time / 100 mSec
    Actual transmission ON time = 64 bits X 50% X 312.5 uSec = 10 mSec

Therefore duty cycle = 10 / 100 mSec = .10 = 10%, and peak to average field strength is 20 db.

The 5828 is also required to transmit a 'Site ID' message, just like the 5839US (FCC ID: CFS8DL5839US)

Site ID messages consist of :
    A 16 bit preamble, (15 bits + one sync bit) and 96 bits of control data.
    For a total of 112 bits of information. the total message is 25 mSec. long.

The message is repeated five (5) times, every 120 mSec. (MIN) Therefore: the message is only sent once every 100 mSec. i.e.; 25 mSec. / 100 mSec. = .25

Further the Manchester has an inherent duty cycle of 50% making the total transmitter duty cycle:
.25 X .50 = .125 X 100 = 12.5 % total transmitter on time.