

11.12 QDEC Electrical specification

11.12.1 QDEC Electrical Specification

Symbol	Description	Min.	Typ.	Max.	Units
t_{SAMPLE}	Time between sampling signals from quadrature decoder	128		131072	μs
t_{LED}	Time from LED is turned on to signals are sampled	0		511	μs

11.13 RADIO Electrical specification

11.13.1 General radio characteristics

Symbol	Description	Min.	Typ.	Max.	Units
f_{OP}	Operating frequencies	2400		2500	MHz
$f_{\text{CH,SP}}$	Channel spacing		1.0		MHz
$f_{\text{DELTA,1M}}$	Frequency deviation @ 1 Mbps		± 160		kHz
$f_{\text{DELTA,BLE,1M}}$	Frequency deviation @ Bluetooth LE 1 Mbps		± 250		kHz
$f_{\text{DELTA,2M}}$	Frequency deviation @ 2 Mbps		± 320		kHz
$f_{\text{DELTA,BLE,2M}}$	Frequency deviation @ Bluetooth LE 2 Mbps		± 500		kHz
$f_{\text{DELTA,4M}}$	Frequency deviation @ 4 Mbps		± 1000		kHz
f_{SKBPS}	On-the-air data rate	125		4000	kbps
$f_{\text{chip, IEEE 802.15.4}}$	Chip rate in IEEE 802.15.4 mode		2000		kchip/s

11.13.2 Radio current consumption (transmitter)

Symbol	Description	Min.	Typ.	Max.	Units
$I_{\text{TX,MaxdBm,QFN}}$	TX only run current for QFN package, P_{RF} at maximum power setting		9.1		mA
$I_{\text{TX,MaxdBm,CSP}}$	TX only run current for CSP package, P_{RF} at maximum power setting		9.7		mA
$I_{\text{TX,0dBm}}$	TX only run current, $P_{\text{RF}} = 0 \text{ dBm}$		3.7		mA
$I_{\text{TX,MINUS4dBm}}$	TX only run current $P_{\text{RF}} = -4 \text{ dBm}$		2.8		mA
$I_{\text{TX,MINUS8dBm}}$	TX only run current $P_{\text{RF}} = -8 \text{ dBm}$		2.2		mA
$I_{\text{TX,MINUS12dBm}}$	TX only run current $P_{\text{RF}} = -12 \text{ dBm}$		1.9		mA
$I_{\text{TX,MINUS16dBm}}$	TX only run current $P_{\text{RF}} = -16 \text{ dBm}$		1.7		mA
$I_{\text{TX,MINUS40dBm}}$	TX only run current $P_{\text{RF}} = -40 \text{ dBm}$		1.2		mA
$I_{\text{START,TX}}$	TX start-up current, $P_{\text{RF}} = 4 \text{ dBm}$..		mA

11.13.3 Radio current consumption (Receiver)

Symbol	Description	Min.	Typ.	Max.	Units
$I_{\text{RX,1M}}$	RX only run current, 1 Mbps/1 Mbps Bluetooth LE mode		2.1		mA
$I_{\text{RX,2M}}$	RX only run current, 2 Mbps/2 Mbps Bluetooth LE mode		2.1		mA
$I_{\text{START,RX,1M}}$	RX start-up current, 1 Mbps/1 Mbps Bluetooth LE mode		1.6		mA