GLENAYRE™

Wireless Access Group

2101 Tasman Drive
Santa Clara, CA 95054 USA
tel 408-653-1555
fax 408-567-1069

Description of the Duty Cycle for the AccessLinkII 2-way pager

The worst case duty cycle for the pager transmitter occurs when it is sending messages from the pager to the infrastructure. For this calculation, assume infinite messages are queued in the pager, each message it the maximum length allowed (2000 characters) and the back channel is running at its slowest speed (800 bps).

The ReFLEX protocol is timed on frames, each of which is 1.875 seconds long. The sequence for transmitting a message from the pager is shown in the following table. Also shown are transmitter on times and elapsed time.

Frame	Event	Transmitter on time	Elapsed time
1	Pager signal request to transmit to system	0.1705	1.875
2	Request goes to system controller and is scheduled	0	1.875
3	Grant for data unit is sent to Pager	0	1.875
4	Pager sends first data unit (100 characters) to system	1.875	1.875
5	Data unit goes to system controller and next data unit is scheduled	0	1.875
6	Grant for next data unit is sent to Pager	0	1.875
7	Pager sends data unit to system	1.875	1.875
8-61	steps 5-7 repeat unit entire message is transmitted (18 more data units for a total of 20)	18 X 1.875	54 X 1.875
62	Last data unit goes to system controller and end of transmission is scheduled	0	1.875
63	End of transmission is sent to pager	0	1.875
64	Ack to end of transmission is transmitted from pager to system	0.1705	1.875
	Totals	37.841 seconds	120 seconds

Thus, the maximum duty cycle is 37.841/120 = 31.5%

Note: This is not achievable in a real system due to delays in computing and traffic delays, and is only a theoretical maximum based on the protocol.

Recalculation of SAR results based on 31.5% duty cycle

The maximum spatial peak SAR values averaged over 1g assessed in “touch” position was 3.27mW/g for the tested unit when tested in test mode. Based on the theoretical maximum in the protocol (which is not achievable in a real system), the actual transmission is only 31.5%. In considering the 31.5% duty cycle to the measured SAR data, the unit is in compliance with the requirements of the FCC for body requirements.