

Duty Cycle Measurement On the 501RT01 Reference Tag

Conditions

The tag was set at Channel 1 (2412 MHz) and software enabled that applied a PRBS to the transmitter at an expected duty cycle of 25%.

The period between pulses was less than 100 mSec with the “On Time” of the pulse slightly less than 25 uSec.

A Spectrum analyzer was set up to operate in the 0Hz Span mode and other adjustments to the instrument were made and are shown in the attached photographs. Delta markers were placed at the On Time and waveform Period transitions as shown in the two attached photographs.

Duty Cycle Calculation

Duty Cycle (in %) is found by the formula

$$\frac{\text{OnTime}}{\text{Period}} \times 100$$

$$\frac{24.97\text{mSec}}{99.90\text{mSec}} \times 100 = 24.99\%$$

The duty cycle measured is 24.99%



