Table 1. List of all VBA Modules and formulas included in v.2.0 of TEOS-10 Excel. Direct translations from GSW are marked with 'YES' and original or modified functions marked with 'NO'.

VBA Module	GSW	Description
CT_from_pt(SA, pt)	YES	Calculates Conservative Temperature of seawater from potential temperature (whose reference sea pressure is zero dbar)
Entropy_part (SA, t, p)	YES	This function calculates entropy, except that it does not evaluate any terms that are functions of Absolute Salinity alone. This function is called by {pt0_from_t}
Entropy_part_zerop (SA, pt0)	YES	This function calculates entropy at a sea pressure of zero, except that it does not evaluate any terms that are functions of Absolute Salinity alone. This function is called by {pt0_from_t}
Gibbs_pt0_pt0 (SA, pt0)	YES	This function calculates the second derivative of the specific Gibbs function with respect to temperature at zero sea pressure. This function is called by {pt0_from_t}
Hill_ratio_at_SP2(t)	YES	Calculates the Hill ratio, which is the adjustment needed to apply for Practical Salinities smaller than 2. This function is called by {SP_from_C(C,t,p)} and {SP_from_R(R,t,p)}
is_Baltic(lon, lat)	NO	Checks if a location is in the Baltic Sea. This function is original and different from the GSW counterpart. Baltic limits are taken from Figure 2 of Feistel et al. (2019: 6)
LookUp_atlas(table_name, p, lon, lat)	NO	This function builds and interrogates the Atlas database and was developed specifically for the EXCEL implementation of TEOS-10. 'table-name' can be one of the two look-up tables [deltaSA_ref] or [SAAR_ref]. Results are a 3D interpolation of the 8 vertices of the cube around the (lon, lat, p) location in the ocean
pt0_from_t(SA, t, p)	YES	Calculates potential temperature with reference pressure, p_ref = 0 dbar.
rho(SA, CT, p)	YES	Calculates in-situ density from Absolute Salinity, Conservative Temperature, and pressure
SA_Baltic(SP)	YES	Calculates Absolute Salinity in the Baltic from Practical Salinity
sigma_CT_line(SA, sigma, min_temp, max_temp)	NO	Calculates Conservative Temperature (CT) from SA at a constant sigma value (e.g., 25) between min_temp and max_temp. Function used to build potential density (sigma) lines to be plotted in the Absolute Salinity - Conservative Temperature Diagram. It calls the {sigma0(SA,CT)} function
sigma0(SA, CT)	YES	Calculates potential density anomaly with reference pressure of 0 dbar
Sound_Speed(SA, CT, p)	YES	Calculates the speed of sound in seawater from Absolute Salinity, Conservative Temperature, and pressure
SP_from_C(C,t,p)	YES	Calculates Practical Salinity from Conductivity, temperature, and pressure
SP_from_R(R,t,p)	YES	Calculates Practical Salinity from the conductivity Ratio, temperature, and pressure
Formulas used outside VBA Modules		
t = t68 / 1.00024	YES	Calculates temperature ITS-90 from temperature IPTS-68
$S_R = S_P * 35.16504 / 35$	YES	Calculates Reference Salinity (S_R) from Practical Salinity (S_P)
$\delta S_A = S_R *$ [SAAR_Atlas]	YES	Absolute Salinity Anomaly equals the product of Reference Salinity by the interpolated Absolute Salinity Anomaly Ratio
$S_A = S_R + \delta S_A$	YES	Absolute Salinity equals Reference Salinity plus Absolute Salinity Anomaly