**MARKETS**

**AEROSPACE**
- Impact damage
- Lightning strikes CFRP
- Bond inspection in CFRP or multi-materials such as CFRP and aluminium
- Drilled hole CFRP

**AUTOMOTIVE**
- Inspection impact damage CFRP
- Adhesive Joints with carbon, steel, aluminium, multi-materials and multilayers
- Bond inspection in CFRP & multi-materials such as CFRP/aluminium

**MARINE**
- Impact damage
- Lightning strikes CFRP
- Bond inspection in CFRP
- Air holes in coating: CFRP

**WIND ENERGY**
- CFRP/CFRP inspection, corrosion mapping, crack- or void-detection
- Debonding and delamination in pipes and laminates

**OIL & GAS**
- Debonding multilayer structures
- Friction/HDPE welds void detection

**PIPE & WELD INSPECTIONS**
- Bond inspection in CFRP & multi-material (ex: CFRP/aluminium)
- Drilled hole CFRP, Corrosion inspection in pipes and laminates
- Cracks and voids in metals (titan, aluminium, steel, etc)

**PRODUCTION**

**THE DOLPHICAM2 PLATFORM**

Ultrasound Imaging platform for NDT

**MATERIAL INSPECTION CAPABILITIES:**
- METALS | CFRP | GFRP | GLARE

**INSPECTION DEPT:** up to 60mm*

**FULL MATRIX CAPTURE (FMC)**
- Frequency range: 0.5 – 15MHz
- Transducer arrays: 128 x 128
- Transducer elements: 16 384
- TRM dimensions: 40 mm x 40 mm
- Element Pitch: 250 µm (10 mils)

**SCANS/VISUALISATION-MODES**
- VIEW: A-scan, B-scan, C-scan [2D], or 3D
- OPTIONS: Amplitude or Time-of-Flight

**Real-time visualisation**

**LARGE AREA STITCHING**

**PLATFORM WEIGHT:** 3.0 kg / 7 lbs.

**MADE IN NORWAY**

DolphiCam2 is developed and manufactured in Norway by Dolphitech AS. We work with a global network of partners to deliver the most innovative and feature-rich NDT platform on the market.

*This is material dependent
## Technical Specification

### Physical
- **Total Weight**: 3045 grams (6.7 lbs.)
- **Transducer Module (TRM)**:
  - 265 grams (0.58 lbs.)
  - 84 x 40 x 40 mm (3.3 x 1.57 x 1.57"
- **Black Box**:
  - 985 grams (2.167 lbs.)
  - 200 x 130 x 32 mm (7.87 x 5.12 x 1.26"

### Toughpad FZ-G1
- **Display**: Touch screen – 10.1" (1920 x 1200)
- **OS & Software**: Windows 10 – dolphincam2 Software installed
- **CPU, Storage, RAM**: Intel i5, 256GB SSD, 8GB RAM

### Black Box Power
- **Power Supply**: Battery/charger (12V DC)
- **Battery Specification**: Rechargeable Li-ion battery pack (7.2V 6.7Ah)
- **Battery Life**: 5-6 hours of continuous scanning

### Connectivity & IO
- **Communication**: USB C 3.0, USB A 2.0, Ethernet
- **Transducer Ports**: 2 x Quadrature Encoder & GPIO (General Purpose In/Out)
- **DSUB-9 (for X-Y scanning)**
- **Notifications**: Audio Buzzer

### Environmental
- **Operating Temperature**: 0˚C to +40˚C (32˚F to 104˚F)
- **Operating Temp with Degrading**: -20˚C to +50˚C (-4˚F to 122˚F)
- **Storage Temperature**: -20˚C to 65˚C (-4˚F to 149˚F)
- **Max Operating Altitude**: 2000 meters (6562 feet)
- **Ingress Protection**: IP66
- **Decreasing linearity to 50% relative humidity at 40˚C**: Maximum relative humidity 80% for temperatures up to 31˚C. Decreasing linearity to 50% relative humidity at 40˚C.
- **EMC**: EN61326, FCC part 15B, FCC part 18
- **Vibration and Shock**: MIL-STD810G 516.6
- **Electrical Safety**: IEC-61010-1:2010

### Transducer Technology
- **Transducer Type**: Matrix (2D-array)
- **Transducer Arrays**: 128 x 128
- **Transducer Elements**: 16,384
- **Element size**: 210 µm
- **Element Pitch**: 250 µm (10 mils)
- **TRM Frontface Dimensions**: 40 x 40 mm
- **TRM Active Area**: 32 x 32 mm
- **Receiver Channels**: 32 (parallel acquisitions)
- **Receiver Bandwidth**: 0.5 MHz to 15 MHz
- **Acquisition/Frame Rate**: 5 to 50 frames/sec
- **Digitizing (Sampling) Rate**: 5 to 50 frames/sec
- **A-scan Resolution**: 12 bits (+/- 2048)
- **Up-sampled to 16 bits (+/- 32,768)
- **Transmit Pulse**: 0-70 V square wave
- **Rise/Fall time**: ~ 5 ns

### General Functionality
- **Scans/Visualization Modes**: A-scan, B-scan Horizontal & Vertical, C-scan Amplitude & Time-of-Flight, 3D Amplitude & Time-of-Flight Stitching
- **Measurements**: Depth B-scan, Depth & Amplitude in C-scan, Rectangle (Width, Height, Area), Circular (Diameter, Circumference, Area)
- **Reporting**: Images & settings
- **Full Matrix Capture (FMC)**: Save & Load FMC – Post process on FMC
- **Configuration Settings**: Save & Load
- **Others**: Colour Focus, Reset settings to default, Save screenshot, GUI scan button, Expanded view

### Transducer Functionality
- **Gain**: -40dB to 0dB
- **Time Corrected Gain (TCG)**: 0 to 10 dB/µs
- **Transmit Elements (Aperture)**: 1 - 32
- **Averaging**: 1 - 16
- **Pulse Length**: 5 – 635 ns (5 ns increments)

### Coverage Functionality
- **Delay**: 1 – 82 µs (delay between transmit and acquisition)
- **Depth**: 1 – 120 mm @ 6000 m/s
- **Speed of Sound**: 100 – 20,000 m/s (Preset list)
- **Gates**: Up to 3 separate gates
- **Amplitude Threshold**: The threshold for each gate
- **Capture Method (for C-Scan)**: Max Absolute, Max Negative, Max Positive
- **A/B Scan Mode (RF)**: Full, Absolute, Envelope
- **Colour Palettes**: Jet, Grey, Grey-inverted, Autumn, Bone, Winter, Rainbow, Ocean, Summer, Spring, HSV, Pink, Hot
- **Image Filter**: None, Gaussian, Median

### Calibration
- **TRM Calibration/balancing**: Amplitude, Time-of-Flight

### User Preferences
- **Measurement Unit**: Millimeters, Inches, Mils

### Stitching
- **Manual Stitching**: No accessories needed
- **Grid Tool Stitching**: Used with Grid Tool
- **Encoder Stitching**: X and Y – Used with any quadrature encoders