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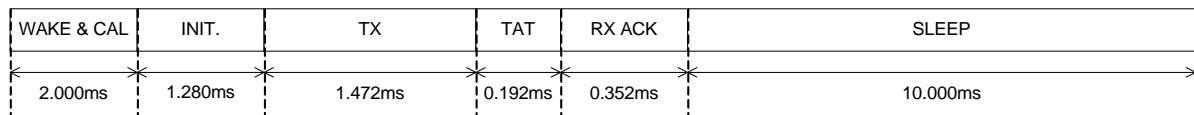October 8th, 2012

## MANUFACTURER'S LETTER IN SUPPORT OF THE APPLICATION OF DUTY CYCLE

**TYOJN5148U0**

To Whom It May Concern:

In normal operation the equipment employs pulsing at a variable rate, depending on the application. We declare a duty cycle of 10% and quotes IEEE 802.15.4: "The specifications of IEEE STD 802.15.4-2003 are tailored for applications with low power and low data rates (a maximum of 250 kb/s and down to 20kb/s). Typical applications for IEEE 802.15.4 devices are anticipated to run with low duty cycles (under 15). This will make IEEE 802.15.4 devices less likely to cause interference to other standards".

Below are the timings for a typical network scenario.

| WAKE & CAL | INIT. | TX | TAT | RX ACK | SLEEP |
|---|---|---|---|---|---|
| 2.000ms | 1.280ms | 1.472ms | 0.192ms | 0.352ms | 10.000ms |

Comprising:

| | | |
|---|---|---|
| Wake up and radio calibration` | = | 2.000ms |
| Initialization including Back off, CCA and Turnaround Time | = | 1.280ms |
| TX 40 byte payload + preamble and length = 46 x 32uS | = | 1.472ms |
| Turn Around Time | = | 0.192ms |
| RX ACK | = | 0.352ms |
| SLEEP | = | 10.000ms |
| | | |
| Total time | = | 15.296ms |
| | | |
| Duty cycle (1.472/15.296) x 100% | = | 9.623% |

Thank you for your attention to this matter.

Yours faithfully

*[signature]*

Full Name

Mr Conrad V Farlow

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