Testing is performed at an internationally recognized, independent research, engineering and evaluation laboratory who by contractual agreement with their clients does not allow the use of their name or logo because doing so may imply an endorsement of products or services. For this reason, all references to said independent third party lab have been removed. Should you require the full unedited version, please contact the company identified below.

September 6, 2017

SUMMARY OF TESTS PERFORMED

Project Number: 18.04481.37
18.04481.38 (Vibration, Category 24)

Company: Panasonic System Communications Company
Two Riverfront Plaza
Newark, NJ 07102
Attn: Pala Vachirabanjong

Equipment Tested: Panasonic CF-33 Tablet with Premium & Lite Keyboards

Test Dates: April 17, 2017 – June 2, 2017
August 24-25, 2017 (Vibration, Category 24)

The Panasonic CF-33 was tested at an independent third-party lab for compliance to requirements of selected tests from MIL-STD-810G, Change 1. The change notice for version G incorporates minor updates and clarifications to the earlier edition. The primary emphases are still the same; however, for the tests performed, the method numbers have incremented by .1 and the new numbering is reflected in this report. For each test, the Panasonic CF-33 tablet was tested attached to the Premium keyboard as well as the Lite keyboard. Where noted, certain tests were also performed on the standalone tablet without any keyboard attached. Following each of the tests described within this summary, the test item was evaluated for its ability to boot into the Windows® operating system or to play an audio/visual file during the test parameter application. Results of the testing performed are summarized in the matrix below.

This summary is provided for review while the final report is in progress, and is not intended to be a stand-alone document. Detailed descriptions of all tests and evaluations performed are provided in Test Report 18.04481.37.100.FR1, Issue 1.

Project Manager: 

Eric Dornes
Principal Engineer
Structural Dynamics and Product Assurance
Mechanical Engineering Division

Summary of MIL-STD-810G Change 1 Tests Performed on the Panasonic CF-33

Test Description	Method & Procedure	Parameters	Test Results
Altitude: Storage/Air Transport	Method 500.6 Procedure I	50,000ft Non-Operating	PASS
Altitude: Operation/Air Carriage	Method 500.6 Procedure II	50,000ft Operating	PASS
High Temperature: Storage	Method 501.6 Procedure I	160°F Non-Operating, 7 days	PASS
High Temperature: Operation	Method 501.6 Procedure II (constant)	145°F Operating	PASS
High Temperature: Tactical – Standby to Operational	Method 501.6 Procedure III	160°F Standby 145°F Operating	PASS
Low Temperature: Storage	Method 502.6 Procedure I	-60°F Non-Operating	PASS
Low Temperature: Operation	Method 502.6 Procedure II	-20°F Operating on Batteries -25°F Operating with AC Adapter	PASS
Temperature Shock	Method 503.6 Procedure I	From 200°F to -60°F, three cycles	PASS
Contamination by Fluids	Method 504.2 Procedure II	Testing performed on CF-33 with both types of keyboards as well as tablet portion only	PASS
Solar Radiation	Method 505.6 Procedure I	Cyclic heat, 7 days	PASS
Rain: Blowing	Method 506.6 Procedure I (Aggravated)	70MPH, 30 minutes per applicable side	PASS
Rain: Drip	Method 506.6 Procedure III	See Specification	PASS
Humidity	Method 507.6 Procedure I	Cycle B3 for normal test duration of natural or induced cycles (15 days)	PASS
Humidity	Method 507.6 Procedure II (Aggravated)	Temp. cycles 86°F to 140°F; 95%RH	PASS
Sand and Dust: Blowing Dust	Method 510.6 Procedure I	Dust concentration of $0.3\pm0.2 g/ft^3$; Op temp of 140°F; Testing performed on an entire CF-33 with both types of keyboards as well as the tablet portion only	PASS
Sand and Dust: Blowing Sand	Method 510.6 Procedure II	Sand concentration of $0.06\pm0.015 g/ft^3$; Op temp of 140°F; Testing performed on an entire CF-33 with both types of keyboards as well as the tablet portion only	PASS
Explosive Atmosphere	Method 511.6 Procedure I	See Specification	PASS

Test Description	Method & Procedure	Parameters	Test Results
Vibration: General Vibration – operating	Method 514.7 Procedure I (Transportation)	Category 4, Typical mission/field transportation scenario. Category 20, Ground vehicles – Ground mobile, Composite wheeled vehicles	PASS
Vibration: General Vibration – non-operating	Method 514.7 Procedure I (Supplemental)	Category 24, Minimum integrity test	PASS
Vibration: General Vibration – non-operating	Method 514.7 Procedure II (Transportation)	Category 5, Loose cargo	PASS
Shock: Functional	Method 516.7 Procedure I	40g, 11ms - Operating	PASS
Shock: Transit-Drop 36-inch	Method 516.7 Procedure IV	26 drops from 36-in. height onto 2-in. plywood while operating, laptop mode (tablet with Lite keyboard). All drops performed on the same unit.	PASS
Shock: Transit-Drop 48-inch	Method 516.7 Procedure IV	26 drops from 48-in. height onto 2-in. plywood while operating, laptop mode (tablet with Premium keyboard). All drops performed on the same unit. 26 drops from 48-in. height onto 2-in. plywood while operating, tablet mode (tablet only). All drops performed on the same unit.	PASS
Shock: Transit-Drop 60-inch	Method 516.7 Procedure IV	26 drops from 60-in. height onto 2-in. plywood while operating, laptop mode (tablet with Premium keyboard). All drops performed on the same unit. The drop heights of 48-in. and 60-in. laptop mode were performed on the same unit. 26 drops from 60-in. height onto 2-in. plywood while operating, tablet mode (tablet only). All drops performed on the same unit. The drop heights of 48-in. and 60-in. tablet mode were performed on the same unit.	PASS
Shock: Bench Handling	Method 516.7 Procedure VI	See specification	PASS
Freeze/Thaw	Method 524.1 Procedure III	See Specification	PASS