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September 1, 2017

## **SUMMARY OF TESTS PERFORMED**

**Project Number:** 18.04481.31  
18.04481.38 (Vibration, Category 24)


**Company:** Panasonic System Communications Company  
Two Riverfront Plaza  
Newark, NJ 07102  
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**Equipment Tested:** Panasonic CF-20

**Test Dates:** May 5, 2016 – June 22, 2016  
August 24-25, 2017 (Vibration, Category 24)

The Panasonic CF-20 was tested at an independent third-party lab for compliance to requirements of selected tests from MIL-STD-810G. 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 18.04481.31.100.FR1, Issue 3.

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The results of this test summary apply only to the specific samples tested. If the manufacturer extends the test results to apply to other samples of the same model, or from the same lot or batch, the manufacturer should ensure the additional samples are manufactured using identical electrical and mechanical components.

**Summary of MIL-STD-810G Tests Performed on the Panasonic CF-20**

<b>Test Description</b>	<b>Method &amp; Procedure</b>	<b>Parameters</b>	<b>Test Results</b>
Altitude: Storage/Air Transport	Method 500.5 Procedure I	50,000ft Non-Operating	PASS
Altitude: Operation/Air Carriage	Method 500.5 Procedure II	50,000ft Operating	PASS
High Temperature: Storage	Method 501.5 Procedure I	160°F Non-Operating, 7 days	PASS
High Temperature: Operation	Method 501.5 Procedure II (constant)	145°F Operating	PASS
High Temperature: Tactical – Standby to Operational	Method 501.5 Procedure III	160°F Standby 145°F Operating	PASS
Low Temperature: Storage	Method 502.5 Procedure I	-60°F Non-Operating	PASS
Low Temperature: Operation	Method 502.5 Procedure II	-20°F Operating	PASS
Temperature Shock	Method 503.5 Procedure I	From 200°F to -60°F, three cycles	PASS
Solar Radiation	Method 505.5 Procedure I	Cyclic heat, 7 days	PASS
Rain: Blowing	Method 506.5 Procedure I (Aggravated)	70MPH, 30 minutes per side	PASS
Rain: Drip	Method 506.5 Procedure III	See Specification	PASS
Humidity	Method 507.5 Procedure I	Cycle B3 for normal test duration of natural or induced cycles (15 days)	PASS
Humidity	Method 507.5 Procedure II (Aggravated)	Temp. cycles 86°F to 140°F; 95%RH	PASS
Salt Fog	Method 509.5 Procedure I	Testing performed on an entire CF-20 as well as the tablet portion only	PASS
Sand and Dust: Blowing Dust	Method 510.5 Procedure I	Dust concentration of 0.3±0.2g/ft <sup>3</sup> ; Op temp of 140°F; Testing performed on an entire CF-20 as well as the tablet portion only	PASS
Sand and Dust: Blowing Sand	Method 510.5 Procedure II	Sand concentration of 0.06±0.015g/ft <sup>3</sup> ; Op temp of 140°F; Testing performed on an entire CF-20 as well as the tablet portion only	PASS
Explosive Atmosphere	Method 511.5 Procedure I	See Specification	PASS
Vibration: General Vibration – operating	Method 514.6 Procedure I (Transportation)	Category 4, Typical mission/field transportation scenario.  Category 20, Ground vehicles – Ground mobile, Composite wheeled vehicles	PASS

Test Description	Method & Procedure	Parameters	Test Results
Vibration: General Vibration – non-operating	Method 514.6 Procedure I (Supplemental)	Category 24, Minimum integrity test	PASS
Vibration: General Vibration – non-operating	Method 514.6 Procedure II (Transportation)	Category 5, Loose cargo	PASS
Shock: Functional	Method 516.6 Procedure I	40g, 11ms - Operating	PASS
Shock: Transit-Drop 36-inch <sup>1</sup>	Method 516.6 Procedure IV	26 drops from 36-in. height onto 2- in. plywood while operating. All drops performed on the same unit.	PASS
Shock: Transit-Drop 48-inch <sup>1</sup>	Method 516.6 Procedure IV	26 drops from 48-in. height onto 2- in. plywood while operating. All drops performed on the same unit.	PASS
Shock: Transit-Drop 60-inch <sup>1</sup>	Method 516.6 Procedure IV	26 drops from 60-in. height onto 2- in. plywood while operating. All drops performed on the same unit.	PASS
Freeze/Thaw	Method 524 Procedure III	See Specification	PASS

Note<sup>1</sup>: The drop heights of 36-in. and 48-in. were performed on the same CF-20 unit. The drop height of 48-in. was performed on an entire CF-20 unit as well as the CF-20 tablet-only portion. The drop heights of 48-in. and 60-in. were performed on the same CF-20 tablet-only portion.