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| **Test Date** | May. 3-6, 2013 |
| **Author(S)** | Liyuan Zhang, Margot Phelps, GariLynn Billingsley |
| **Approval(s)** |  |
| **Specification Doc.** | LIGO-E0900068 | Specification | Not specified in LIGO-E0900068 |
| **Procedure Doc.** | LIGO-E1000863 |
| **1st Scan (Mean ± Error\*)** | 8.8 ± 2 ppm |
| **2nd Scan (Mean ± Error\*)** | 9.3 ± 2 ppm |
| **Conclusion** | Qualified. |

\*An estimated systematic error from previous multiple measurements with one LIGO-1 mirror.

**Discussions and Comments:**

 **Two TIS scans are carried out. One is of full coverage over central 48 mm in diameter with the beam and step sizes of 0.3 mm and other a sampling scan over central 160 mm in diameter with the same beam size and a step of 1.0 mm, as shown in Figs. 1 and 2 respectively.**

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**Fig. 1 ETM09 TIS full coverage scan over central 48 mm diameter aperture.**

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**Fig. 2 ETM09 TIS sampling scan over central 160 mm diameter aperture.**