

July 17, 2006

RF Exposure Threshold Computation – Tyco Personal Transmitter

Exposure category	low threshold	high threshold
general population	$(60/f_{\text{GHz}})$ mW, $d < 2.5$ cm $(120/f_{\text{GHz}})$ mW, $d \geq 2.5$ cm	$(900/f_{\text{GHz}})$ mW, $d < 20$ cm
occupational	$(375/f_{\text{GHz}})$ mW, $d < 2.5$ cm $(900/f_{\text{GHz}})$ mW, $d \geq 2.5$ cm	$(2250/f_{\text{GHz}})$ mW, $d < 20$ cm

Transmit packet on time: 0.87 (mS)

Packet repetition time: 173.00 (mS)

Maximum peak output power at antenna input terminal: 19.2 (dBm)

Antenna gain(typical): 6.2 (dBi)

Antenna gain(typical): 4.17 (numeric)

Maximum peak output power at antenna output: 25.40 (dBm)

Maximum peak output power at antenna output: 346.74 (mW)

Source-based time-averaged power, conducted: 1.75 (mW)

Maximum peak radiated output: 117.00 (dBuV/m @ 3m)

Maximum peak radiated output: 21.80 (dBm)

Maximum peak radiated output: 151.36 (mW)

Source-based time-averaged power, radiated: 0.76 (mW)

Low threshold for $d < 2.5$ cm at 2.425 GHz: 24.74 (mW)

Low threshold for $d > 2.5$ cm at 2.425 GHz: 49.48 (mW)

In both cases, computed and measured, the output power is below the low threshold for all separation distances greater than and less than 2.5 cm.

According to the calculations above, this portable device complies with FCC's RF exposure limits for general population.

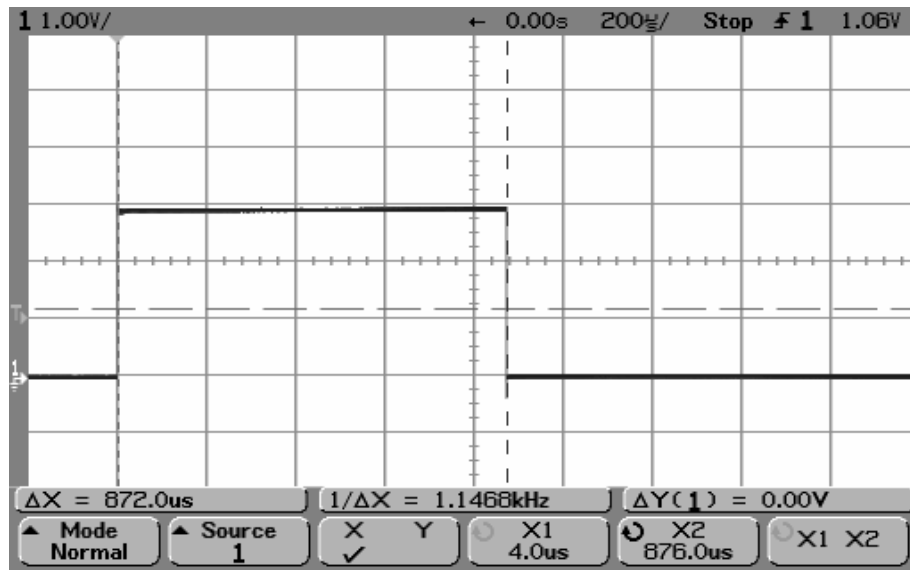


Figure 1. Transmitter packet "on" time is 872 μS.

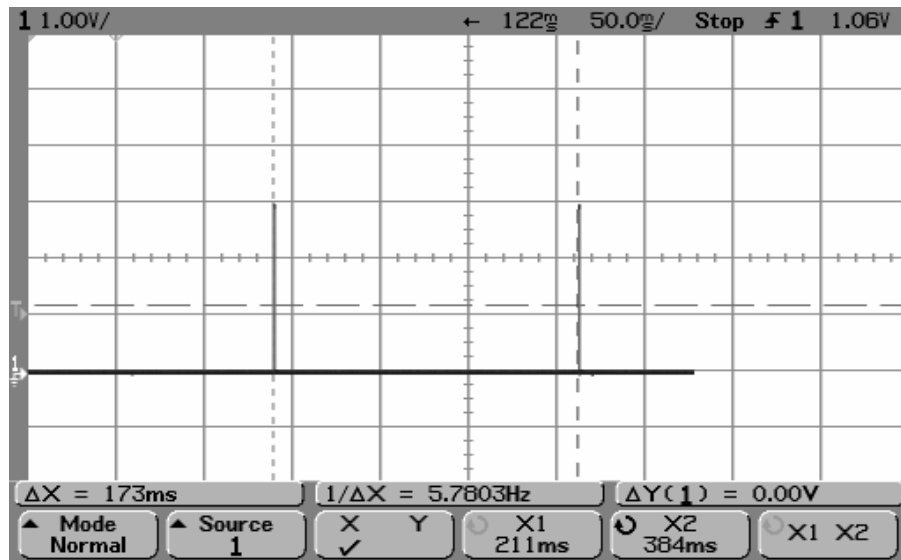


Figure 2. Transmitter packet repetition time is 173 mS.

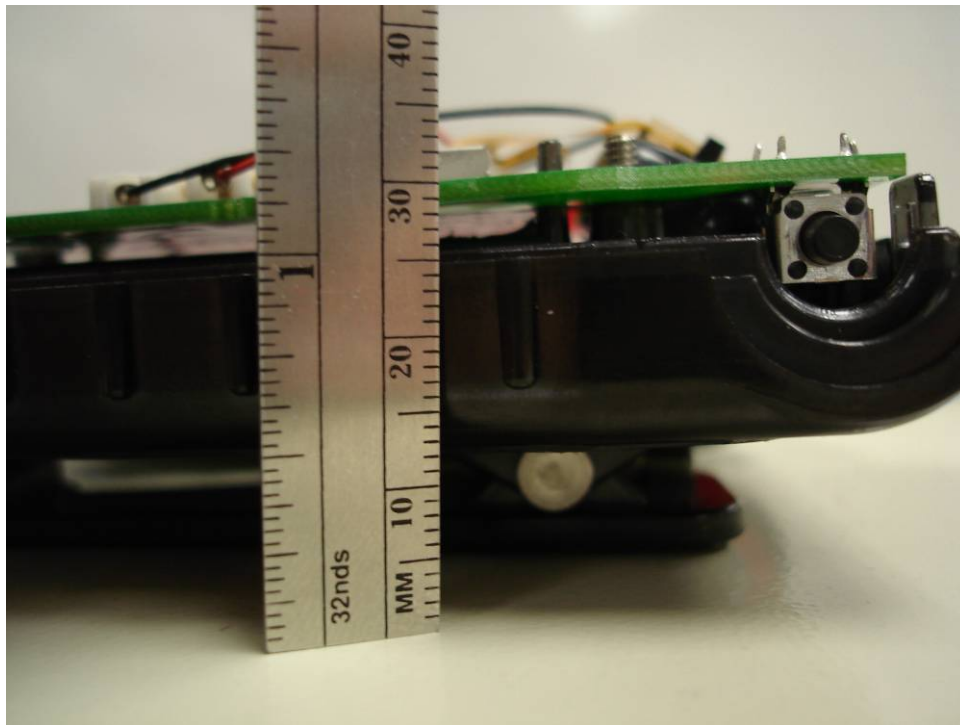


Figure 3. Minimum antenna separation from the user is 2.9 cm.



Figure 4. Product being worn in position 1.



Figure 5. Product being worn in position 1.



Figure 6. Product being worn in position 2.



Figure 7. Product being worn in position 3