



## Reliability Report

Revision: 1.0  
Date: 2005.08.25

### Preliminary Reliability Analysis Report

#### Focused on MTBF calculation

**Preliminary**  
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### Description:

Preliminary reliability prediction (MTBF Calculation) methodologies leveled from devices to system by using BellCore Issue 6 called Technical Reference 332.

- 1) Device: There several methods to predict and electronic device in BellCore Issue 6 (TR-332) but this document is based on Case-3 of Method-I Part Count when device specification is available. And the other case, this document uses generic reliability data such as EPRD97 or NPRD95
- 2) Assembly: Assembly steady-state failure rate prediction is computed as the sum of the device failure rate prediction for all devices in the assembly and multiplied by the assembly environmental factor.
- 3) System: With the specified reliability parameters, failure criteria, equipment configuration, and operating conditions, the total system failure rate can be calculated as the sum of the assembly failure rates.

### Unit of The Parameters

- 1) Failure rate = ( failure frequencies /  $10^6$  hour )
- 2) MTBF (Mean Time Between Failure): In fact, this system is assumed that all devices and assembly is not repairable. Normal usage of MTBF has a meaning to cover every specific case.

$$\text{MTBF} = 1 / \text{failure rate.}$$

### Preliminary reliability Prediction Result

Product Name : 3'rd Generation Smart Dome Camera  
Model Name : SCC-C6405  
Environment : GB, GC – Ground Benign, Controlled  
Temperature : 30

**Failure Rate** :  $11 \times 10^{-6}$   
**MTBF** : 90,979 hours