$termvar$, x, y, z, f
$semiringEl$, r, s
$type$, T, S
$mathcals$, $\mathcal{C}$, $\mathcal{M}$, $\mathcal{G}$
$mathsft$, F, G
o, i, j, k, l
$mode$, m

$\mathcal{R}$	$::=$			Semiring
	$\mid$	r		Element
	$\mid$	a		Additive Unit
	$\mid$	m		Multiplimathcalive Unit
	$\mid$	$\mathcal{R}_1 \circledast \mathcal{R}_2$		Multiplimathcalion
	$\mid$	$\mathcal{R}_1 \oplus \mathcal{R}_2$		Addition
$A,\ B,\ C,\ D$	$::=$			Linear Formulas
	$\mid$	I		Unit
	$\mid$	$A \boxtimes B$		Tensor Product
	$\mid$	$(A \odot \mathcal{R}) \rightarrow B$		Implication
	$\mid$	$\Box_{\mathcal{R}} A$		Graded Necessity Modality
	$\mid$	(A)	S	Parentheses
$\Gamma,\ \Delta$	$::=$			Context
	$\mid$	$\emptyset$		Empty Context
	$\mid$	$x : A$		
	$\mid$	Γ_1, Γ_2		Context Extension
	$\mid$	(Γ)	S	
p	$::=$			
	$\mid$	x		
	$\mid$	(p_1, p_2)		
	$\mid$	$\Box\, p$		
t	$::=$			Terms
	$\mid$	x		
	$\mid$	i		
	$\mid$	(t_1, t_2)		
	$\mid$	$\mathsf{let}\ p = t_3\ \mathsf{in}\ t_4$		
	$\mid$	$\lambda x.t$		
	$\mid$	$t_1\ t_2$		
	$\mid$	$\Box\, t$		
γ	$::=$			Vectors
	$\mid$	$\emptyset$		
	$\mid$	$\mathcal{R}$		

$| \quad \gamma_1, \ldots, \gamma_i$
$| \quad (\gamma) \qquad \mathsf{S}$

$\boxed{\gamma_1 \leq \gamma_2}$ Context Order

$$\frac{}{\emptyset \leq \emptyset}\ \text{SCtx\_Empty}$$

$$\frac{\gamma_1 \leq \gamma_2 \quad r_1 \leq r_2}{(\gamma_1, r_1) \leq (\gamma_2, r_2)}\ \text{SCtx\_Ext}$$

$\boxed{\gamma \odot \Gamma \vdash t : A}$ Graded Term Assignment

$$\frac{}{\mathsf{m} \odot x : A \vdash x : A}\ \text{T\_Id}$$

$$\frac{}{\emptyset \odot \emptyset \vdash \mathsf{i} : \mathsf{I}}\ \text{T\_UnitI}$$

$$\frac{\begin{array}{c}\gamma_1 \odot \Gamma_1 \vdash t_1 : A \\ \gamma_2 \odot \Gamma_2 \vdash t_2 : B\end{array}}{(\gamma_1, \gamma_2) \odot (\Gamma_1, \Gamma_2) \vdash (t_1, t_2) : A \boxtimes B}\ \text{T\_TenI}$$

$$\frac{\begin{array}{l}\gamma_2 \odot \Gamma_2 \vdash t_1 : A \boxtimes B \\ \quad (\gamma_1, r_1, r_1, \gamma_3) \odot (\Gamma_1, x : A, y : B, \Gamma_3) \vdash t_2 : C\end{array}}{(\gamma_1, r_2 \circledast \gamma_2, \gamma_3) \odot (\Gamma_1, \Gamma_2, \Gamma_3) \vdash \mathsf{let}\, (x, y) = t_1 \,\mathsf{in}\, t_2 : C}\ \text{T\_TenE}$$

$$\frac{(\gamma, r_1) \odot (\Gamma, x : A) \vdash t : B}{\gamma \odot \Gamma \vdash \lambda x.t : (A \odot r_1) \to B}\ \text{T\_FunI}$$

$$\frac{\begin{array}{l}\gamma_2 \odot \Gamma_2 \vdash t_2 : A \\ \gamma_1 \odot \Gamma_1 \vdash t_1 : (A \odot r_1) \to B\end{array}}{(\gamma_1, r_2 \circledast \gamma_2) \odot (\Gamma_1, \Gamma_2) \vdash t_1\, t_2 : B}\ \text{T\_FunE}$$

$$\frac{\gamma \odot \Gamma \vdash t : A}{(r \circledast \gamma) \odot \Gamma \vdash \Box\, t : \Box_r A}\ \text{T\_BoxI}$$

$$\frac{\gamma_2 \odot \Gamma_2 \vdash t_1 : \Box_r A \quad (\gamma_1, r, \gamma_3) \odot (\Gamma_1, x : A, \Gamma_3) \vdash t_2 : B}{(\gamma_1, \gamma_2, \gamma_3) \odot (\Gamma_1, \Gamma_2, \Gamma_3) \vdash \mathsf{let}\, \Box\, x = t_1 \,\mathsf{in}\, t_2 : B}\ \text{T\_BoxE}$$

$$\frac{\gamma_1 \odot \Gamma_1 \vdash t : A \quad \gamma_1 \leq \gamma_2}{\gamma_2 \odot \Gamma_2 \vdash t : A}\ \text{T\_Sub}$$

$$\frac{(\gamma_1, \gamma_2) \odot (\Gamma_1, \Gamma_2) \vdash t : B}{(\gamma_1, \mathsf{a}, \gamma_2) \odot (\Gamma_1, x : A, \Gamma_2) \vdash t : B}\ \text{T\_Weak}$$

$$\frac{(\gamma_1, r_1, r_2, \gamma_2) \odot (\Gamma_1, x : A, y : A, \Gamma_2) \vdash t : B}{(\gamma_1, (r_1 \oplus r_2), \gamma_2) \odot (\Gamma_1, x : A, \Gamma_2) \vdash [x/y]t : B}\ \text{T\_Cont}$$

$$\frac{(\gamma_1, r_1, r_2, \gamma_2) \odot (\Gamma_1, x : A, y : B, \Gamma_2) \vdash t : C}{(\gamma_1, r_2, r_1, \gamma_2) \odot (\Gamma_1, y : B, x : A, \Gamma_2) \vdash t : C} \text{ T\_Ex}$$