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Mechanical Engineering Division
May 7, 2010

SUMMARY OF TESTS PERFORMED

Project Number: 18.04481.18.101

Company: Panasonic Computer Solutions Company
Three Panasonic Way, 2F-12
Secaucus, NJ 07094
Attn: Angela MacNeill

Equipment Tested: Panasonic CF-31

Test Dates: April 2010 – May 2010

Notes: *The test item was evaluated for ability to boot into the Microsoft Windows® XP operating system following each of the tests described within this summary report or for the ability to play an audio/visual file during the test parameter application. A listing of summarized tests and results appear in the accompanying table. Full details will be provided in Report Number 18.04481.18.100.FR1.*

Report Written By:



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Principal Engineer
Structural Dynamics and Product Assurance Section

Summary of Tests Performed on the Panasonic CF-31

Test Description	Test Parameters	Test Results
Altitude: Storage/Air Transport	MIL-STD-810G, Method 500.5, Procedure I <ul style="list-style-type: none"> 15,000ft Non-Operating 	Pass
Altitude: Operation/Air Carriage	MIL-STD-810G, Method 500.5, Procedure II <ul style="list-style-type: none"> 15,000ft Operating 	Pass
High Temperature: Storage	MIL-STD-810G, Method 501.5, Procedure I <ul style="list-style-type: none"> 160°F Non-Operating 	Pass
High Temperature: Operation	MIL-STD-810G, Method 501.5, Procedure II <ul style="list-style-type: none"> 140°F Operating 	Pass
High Temperature: Tactical–Standby to Operational	MIL-STD-810G, Method 501.5, Procedure III <ul style="list-style-type: none"> High storage (non-operating) to high operating (test for operation) Test results are for battery operation 	Pass
Low Temperature: Storage	MIL-STD-810G, Method 502.5, Procedure I <ul style="list-style-type: none"> -60°F Non-Operating 	Pass
Low Temperature: Operation	MIL-STD-810G, Method 502.5, Procedure II <ul style="list-style-type: none"> -20°F Operating 	Pass
Temperature Shock	MIL-STD-810G, Method 503.5, Procedure I <ul style="list-style-type: none"> From 200°F to -60°F, three cycles 	Pass
Rain: Blowing	MIL-STD-810G, Method 506.5, Procedure I <ul style="list-style-type: none"> 5.8in/hr rain, 70mph wind, 30 minutes per surface Unit operating 	Pass
Rain: Drip	MIL-STD-810G, Method 506.5, Procedure III <ul style="list-style-type: none"> 15 minute exposure, drip test 	Pass
Humidity	MIL-STD-810G, Method 507.5, Procedure II (Aggravated) <ul style="list-style-type: none"> Temp. cycles 86°F to 140°F; 95%RH 	Pass
Sand and Dust: Dust	MIL-STD-810G, Method 510.5, Procedure I <ul style="list-style-type: none"> Blowing Dust (operating) Operating temperature of 140°F 	Pass
Sand and Dust: Sand	MIL-STD-810G, Method 510.5, Procedure II <ul style="list-style-type: none"> Blowing Sand (operating) Operating temperature of 140°F 	Pass
Explosive Atmosphere	MIL-STD-810G, Method 511.5, Procedure I	Pass
Vibration: General Vibration – operating	MIL-STD-810G, Method 514.6, Procedure I (Transportation) <ul style="list-style-type: none"> Panasonic provided conditions (operating) 	Pass
Vibration: General Vibration – non-operating	MIL-STD-810G, Method 514.6, Procedure I (Transportation) <ul style="list-style-type: none"> Category 24, General minimal integrity (non-operating) 	Pass
Shock: Functional	MIL-STD-810G, Method 516.6, Procedure I <ul style="list-style-type: none"> 40g, 11ms Operating 	Pass

Test Description	Test Parameters	Test Results
Shock: Transit-Drop 48-inch	MIL-STD-810G, Method 516.6, Procedure IV <ul style="list-style-type: none"> • 26 drops – 48in height on to 2in plywood – non operating • All drops performed on the same unit 	Pass
Shock: Transit-Drop 60-inch	MIL-STD-810G, Method 516.6, Procedure IV <ul style="list-style-type: none"> • 26 drops – 60in height on to 2in plywood – non operating • All drops performed on the same unit that was also subjected to all 48in drops 	Pass
Shock: Transit-Drop 72-inch	MIL-STD-810G, Method 516.6, Procedure IV <ul style="list-style-type: none"> • 26 drops – 72in height on to 2in plywood – non operating • All drops performed on the same unit that was also subjected to all 48in and all 60in drops 	Pass
Freeze / Thaw	MIL-STD-810G, Method 524, Procedure III (Rapid Temperature Change) <ul style="list-style-type: none"> • Test effects include condensation 	Pass

ⁱ One test unit successfully passed the following tests in the sequence listed:

- High Temperature: Tactical–Standby to Operational
- Shock: Transit-Drop, 48-inch
- Shock: Transit –Drop, 60-inch
- Shock: Transit Drop, 72-inch
- Rain: Drip
- Sand and Dust: Dust
- Sand and Dust: Sand