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## Declaration of Duty Cycle

The CC2541S BoosterPack has a maximum duty cycle as defined by the FCC 15.247 of less than 10%, resulting in a duty cycle correction factor of 20 dB. Details can be found below.

The maximum duty cycle for the CC2541S BoosterPack occurs when the advertising interval of the CC2541S BoosterPack is 20 ms, this result in 5 advertising events during any 100 ms. The largest possible advertise packet is 376 bits and the CC2541S BoosterPack has a 1 Mbps transmitter. Thus, the transmit time for each advertising packet is: 376 bits/1Mbps = 376 us. The maximum of 5 packets per 100ms gives at maximum “TX on time” of  $5 \times 376 \text{ us} = 1.8\text{ms}$  per any 100ms, which is the same as a duty cycle of 1.8%. Since the duty cycle is less than 10%, the duty cycle correction factor for the CC2541S BoosterPack will be 20 dB.