

## Toughbook CF-19

Panasonic Marketing Europe GmbH  
Panasonic Computer Products Europe (PCPE)

**TOUGHBOOK**

**Panasonic** ideas for life



- **Intel® Santa Rosa Platform**
- **Touchscreen or Digitizer**
- **Convertible Display**
- **Serial Interface**
- **up to 550 candela**
- **Fanless**
- **stable USB Ports**



- **Water & Dust Resistant (IP54)**
- **90cm drop**
- **-20° - +60° Celsius usable**
- **HSDPA capable (Option)**
- **GPS capable (Option)**

## Full Rugged

### Water

**IPx4  
810F (506.4)**



- Water Flow: 10 l/Min
- Spray Direction: +/- 180 Degrees
- Spray Distance: 200mm (max)
- Duration: 1 Min/m<sup>2</sup>, 5 Min (min)

### Dust

**IP5x  
810F (510.4)**



Operating temperature of 60°C and silica flour

### Vibration

**810F (514.5)  
Procedure I,  
Category 24**



On and OFF 0.04 g<sup>2</sup>/Hz at 20-1000 Hz, -6 dB/Octave at 1000-2000 Hz, 1 hour/axis duration

### Drop

**810F (516.5)  
Procedure IV**

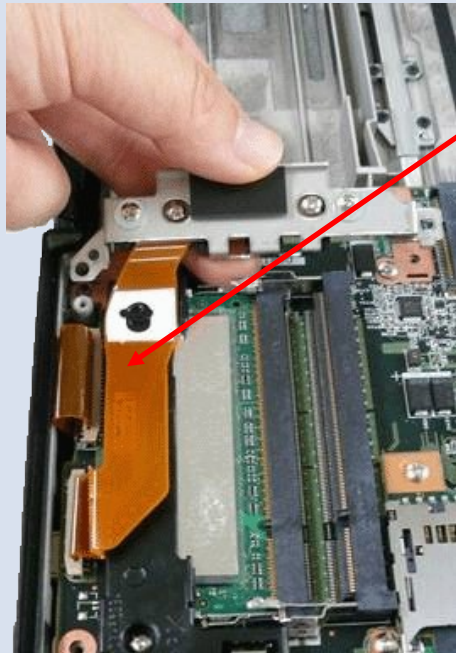


90cm drop height onto 5cm of wood, 26 drops total, CF-08 120cm drop

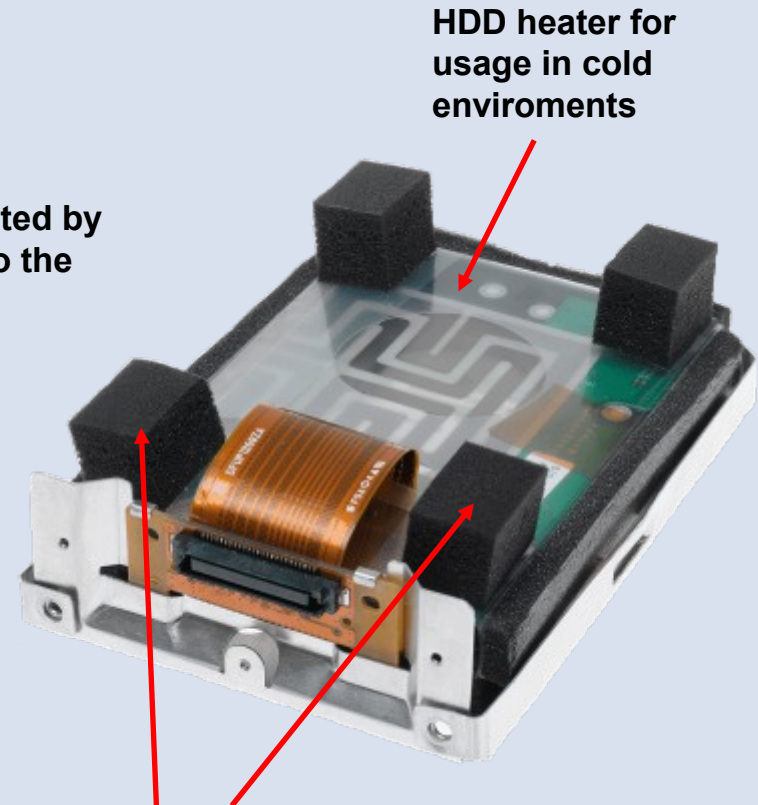
## Full Rugged (other Tests)

Test Description	Test Parameters	MIL-STD-810F Reference	Result
<b>Altitude</b>	15,000 feet two hours duration for both operation and storage conditions	Method 500.4,	<b>Pass</b>
<b>High Temperature</b>	Storage temperature = 70°C, Operation temperature = 60°C	Method 501.4,	<b>Pass</b>
<b>Low Temperature</b>	Operation temperature = -30°C, Storage temperature = -50°C	Method 502.4,	<b>Pass</b>
<b>Temperature Shock</b>	High non-operating temperature = 90°C, Low non-operating temperature = -60°C, Three cycles (high to low = one cycle)	Method 503.4, Procedure I (Steady State)	<b>Pass</b>
<b>Humidity</b>	The temperature cycled between 20°C and 60°C with the relative humidity maintained at 95%. Each cycle is 48 hours and the entire test consisted of 5 cycles. The computers were non-operational during the test. A functional check was performed every 24 hours	Method 507.4 (Aggravated)	<b>Pass</b>

## New reliable Technology



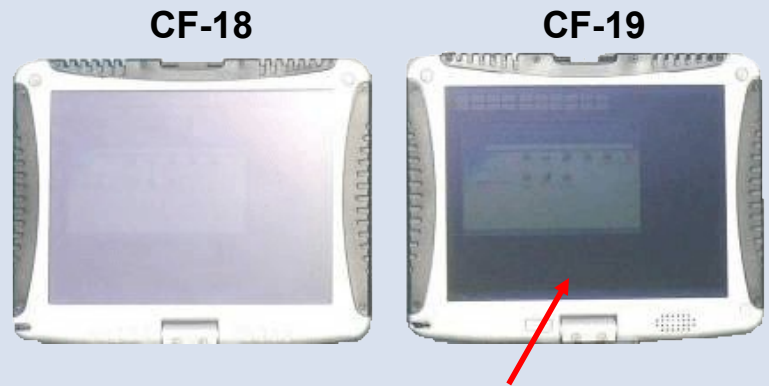
Battery connected by flexible cable to the Mainboard



HDD heater for usage in cold environments

Special Sponges to avoid HDD damage when dropped

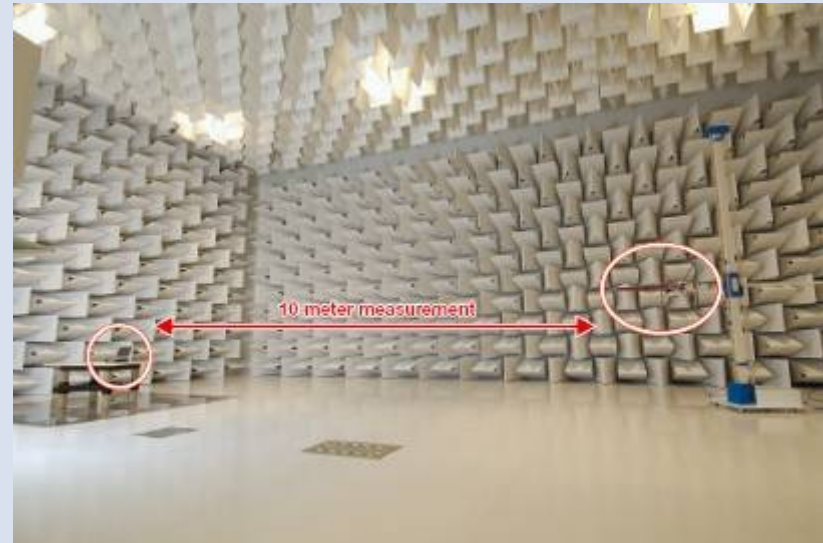
## New Display Technology



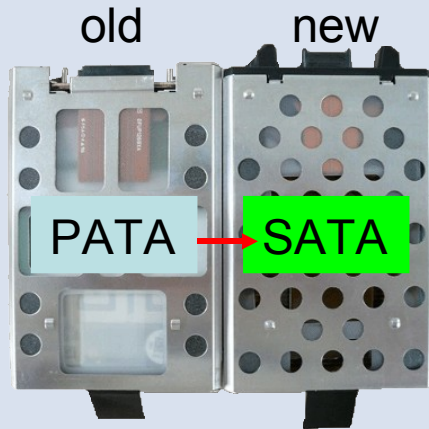
**Circular Polarizing Film**

**Reflection Ratio**    **CF-18: 11% => CF-19: 3%**

## Antenna Technology



## New Interface Technology

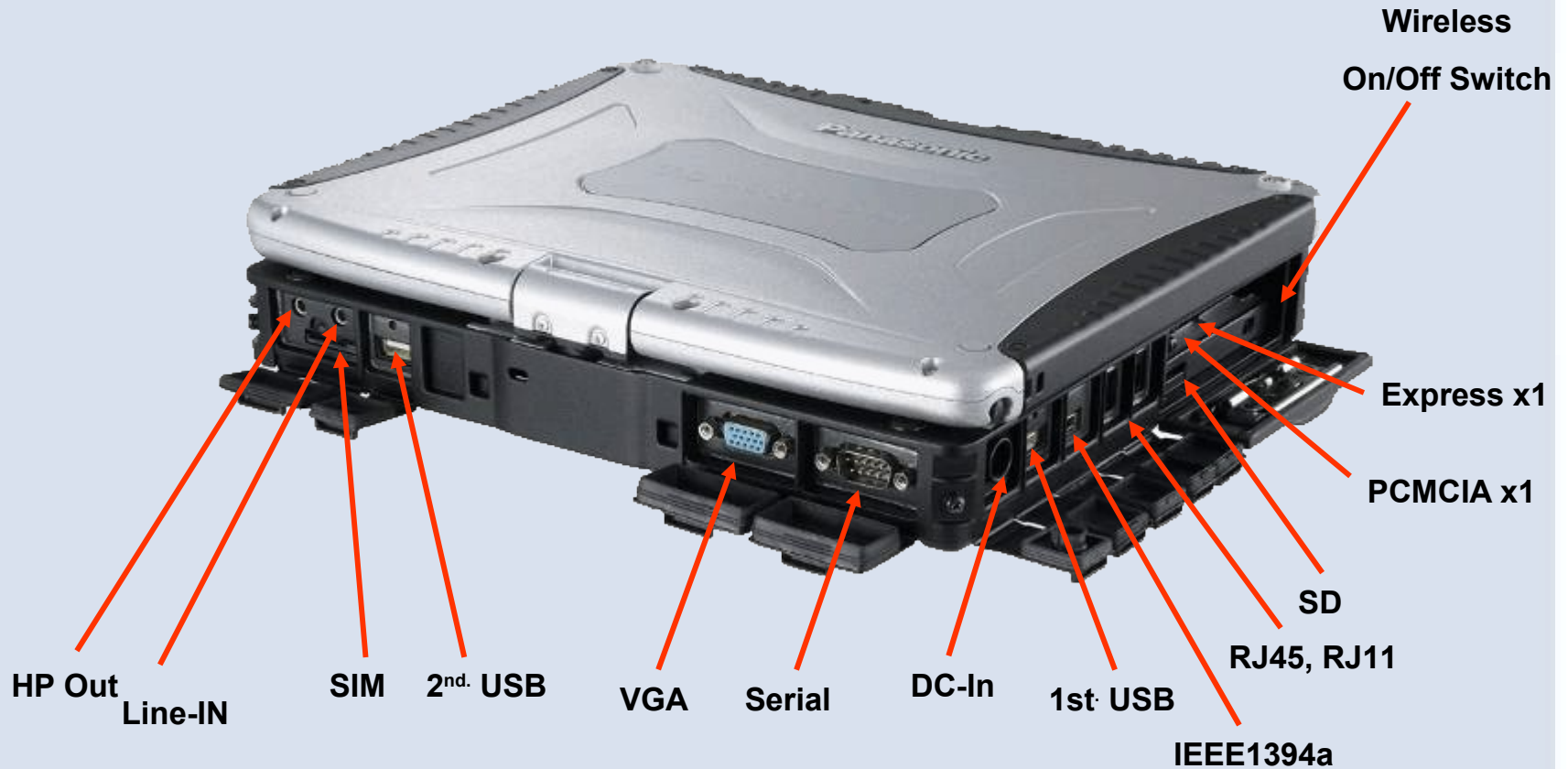


Express Card /34 /54



IEEE 1394a (Firewire)

## Interfaces CF-19



## Evolution CF-19

CF-18



WWAN Easy Configuration

CF-19



DIMM Cover


CF-19



## Product Specifications CF-19

<b>Processor</b>	Core 2 Duo ULV U7500 (1.06GHz)
<b>RAM</b>	1GB/max. 4GB
<b>HDD</b>	80GB (shock mounted)
<b>Bluetooth</b>	V2.0 + EDR
<b>LAN</b>	10/100/1000 MBit Ethernet
<b>W-LAN</b>	802.11 a/b/g (up to 54MBit)
<b>WWAN</b>	HSDPA <b>optional</b> (3.6Mbps)
<b>GPS</b>	<b>optional</b>
<b>Fingerprint</b>	<b>optional</b>
<b>Interfaces</b>	Serial, 2x USB, IEEE 13394a (Firewire), Port Replicator, external antenna
<b>Display</b>	10.4" XGA (460cd TS, 550cd Digitizer)
<b>Keyboard</b>	82 keys
<b>Battery Life</b>	8 hours (JEITA)
<b>Cabinet</b>	Full Magnesium alloy
<b>Ruggedness</b>	Fully Rugged
<b>Dimensions</b>	271mm x 49mm x 216mm
<b>Weight</b>	2.3kg
<b>Operating System</b>	Microsoft Windows XP Pro (TS), Windows XP Tablet PC (Digitizer) or Vista Business

## CF-19 ATEX (Project Model)

CE  II3G Ex nA nL IIB T3  
TÜV 07 ATEX 7447 X

**II:** Surface Industry (no mining)

**3:** Zone 2

**G:** Object = Gas

**EX nA nL:** Type of Equipment = No incenclive Equipment

**IIB:** Explosion Group (CF-18 was IIC)

[Typical type of Gases: Ethylene, Acetadehyde, Butadiene, Formaldehyde,  
etc.]

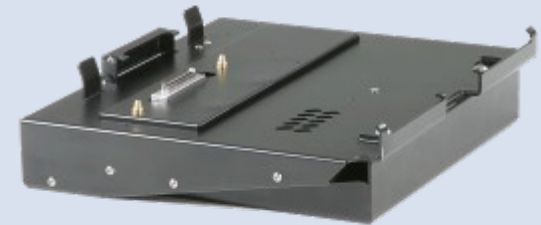
**T3:** Temperature Class (200°C)



## Docking Solutions



**Car Mounter**



**Port Replicator**

512MB/1GB/2GB RAM Module

AC Adaptor

Battery Pack

Car Charger

Stylus Pen

External Combo Drive (USB)

External FDD (USB)

Extended USB Connector

