Broadband Terahertz-Time Domain Spectroscopy (THz-TDS) (1-10 THz) has been utilized to study the complex dielectric properties of methanol, ethanol, 1-propanol, 2-propanol, 1-butanol, and 1-octanol. Previous reports on dielectric study of alcohols were limited to 5 THz. At THz (1 THz = 33.33 cm⁻¹ = 4 meV) frequency range (0.1 to 15 THz), the molecular reorientation and several intermolecular vibrations (local oscillation of dipoles) may coexist and contribute to the overall liquid dynamics. We find that the Debye type relaxations barely contribute beyond 1 THz, rather three harmonic oscillators dominate the entire spectral range. To get insights on the modes responsible for the observed absorption in THz frequency range, we performed all atom molecular dynamics (MD) using OPLS force field and ab initio quantum calculations. Combined experimental and theoretical study reveal that the complex dielectric functions of alcohols have contribution from a) alkyl group oscillation within H-bonded network (1 THz), b) intermolecular H-bond stretching (5 THz), and c) librational motions in alcohols. The present work, therefore, complements all previous studies on alcohols at lower frequencies and provides a clear picture on them in a broad spectral range from microwave to 10 THz.