Preliminary Reliability Analysis Report
Focused on MTBF calculation

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Description:

Preliminary reliability prediction (MTBF Calculation) methodologies leveled from devices to system by using Telcordia Issue 1 called SR-332.

1) Device: There several methods to predict and electronic device in Telcordia Issue 1 (SR-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.

   MTBF = 1 / failure rate.

Preliminary reliability Prediction Result

Environment : GB, GC – Ground Benign, Controlled
Temperature : 25 ℃

Digital Video Recorder :

MTBF [hours]

MODEL	MTBF	Failure Rate	Product feature	Remark
HRD-1642	268,385	3.73×10^{-6}	16CH 4M AHD Digital Video Recorder	