



# MTBF Test Report

Tested Model	15.6" cMT X Series models
Quantity of Tested Samples	10 units
Test Duration	1,000 hours
Test Date	2023.03.22~2023.05.16
Test Condition	temperature : 50°C, humidity : 90%
MTBF	99,000 hours
Included Models	cMT2166X, cMT3162X

1. The MTBF formula is : 
$$MTBF = \frac{1}{\lambda} = \frac{2 * tp * AF}{X^2(\alpha, \beta)}$$

2. Parameter Description :

$\lambda$	Steady State Failure Rate
tp	Total Test Time
AF	Acceleration Factor
$X^2(\alpha, \beta)$	Non-Central Chi-Squared Distribution Function

3. Calculated Parameter Value :

Confidence Level	90%
AF	42.02
tp	9,141 hours
$X^2(\alpha, \beta)$	7.779

4. Test Result :

$$MTBF = 2 * 9141 * 42.02 / 7.779 \doteq 98,754 \text{ hours}$$

$$\doteq 99,000 \text{ hours}$$

Test Dept.	QA Dept.	Test Engineer	Smile	Approved By	Tachi
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