



Figure 179: Package dimensions in millimeters

	A	A1	A2	A3	A5	D	E	D2	E2	e	b	F	G
Min.	0.377	0.08	0.275		0.022						0.14		
Nom.	0.420		0.300	0.03	0.025	2.451	2.245	1.8	1.8	0.3		0.913	0.828
Max.	0.463	0.11	0.325		0.028						0.2		

Table 85: Package dimensions in millimeters

The CSP package uses WLCSP (Wafer Level Chip Scale Package) package technology.

## 10.3 Reference circuitry

To ensure good RF performance when designing PCBs, it is highly recommended to use the PCB layouts and component values provided by Nordic Semiconductor.

Documentation for the package reference circuits, including Altium Designer files, PCB layout files, and PCB production files can be downloaded from [www.nordicsemi.com](http://www.nordicsemi.com).

In this section, there are reference circuits for all product variants, showing the components and component values to support on-chip features in a design.

### 10.3.1 Circuit configuration 1 for QFN48 (QFAA)