Parameter [Unit of measure]	**Approximated Value**	**References**

Ultrasound velocity [m]/[s]	- *Air:* **331**
	- *Water (distilled at 25 °C):* **1498**
	- *Water:* **1482**
	- *Skull bone:* **3360**
	- *Soft tissue (mean value):* **1540**
	- *Brain:* **1560**
	  - *White Matter:* **1553**
	  - *Grey Matter:* **1500**
	- *Cerebrospinal Fluid:* **1505**
		(Hendee & Ritenour, 2002)
		https://itis.swiss

Density [kg]/[m]^3	- *Air (mean value):* **1**
	- *Water:* **994**
	- *Skull Cortical:* **1908**
	- *Skull Cancellous:* **1178**
	- *Brain:* **1046**
	  - *White Matter:* **1041**
	  - *Grey Matter:* **1045**
	- *Cerebrospinal Fluid:* **1007**
		https://itis.swiss

Alpha Power	- **1.5*** ***As Meike reported, the alpha power is assumed to be independent from the medium, but a second approach proposed by Treeby highlights how the alpha coefficient can be modified for containing also the difference in alpha power for the various media (even in this case the alpha power must be fixed). Based on this second approach, below the attenuation constant alpha which is obtained as: **Alpha = Alpha_Coefficient * f^Alpha_Power** where f is the given frequency	(Treeby et al., 2012) (Treeby et al., 2010)

Attenuation constant [Np]/[m] ([dB]/[cm] with a conversion factor of 8.686 * 10^-2)	<u>With Alpha Power = 1</u>
	
	<u>For 250 KHz</u>
	
	- *Air:* **0.002**
	- *Water:* **0.006**
	- *Skull Cortical:* **13.64**
	- *Skull Cancellous:* **8.90**
	- *Brain:* **1.12**
	  - *White Matter:* **1.48**
	  - *Grey Matter:* **0.224**
	- *Cerebrospinal Fluid:* **0.025**
	
	<u>For 500 KHz</u>
	
	- *Air:* **0.01**
	- *Water:* **0.013**
	- *Skull Cortical:* **27.28**
	- *Skull Cancellous:* **20.46**
	- *Brain:* **2.76**
	  - *White Matter:* **3.15**
	  - *Grey Matter:* **0.519**
	- *Cerebrospinal Fluid:* **0.05**
	
	<u>For 750 KHz</u>
	
	- *Air:* **0.022**
	- *Water:* **0.019**
	- *Skull Cortical:* **40.91**
	- *Skull Cancellous:* **33.28**
	- *Brain:* **4.68**
	  - *White Matter:* **4.90**
	  - *Grey Matter:* **0.85**
	- *Cerebrospinal Fluid:* **0.075**
	
	<u>For 1 MHz</u>
	
	- *Air:* **0.039**
	- *Water:* **0.025**
	- *Skull Cortical:* **54.55**
	- *Skull Cancellous:* **47.00**
	- *Brain:* **6.80**
	  - *White Matter:* **6.71**
	  - *Grey Matter:* **1.2**
	- *Cerebrospinal Fluid:* **0.1**
		https://itis.swiss

Thermal Conductivity [W]/([m][°C]) (or [W]/([m][K]))	- *Air:* **0.03**
	- *Water:* **0.60**
	- *Skull Cortical:* **0.32**
	- *Skull Cancellous:* **0.31**
	- *Brain:* **0.51**
	  - *White Matter:* **0.48**
	  - *Grey Matter:* **0.55**
	- *Cerebrospinal Fluid:* **0.57**
		https://itis.swiss

Specific Heat or Heat Capacity [J]/([kg][°C]) (or [J]/([kg][K]))	- *Air:* **1004**
	- *Water:* **4178**
	- *Skull Cortical:* **1313**
	- *Skull Cancellous:* **2274**
	- *Brain:* **3630**
	  - *White Matter:* **3583**
	  - *Grey Matter:* **3696**
	- *Cerebrospinal Fluid:* **4096**
		https://itis.swiss

1. Hendee, W. R., & Ritenour, E. R. (2002). *Medical imaging physics* (4th ed). Wiley-Liss.
2. Itis Foundation. (2020). ITIS Foundation. Itis.Swiss. https://itis.swiss/virtual-population/tissue-properties/database
3. B. E. Treeby, J. Jaros, A. P. Rendell, and B. T. Cox, "Modeling nonlinear ultrasound propagation in heterogeneous media with power law absorption using a k-space pseudospectral method," J. Acoust. Soc. Am., vol. 131, no. 6, pp. 4324-4336, 2012.
4. B. E. Treeby and B. T. Cox, "k-Wave: MATLAB toolbox for the simulation and reconstruction of photoacoustic wave-fields," J. Biomed. Opt., vol. 15, no. 2, p. 021314, 2010.