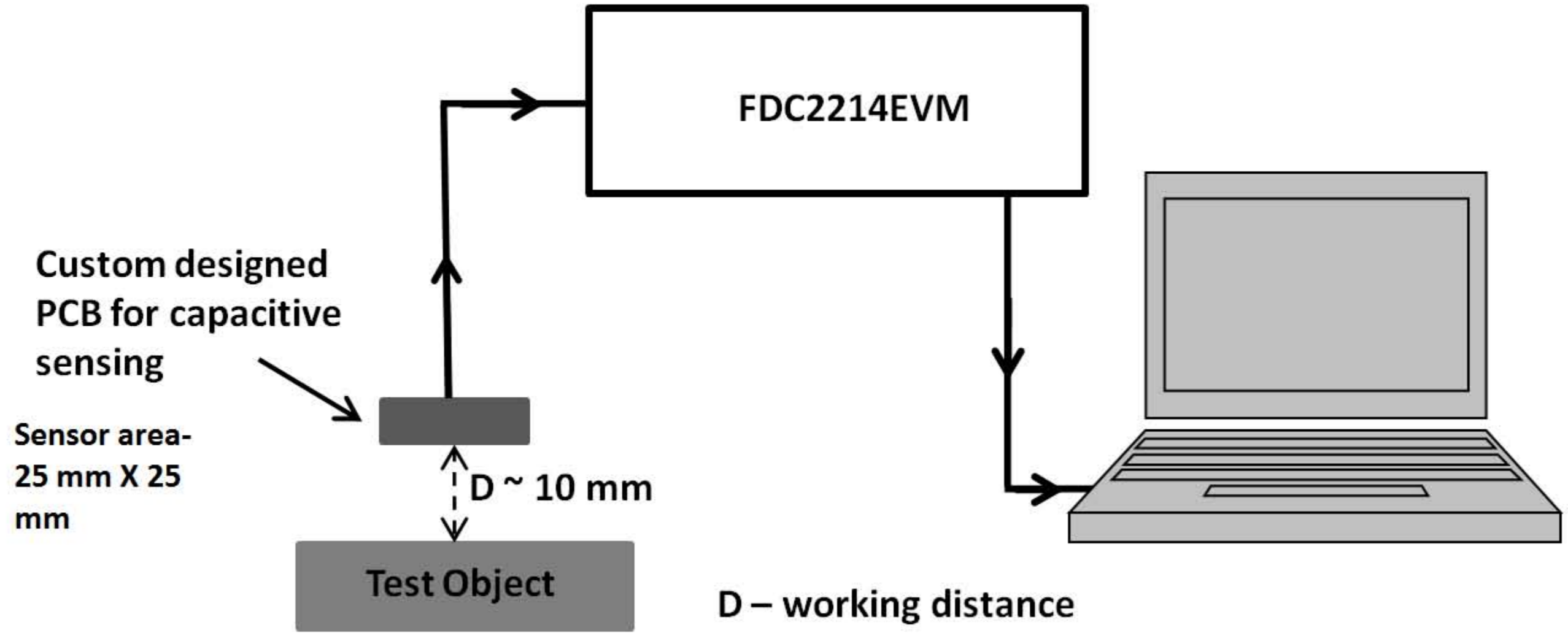


Basic scheme for capacitive sensor system using FDC2214EVM





Sensor Properties and Input Adjustments

Channel	Input Adjustments	Sensor Filter Bank		Measured Sensor Data					Calculated Sensor Data		
	F _{in} Select	Parallel Inductance (uH)	Parallel Capacitance (pF)	Raw Code	Saturated	Watchdog Timeout Error	Amplitude Warning	Input Deglitch Filter Incorrect	Frequency (MHz)	Total Capacitance (pF)	Sensor Capacitance (pF)
0	<input type="text" value="1"/>	<input type="text" value="18"/>	<input type="text" value="33"/>	34547676	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	5.148005	53.099430	20.099430
1	<input type="text" value="1"/>	<input type="text" value="18"/>	<input type="text" value="33"/>	34771299	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	5.181327	52.418634	19.418634
2	<input type="text" value="1"/>	<input type="text" value="18"/>	<input type="text" value="33"/>	0	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	0.000000	Infinity	Infinity
3	<input type="text" value="1"/>	<input type="text" value="18"/>	<input type="text" value="33"/>	0	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	0.000000	Infinity	Infinity

Input Deglitch Filter

Select the lowest setting that exceeds the oscillation tank oscillation frequency

- 1 MHz
- 3.3 MHz
- 10 MHz
- 33 MHz

Registers update rate (100ms minimum, use Data Streaming page for faster rates): ms

Measurement Settings



Channel Sequencing Mode

- Repeat single channel measurement
- Sequence channel measurements

Reference Clock Source

- Internal Oscillator (43.4 MHz Typical)
- External Oscillator MHz

Total Device Sampling Time

Sampling Time: 24.539 ms
 Samples/Second/Channel: 40.752

Measurement Timings

Channel	Enable	F _{ref}		Settle Count		Reference Count		Timing		ENOB _{max}
		Divider Code	Calculated (MHz)	Code	Time (us)	Code	Time (us)	Switching (us)	Sampling (us)	
0	<input checked="" type="checkbox"/>	<input type="text" value="1"/>	43.400	<input type="text" value="1024"/>	377.51	<input type="text" value="65535"/>	24160.46	0.80621	24538.78	21.0
1	<input type="checkbox"/>	<input type="text" value="1"/>	43.400	<input type="text" value="1024"/>	377.51	<input type="text" value="65535"/>	24160.46	0.80621	24538.78	21.0
2	<input type="checkbox"/>	<input type="text" value="1"/>	43.400	<input type="text" value="1024"/>	377.51	<input type="text" value="65535"/>	24160.46	0.80621	24538.78	21.0
3	<input type="checkbox"/>	<input type="text" value="1"/>	43.400	<input type="text" value="1024"/>	377.51	<input type="text" value="65535"/>	24160.46	0.80621	24538.78	21.0

Power Mode

- Enable Low Power Sensor Activation Mode (Recommended)
- Enable High Current Sensor Drive (ch0 only)
- Enable Sleep Mode

Sensor Initialization Current

Channel	I_{drive}		Detect I_{drive} Init	
	Code	Current (uA)	Code	Current (uA)
0	17	196		NaN
1	17	196		NaN
2	17	196		NaN
3	17	196		NaN

Power Mode

- Enable Low Power Sensor Activation Mode (Recommended)
- Enable High Current Sensor Drive (ch0 only)
- Enable Sleep Mode

Sensor Initialization Current

Channel	I_{drive}		Detect I_{drive} Init	
	Code	Current (μA)	Code	Current (μA)
0	17	196		NaN
1	17	196		NaN
2	17	196		NaN
3	17	196		NaN

Device Status



Error Channel: 0

- Conversion Under-range Error
- Conversion Over-range Error
- Watchdog Timeout Error
- Amplitude High Warning
- Amplitude Low Warning
- Zero Count Error
- Data Ready Flag
- Channel 0 Unread Conversion
- Channel 1 Unread Conversion
- Channel 2 Unread Conversion
- Channel 3 Unread Conversion

