**Basis for the production quantity for the FPHX chips and FVTX sensors**

FPHX Chip –

Required: (26x48x6) + (10x48x2) = 8,448 chips installed

Assume 10% spares: 845 chips

Required with spares: ~9300 chips

Chip/wafer estimate from Ray (2007): 1088 chips/wafer (approximately 85% reticle-to-wafer area)

Initial minimum production wafer guarantee: 10 wafers, 10,880 chips

Assume 80% yield: 8704 usable chips, 3% spares

Assume 85% yield, 9248 usable chips, 9.5% spares

Assume 90% yield: 9792 usable chips, 16% spares

Discussion points

* Active reticle to wafer area needs to be revisited. 85% seems low.
* Chip area needs to be updated to currently known dimensions.
* After the initial production order, the minimum additional order is 5 wafers. That is why I have quoted 10-15 wafers, depending on yield, in my previous presentations.

FVTX sensor –

Required large wedge: (48x6) = 288 sensors

Assume ~15% spares: 42 sensors

Required with spares: 330 sensors

Required small wedge: (48x2) = 96 sensors

Assume ~15% spares: 15 sensors (historical discussions among FVTX’ers thought this too few, so increased to 24 spares)

Required with spares: 120 sensors