# 5 mm

100 mm x 5 mm x 2 mm BC422 + AdvanSiD

| Run # | HV | CFD_th | Efficiency | σ_T(L-R) | σ_T([L+R]/2) |
|---|---|---|---|---|---|
| 6070 | 30V | -5 mV | 99.4 % ± 0.1 % | 179 ps | 90 ps |
| 6066 | 30 V | -10 mV | 99.4 % ± 0.1 % | 175 ps | 88 ps |
| 6067 | 30 V | -20 mV | 97.5 % ± 0.1 % | 169 ps | 85 ps |
| 6068 | 30 V | -30 mV | 88.9 % ± 0.1 % | 170 ps | 85 ps |
| 6069 | 30 V | -40 mV | 69.6 % ± 0.1 % | 174 ps | 87 ps |

100 mm x 5 mm x 2 mm BC420 + AdvanSiD

| Run # | HV | CFD_th | Efficiency | σ_T(L-R) | σ_T([L+R]/2) |
|---|---|---|---|---|---|
| 6071 | 30 V | -5 mV | 98.6 % ± 0.1 % | 169 ps | 85 ps |
| 6072 | 30 V | -10 mV | 98.8 % ± 0.1 % | 166 ps | 83 ps |
| 6073 | 30 V | -20 mV | 99.4 % ± 0.1 % | 161 ps | 81 ps |
| 6074 | 30 V | -30 mV | 99.4 % ± 0.1 % | 159 ps | 80 ps |
| 6075 | 30 V | -40 mV | 99.5 % ± 0.1 % | 157 ps | 79 ps |
| 6076 | 30 V | -50 mV | 99.3 % ± 0.1 % | 157 ps | 79 ps |
| 6077 | 30 V | -60 mV | 98.5 % ± 0.1 % | 156 ps | 78 ps |
| 6078 | 30 V | -70 mV | 96.6 % ± 0.1 % | 156 ps | 78 ps |

100 mm x 5 mm x 2 mm BC420 + S13360-3050PE

| Run # | HV | CFD_th | Efficiency | σ_T(L-R) | σ_T([L+R]/2) |
|---|---|---|---|---|---|
| 6093 | 55 V | -10 mV | 99.5 % ± 0.1 % | 172 ps | 86 ps |
| 6094 | 55 V | -20 mV | 99.6 % ± 0.1 % | 167 ps | 84 ps |
| 6095 | 55 V | -30 mV | 99.7 % ± 0.1 % | 161 ps | 81 ps |
| 6096 | 55 V | -40 mV | 99.7 % ± 0.1 % | 153 ps | 77 ps |
| 6097 | 55 V | -50 mV | 99.6 % ± 0.1 % | 166 ps | 83 ps |
| 6098 | 55 V | -60 mV | 99.2 % ± 0.1 % | 163 ps | 82 ps |
| 6099 | 55 V | -70 mV | 98.2 % ± 0.1 % | 162 ps | 81 ps |

- All measurements are done with 46-47 kHz in 2x2 mm²; CFD delay = 2 ns

## Comparison between December 2015, May 2016 and July 2016 runs

100 mm x 5 mm x 2 mm EJ204 + S12572-025C

| Date of measurement | Efficiency | RMS paddle resolution |
|---|---|---|
| Dec.2015 | 99.9 % ± 0.1 % | 86 ps |
| May.2016 | Not measured | 77 ps |
| July.2016 | Not measured | 80 ps |

100 mm x 5 mm x 2 mm BC422 + S13360-3050PE

| Date of measurement | Efficiency | RMS paddle resolution PSI_CFD | RMS paddle resolution MESYTEC_CFD |
|---|---|---|---|
| May.2016 | 99.4 % ± 0.1 % | 60 ps | |
| July.2016 | Not measured | 61 ps | 76 ps (very stable) |

100 mm x 5 mm x 2 mm EJ204 + AdvanSiD

| Date of measurement | Efficiency | RMS paddle resolution |
|---|---|---|
| Dec.2015 | 99.8 % ± 0.1 % | 94 ps |
| May.2016 | Not measured | 68 ps |
| October.2016 | MEASURE IT !!! | MEASURE IT !!! |

# Summary of 5 mm prototypes

| Detector | Efficiency | RMS paddle resolution |
|---|---|---|
| BC422 + S13360-3050PE | 99.4 % ± 0.1 % | 60 ps ± 0.1 ps |
| EJ204 + AdvanSiD | 99.8 % ± 0.1 % | 68 ps ± 0.1 ps * |
| BC420 + S13360-3050PE | 99.7 % ± 0.1 % | 77 ps ± 0.1 ps |
| BC420 + AdvanSiD | 99.5 % ± 0.1 % | 79 ps ± 0.1 ps |
| EJ204 + S12572-025C | 99.9 % ± 0.1 % | 80 ps ± 0.1 ps |
| BC422 + AdvanSiD | 99.4 % ± 0.1 % | 88 ps ± 0.1 ps |
| BC422 + S13360-3025PE | 99.5 % ± 0.1 % | 94 ps ± 0.1 ps |
| BC422 + S12572-025P | 99.8 % ± 0.1 % | 99 ps ± 0.2 ps ** |

*Was 94 ps in Dec.2015. Should be re-measured again in October.2016

** Strange. Re-measure it!

- All measurements are done with 46-47 kHz in 2x2 mm²; CFD delay = 2 ns