

Abbreviations	
$\sim M_6$	$\text{senc}((m, \text{FCntUp}_2), \text{KgenSenc}(\text{JoinNonce}_2, \text{JoinEUI}_3, \text{DevNonce}_3, \text{four}), \text{NwkKey}_3))$
$\sim M_7$	$\text{mac}((\text{DevAddr}_3, \text{FCntUp}_2, m), \text{KgenSenc}(\text{JoinNonce}_2, \text{JoinEUI}_3, \text{DevNonce}_3, \text{four}), \text{NwkKey}_3))$

