PMC - Gage Repeatability and Reproducibility Report

Part Number & Name:_____ Gage Name:_____ Date:

Characteristic:_____ Gage Number:_____ Performed By:

Specification:_____ Comments:

From Data Sheet: R = _____ $X_{Diff.}$ = _____ Tolerance =

Measurement Unit Analysis

Repeatability - Equipment Variation (E.V.)

E.V. = (R) x (K_1)

Trials	2	3
K_1	4.56	3.05

= ( ) x ( ) =

Reproducibility - Appraiser Variation (A.V.)

A.V. = ($X_{Diff.}$) x (K_2)

Operators	2	3
K_2	3.63	2.70

= ( ) x ( ) =

Repeatability and Reproducibility (R&R)

R&R = / (E.V.)^2 + (A.V.)^2

= / ( )^2 + ( )^2 =

Note: The R&R value represents 5.15σ.
(99.0% of the area under the normal curve).

% Tolerance Analysis

% E.V = 100 {(E.V.) / (Tolerance)}
= 100 {( ) / ( )}

= _____ %

% A.V = 100 {(A.V.) / (Tolerance)}
= 100 {( ) / ( )}

= _____ %

%R & R = / (E.V.)^2 + (%A.V.)^2
= / ( )^2 + ( )^2

= _____ %