

2.9 Average Spurious Emission in the Frequency Range 30 - 25000 MHz (FCC Section 15.247(c))

The results of average radiated spurious emissions falling within restricted bands are given in Tables 5a – 5u.

Calculation of Maximum Transmit Duty Cycle

As outlined in Appendix I, each remote WIT2410NF can transmit only once during a dwell time. The maximum length of the transmitted packet from each remote is set by the system design and cannot be adjusted by the user. That packet length is calculated as follows:

Preamble	9 bytes
Sync and CRC	10 bytes
Data Payload	<u>13 bytes</u>
Maximum packet length	32 bytes
Bit time (1/460 Kbps)	2.1739 us
Byte time (bit time * 8)	17.3912 us
Maximum packet time (byte time * 32)	556.5184 us

The maximum amount of time that our Remote transmitter can operate in any 10 millisecond period is 556.5 us. Therefore, our source-averaged transmit duty cycle becomes 0.0556 (556.5 us / 10 ms). Note that this duty cycle is not dependent on our use of Frequency Hopping. We are not averaging our power over the number of hops. The above calculation is strictly based on the maximum amount of time our transmitter can transmit in any 10 ms time period – regardless of the channel the radio happens to be on at the time.

The transmission duty cycle correction factor is then calculated as:

$$20 \log_{10} (0.0556\text{ms}/10\text{ms}) = \mathbf{-25.1 \text{ dB}}$$