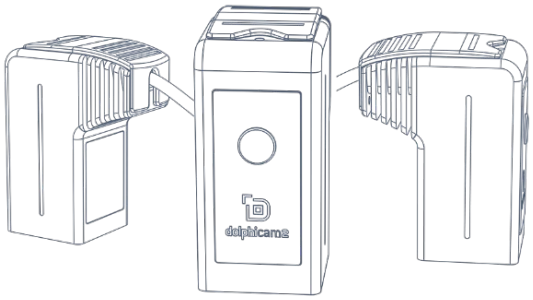
TRANSDUCER (TRM) SPECIFICATIONS

The transducer connects to the dolphicam2 Black Box through a standard USB C cable which handles power, control signals and data. The unique 128x128 “crossed electrodes” transducer creates a grid of 16,384 individual ultrasonic echoes (“A-scans”) over the 32x32mm transducer area, which makes it capable of detecting very small defects.

Each frequency TRM comes as standard with a delay line that has been chosen to match the acoustic properties of the transducer. These include Rexolite, Aqualene and Aqualink materials, and delay line thickness options of 8 and 12mm. For increased flexibility you can choose a TRM without a delay line as we offer a range of replaceable models.

TRM 1.5 MHz

The 1.5 MHz transducer module (TRM) is currently our lowest frequency on offer and is designed for maximum penetration of thick GFRP and thick, out-of-autoclave CFRP with porosity. Applications include wind turbine blades, marine GFRP and thick section GFRP piping. Typical component thicknesses are around 1-60 mm*.



SIZE AND WEIGHT

Size and weight are excluding cable and delay line.

Width	40 mm / 1.6 inch
Length	40 mm / 1.6 inch
Height	84 mm / 3.4 inch
Weight	265 grams

TECHNICAL DETAILS

Transducer Type Matrix	(2D-array)
Transducer Elements	64x64 (4,096)
Transducer Aperture	32x32 mm
Element Pitch	250 µm
Center Frequency	1.5 MHz
-6dB Frequency Bandwidth	110%
Sample Rate	50 MHz

Acquisition Rate

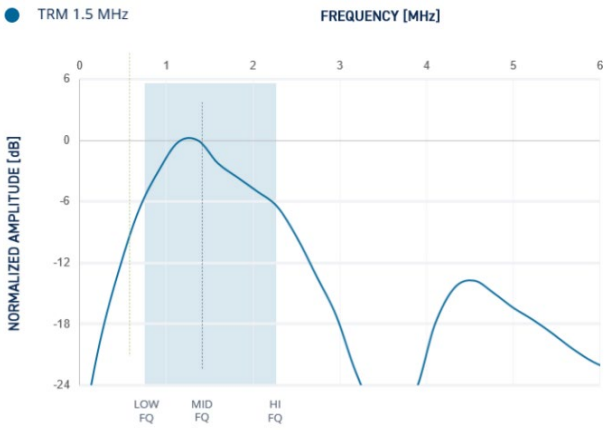
A-scans 100,000 – 500,000 datasets per second

3D 10-40 3D volumes per second

TRANSDUCER MODELS

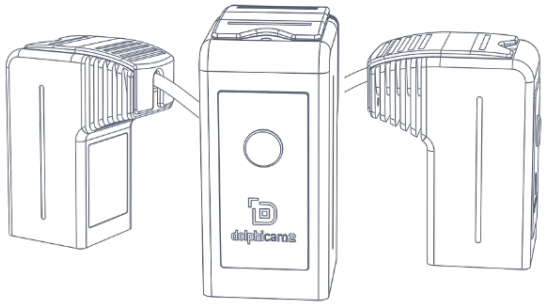
TRM-EA-1.5MHz (no delay line)

TRM-EC-1.5MHz (12mm Aqualene 320)



TRM 2.5 MHz

The 2.5 MHz transducer module (TRM) is well-suited to thicker section and lower grade composite material inspection. These include GFRP, out-of-autoclave CFRP as well as thick, coarse-grained metals. Applications include wind turbine blades, marine GFRP and CFRP, GFRP piping and thermal power. Typical component thicknesses are around 1-50 mm*.



SIZE AND WEIGHT

Size and weight are excluding cable and delay line.

Width	40mm / 1.6 inch
Length	40mm / 1.6 inch
Height	84mm / 3.4 inch
Weight	265 grams

TECHNICAL DETAILS

Transducer Type Matrix	(2D-array)
Transducer Elements	128x128 (16,384)
Transducer Aperture	32x32 mm
Element Pitch	250 µm
Center Frequency	2.5 MHz
-6dB Frequency Bandwidth	90%
Sample Rate	50 MHz

Acquisition Rate

A-scans 100,000 – 500,000 datasets per second

3D 10-40 3D volumes per second

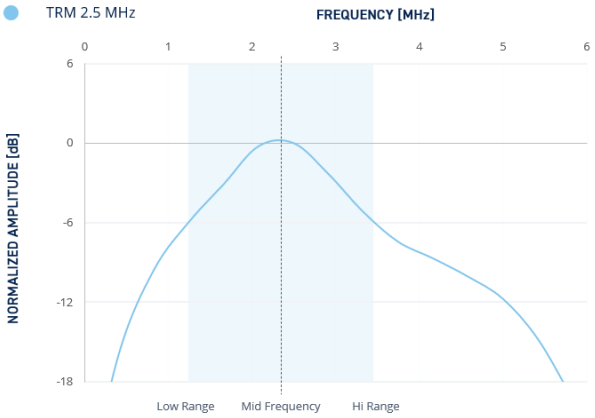
TRANSDUCER MODELS

TRM-BE-2.5MHz (no delay line)

TRM-BG-2.5MHz (8mm Aqualink 100)

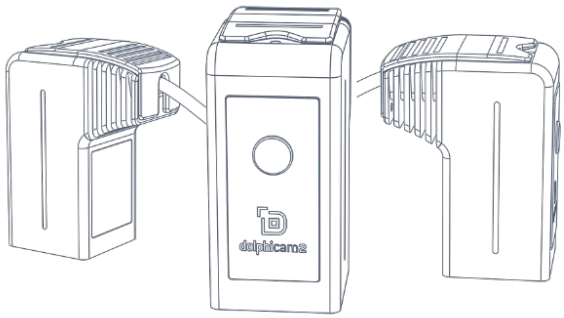
TRM-BF-2.5MHz (8 mm Aqualene 320)

TRM-BH-2.5MHz (12 mm Aqualene 320)



TRM 3.5 MHz

The 3.5 MHz transducer module (TRM) is an excellent choice for CFRP applications, as the frequency is low enough to travel through CFRP but still high enough to get a great resolution on your inspection. This TRM is approved and recommended to be used within both the aerospace and automotive industries for CFRP inspection. It also works well for thicker metals, and for inspection of attenuative metals such as stainless steel and Inconel. Typical component thicknesses are around 1-40 mm*.



SIZE AND WEIGHT

Size and weight are excluding cable and delay line.

Width	40mm / 1.6 inch
Length	40mm / 1.6 inch
Height	84mm / 3.4 inch
Weight	265 grams

TECHNICAL DETAILS

Transducer Type Matrix	(2D-array)
Transducer Elements	128x128 (16,384)
Transducer Aperture	32x32 mm
Element Pitch	250 µm
Center Frequency	3.5 MHz
-6dB Frequency Bandwidth	100%
Sample Rate	50 MHz

Acquisition Rate

A-scans 100,000 – 500,000 datasets per second

3D 10-40 3D volumes per second

TRANSDUCER MODELS

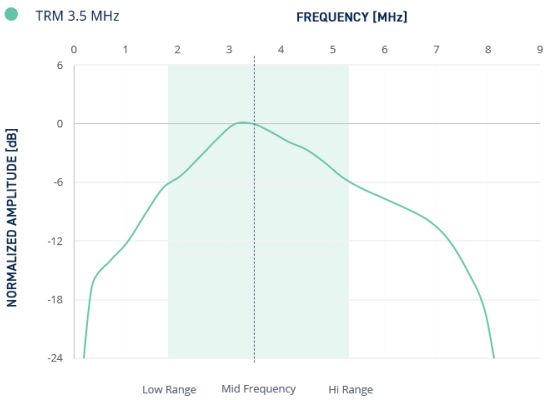
TRM-AE-3.5MHz (no delay line)

TRM-AG-3.5MHz (8mm Aqualink 100)

TRM-AF-3.5MHz (8 mm Aqualene 320)

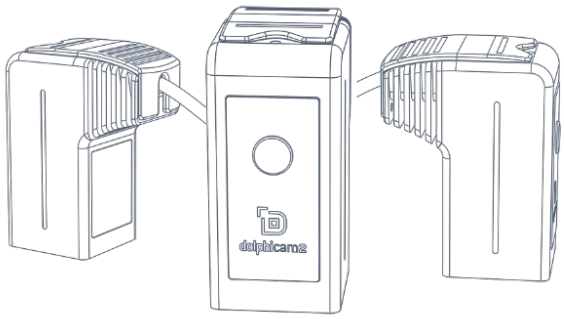
TRM-AH-3.5MHz (12mm Aqualene 320)

TRM-AA-3.5MHz (8 mm Rexolite)



TRM 5 MHz

The 5 MHz Transducer module (TRM) sits at the middle of our range and is a fantastic all-rounder, well-suited to both metallic and composite applications. It provides superior resolution while maintaining good penetration through a wide variety of materials . Applications include heavy industry, aerospace and automotive. Typical component thicknesses are around 1-30mm*.



SIZE AND WEIGHT

Size and weight are excluding cable and delay line.

Width	40mm / 1.6 inch
Length	40mm / 1.6 inch
Height	84mm / 3.4 inch
Weight	265 grams

TECHNICAL DETAILS

Transducer Type Matrix	(2D-array)
Transducer Elements	128x128 (16,384)
Transducer Aperture	32x32 mm
Element Pitch	250 µm
Center Frequency	5 MHz
-6dB Frequency Bandwidth	120%
Sample Rate	50 MHz

Acquisition Rate

A-scans 100,000 – 500,000 datasets per second

3D 10-40 3D volumes per second

TRANSDUCER MODELS

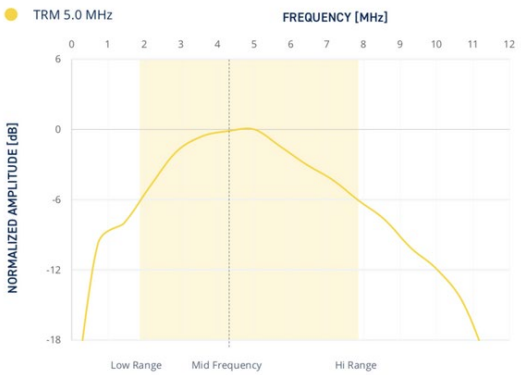
TRM-CH-5MHz (no delay line)

TRM-CJ-5Mhz (8mm Aqualink 100)

TRM-CI-5MHz (8 mm Aqualene 320)

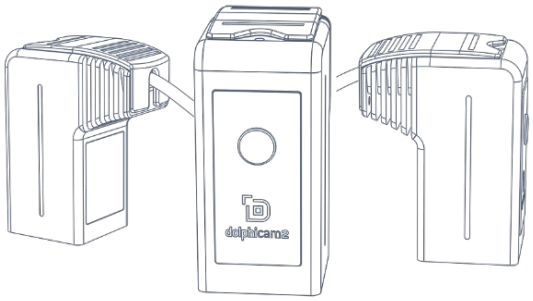
TRM-CK-5MHz (12 mm Aqualene 320)

TRM-CC-5Mhz (8mm Rexolite)



TRM 8 MHz

The 8 MHz transducer module (TRM) is a great choice for a wide range of metallic applications. This frequency provides high resolution for great sensitivity, while also providing enough penetration for fine grained metal. It is also capable of inspection of high-grade composites, such as aerospace CFRP. Other applications include process piping, Typical component thickness range are around 1-20 mm*.



SIZE AND WEIGHT

Size and weight are excluding cable and delay line.

Width	40 mm / 1.6 inch
Length	40 mm / 1.6 inch
Height	84 mm / 3.4 inch
Weight	265 grams

TECHNICAL DETAILS

Transducer Type Matrix	(2D-array)
Transducer Elements	64x64 (4,096)
Transducer Aperture	32x32 mm
Element Pitch	250 µm
Center Frequency	8 MHz
-6dB Frequency Bandwidth	120%
Sample Rate	50 MHz

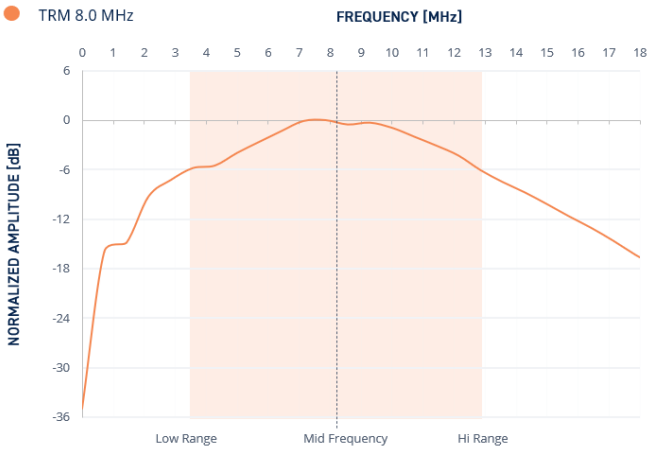
Acquisition Rate

A-scans 100,000 – 500,000 datasets per second

3D 10-40 3D volumes per second

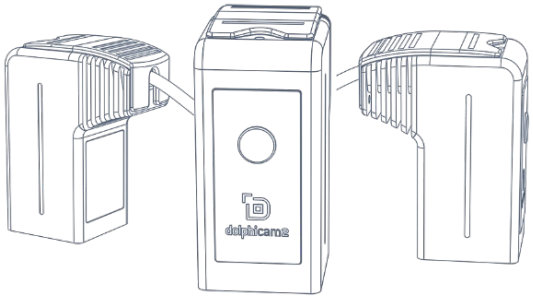
TRANSDUCER MODELS

TRM-DB-8MHz (8 mm Rexolite)



TRM 10 MHz

The 10 MHz transducer module (TRM) is our highest frequency model and provides great sensitivity for inspections of thinner components. The short wavelengths generated by this TRM provide high spatial resolution through the depth of the component. Sheet metal, adhesive bonding layers, thin metallic vessels and pipes can all be inspected. Typical component thicknesses are around 1-15 mm*.



SIZE AND WEIGHT

Size and weight are excluding cable and delay line.

Width	40 mm / 1.6 inch
Length	40 mm / 1.6 inch
Height	84 mm / 3.4 inch
Weight	265 grams

TECHNICAL DETAILS

Transducer Type Matrix	(2D-array)
Transducer Elements	64x64 (4,096)
Transducer Aperture	32x 32 mm
Element Pitch	250 µm
Center Frequency	10 MHz
-6dB Frequency Bandwidth	115%
Sample Rate	50 MHz

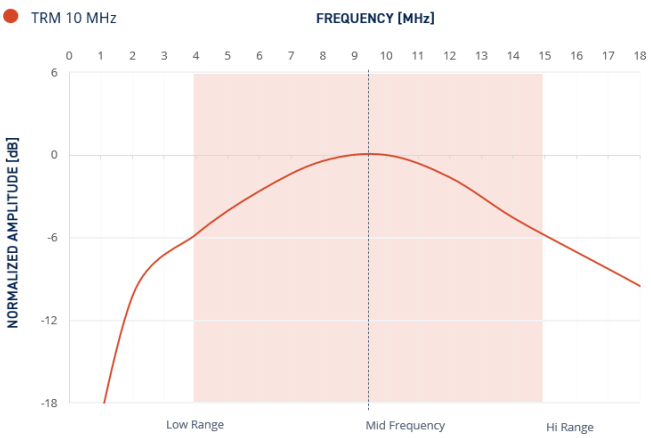
Acquisition Rate

A-scans 100,000 – 500,000 datasets per second

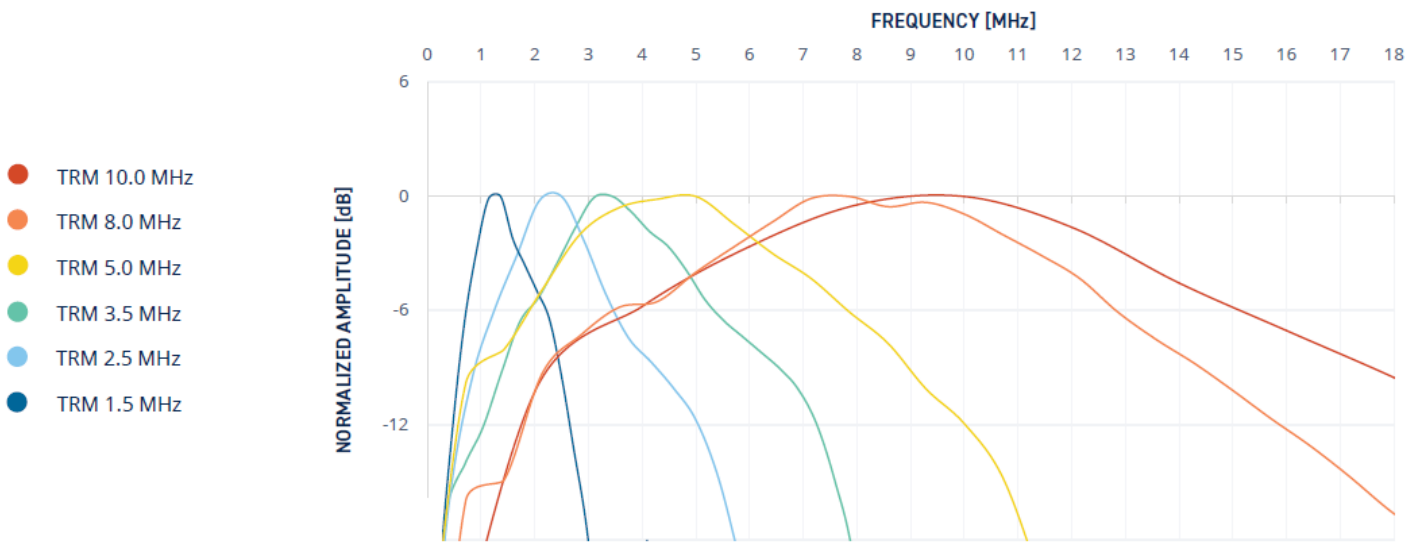
3D 10-40 3D volumes per second

TRANSDUCER MODELS

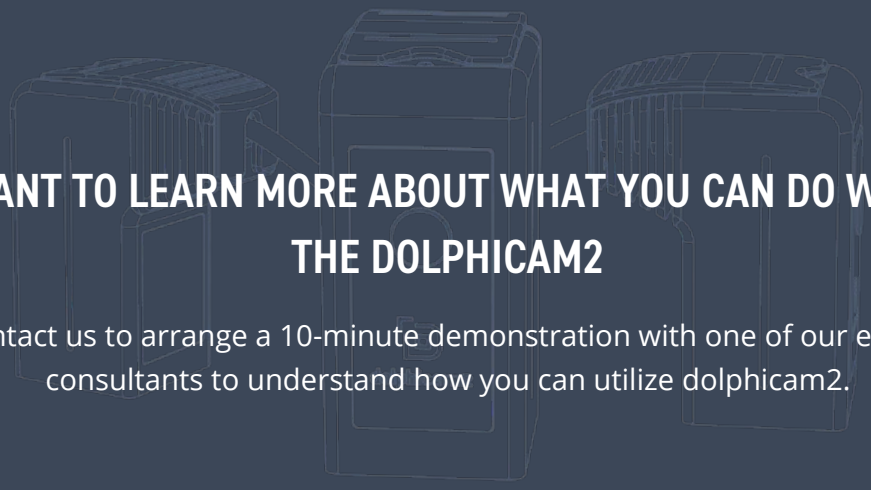
TRM-DA-10MHz (8 mm Rexolite)



TRANSDUCERS (TRM)



*Get in touch for specific material and penetration information as it can vary.



WANT TO LEARN MORE ABOUT WHAT YOU CAN DO WITH THE DOLPHICAM2

Contact us to arrange a 10-minute demonstration with one of our expert consultants to understand how you can utilize dolphicam2.

Get in touch

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